6-30-1999

Annual Report of the University, 1998-1999, Volumes 1-4

University of New Mexico

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THE UNIVERSITY OF NEW MEXICO

1998-99
ANNUAL REPORTS

VOLUME I
CONTINUED IN VOLUME II
Anderson Schools of Management

University of New Mexico

Annual Report 1998 – 1999 Table of Contents

Dean’s Report

Significant Program Developments 1998/99

Bachelors of Business Administration

Masters Degree in Business

Significant Faculty Developments

Faculty Highlights

Faculty Activities
The Anderson Schools of Management faculty and staff continue to provide high quality BBA and MBA degrees while developing the ASM faculty's reputation as research scholars. We are also playing an important role in the economic community development of New Mexico. This report highlights our accomplishments in these three areas.

1. Teaching: The Anderson Schools of Management have experienced steady growth in the BBA and MBA programs over the last five years. This trend may be explained by the high job placement for both undergraduate and graduate students. A recent comparison with national business school peers indicates that BBA graduates earn a starting salary that is ten percent higher than peer institutions such as the Universities of Virginia, Washington, Iowa, Utah and other Commission on Higher Education designated universities. MBA graduates earn equivalent starting salaries as graduates from peer institutions. In addition to this strong performance, the Anderson Schools have made impressive gains in diversifying the student body. Success in attracting scholarships for student support is one factor explaining this success.

2. Research: In the past year, our faculty has published over 70 articles in refereed journals. In addition, they report numerous proceedings, conference presentations and invited talks. As noted in the "Faculty Highlights" section, individual faculty members are national leaders in their fields.

3. Community Service: Our faculty has been active in the community, providing service to everything from state divisions and large corporations to the smallest nonprofit and cooperative ventures. These accomplishments are highlighted in the "Faculty Highlights" section of this report.

The Anderson Schools of Management were recently re-accredited by the AACSB, an indication of the quality of ASM's programs. Yet, the Anderson Schools of Management are among the most efficient providers of student credit hours and degrees at the University of New Mexico. We have also undertaken extensive efforts to continuously improved our programs, research, and community outreach through alumni and student surveys.

Howard Smith
Dean
Robert O. Anderson School and Graduate School of Management
Anderson School's undergraduate student enrollment has increased by 17% over the past five years. Our MBA headcount has increased 5%. The increase in ASM student enrollment has not reduced over high rate of retention and graduation, however. Our BBA program, for example, graduates approximately 86% of admitted students within three years. In addition, our student population is increasingly diversified. In particular, the percentage of Hispano graduate students has increased from 10% of all graduate students to around 14%. We believe that diversity is extremely important if we are to provide valuable management education to all of New Mexico's communities.

Bachelor of Business Administration

Number of Students Enrolled in Fall, 1987-1998

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<tr>
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</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>776</td>
<td>905</td>
<td>912</td>
<td>815</td>
<td>732</td>
<td>782</td>
<td>854</td>
<td>936</td>
<td>873</td>
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Graduates by Concentration 1997-98
(Double concentrations are counted twice)

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<tr>
<th>Concentration</th>
<th>98-99</th>
<th>97-98</th>
<th>96-97</th>
<th>95-96</th>
<th>88-89</th>
<th>87-88</th>
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<td>Accounting</td>
<td>23</td>
<td>24</td>
<td>26</td>
<td>16</td>
<td>26</td>
<td>23</td>
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<tr>
<td>MIS</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>10</td>
<td>12</td>
<td>10</td>
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<tr>
<td>Entprnrship</td>
<td>2</td>
<td>2</td>
<td>.4</td>
<td>2</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>Finance</td>
<td>15</td>
<td>12</td>
<td>12</td>
<td>14</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>Gen mnagement</td>
<td>22</td>
<td>23</td>
<td>16</td>
<td>17</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>Hum res mgt</td>
<td>10</td>
<td>10</td>
<td>11</td>
<td>11</td>
<td>6</td>
<td>.6</td>
</tr>
<tr>
<td>Interntl mgt</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>3</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Marketing</td>
<td>14</td>
<td>13</td>
<td>13</td>
<td>13</td>
<td>20</td>
<td>23</td>
</tr>
<tr>
<td>Product/Oper</td>
<td>5</td>
<td>4</td>
<td>.2</td>
<td>1</td>
<td>2</td>
<td>2</td>
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<tr>
<td>Travel/tour</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100%</td>
<td></td>
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Part-time/full-time breakdown of BBA students

<table>
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<tr>
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<th>Fall 1998</th>
<th>Fall 1997</th>
<th>Fall 1996</th>
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<tr>
<td>Part time</td>
<td>27%</td>
<td>26%</td>
<td>26%</td>
</tr>
<tr>
<td>Full time</td>
<td>73%</td>
<td>74%</td>
<td>74%</td>
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</table>
Gender and Ethnicity (in percentages)

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<tr>
<td>GENDER</td>
<td></td>
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</tr>
<tr>
<td>Female</td>
<td>52</td>
<td>51</td>
<td>51</td>
<td>48</td>
<td>49</td>
<td>48</td>
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<tr>
<td>Male</td>
<td>48</td>
<td>49</td>
<td>49</td>
<td>52</td>
<td>51</td>
<td>52</td>
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<tr>
<td>ETHNICITY</td>
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<tr>
<td>African Amer.</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
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<tr>
<td>American Indian</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Asian</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Hispanic</td>
<td>32</td>
<td>33</td>
<td>32</td>
<td>31</td>
<td>32</td>
<td>34</td>
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<tr>
<td>White, non-hisp.</td>
<td>54</td>
<td>55</td>
<td>55</td>
<td>54</td>
<td>55</td>
<td>53</td>
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<tr>
<td>Decline</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>2</td>
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</table>

Fall 1998: Average age 25.94 for full-time students
Average semesters at UNM 9.3

Admissions and Graduations

<table>
<thead>
<tr>
<th>BBA Admissions</th>
<th>Summer/Fall</th>
<th>Spring</th>
<th>Total</th>
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<tbody>
<tr>
<td>1998-99</td>
<td>224</td>
<td>155</td>
<td>382</td>
</tr>
<tr>
<td>1997-98</td>
<td>244</td>
<td>157</td>
<td>401</td>
</tr>
<tr>
<td>1996-97</td>
<td>233</td>
<td>181</td>
<td>414</td>
</tr>
<tr>
<td>1995-96</td>
<td>220</td>
<td>149</td>
<td>369</td>
</tr>
<tr>
<td>1994-95</td>
<td>181</td>
<td>170</td>
<td>351</td>
</tr>
<tr>
<td>1993-94</td>
<td>219</td>
<td>145</td>
<td>364</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BBA Graduates</th>
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<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>1998-99</td>
<td>251</td>
<td>155</td>
<td>406</td>
</tr>
<tr>
<td>1997-98</td>
<td>164</td>
<td>183</td>
<td>347</td>
</tr>
<tr>
<td>1996-97</td>
<td>140</td>
<td>148</td>
<td>288</td>
</tr>
<tr>
<td>1995-96</td>
<td>115</td>
<td>140</td>
<td>255</td>
</tr>
<tr>
<td>1994-95</td>
<td>170</td>
<td>136</td>
<td>306</td>
</tr>
<tr>
<td>1993-94</td>
<td>182</td>
<td>161</td>
<td>343</td>
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</table>
# Master Degree in Business

## Completed Student Credit Hours*

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<tbody>
<tr>
<td>Summer</td>
<td>1649</td>
<td>1723</td>
<td>1753</td>
<td>1801</td>
</tr>
<tr>
<td>Fall</td>
<td>3997</td>
<td>3424</td>
<td>3408</td>
<td>3625</td>
</tr>
<tr>
<td>Spring</td>
<td>3844</td>
<td>3411</td>
<td>3508</td>
<td>3919</td>
</tr>
<tr>
<td>Total</td>
<td>9530</td>
<td>8558</td>
<td>8729</td>
<td>9345</td>
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</table>

*From Official Enrollment Reports

## Headcount AGSM (includes the EMBA)

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</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>436</td>
<td>449</td>
<td>482</td>
<td>452</td>
<td>461</td>
<td>485</td>
</tr>
<tr>
<td>Spring</td>
<td>441</td>
<td>438</td>
<td>441</td>
<td>422</td>
<td>437</td>
<td>460</td>
</tr>
</tbody>
</table>

## Part-time and full-time composition of AGSM students for Spring Semesters

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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time</td>
<td>212</td>
<td>248</td>
<td>204</td>
<td>269</td>
<td>229</td>
<td>240</td>
<td>187</td>
</tr>
<tr>
<td></td>
<td>(48%)</td>
<td>(56%)</td>
<td>(47%)</td>
<td>(61%)</td>
<td>(54%)</td>
<td>(55%)</td>
<td>(41%)</td>
</tr>
<tr>
<td>Part-time</td>
<td>226</td>
<td>193</td>
<td>234</td>
<td>172</td>
<td>193</td>
<td>197</td>
<td>273</td>
</tr>
<tr>
<td></td>
<td>(52%)</td>
<td>(44%)</td>
<td>(53%)</td>
<td>(39%)</td>
<td>(46%)</td>
<td>(45%)</td>
<td>(59%)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>438</td>
<td>441</td>
<td>438</td>
<td>441</td>
<td>422</td>
<td>437</td>
<td>460</td>
</tr>
</tbody>
</table>

## Number of Students Graduating in Each Concentration, 1995-96.

<table>
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<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting</td>
<td>7 (05%)</td>
<td>5 (04%)</td>
<td>1 (1.2%)</td>
<td>5 (3.4%)</td>
</tr>
<tr>
<td>Financial Management</td>
<td>22 (17%)</td>
<td>12 (09%)</td>
<td>9 (10.6%)</td>
<td>3 (2.3%)</td>
</tr>
<tr>
<td>General Management</td>
<td>48 (36%)</td>
<td>43 (33%)</td>
<td>35 (41.2%)</td>
<td>46 (35.9%)</td>
</tr>
<tr>
<td>International</td>
<td>11 (08%)</td>
<td>11 (08%)</td>
<td>7 (8.2%)</td>
<td>15 (11.7%)</td>
</tr>
<tr>
<td>International-Latin America</td>
<td>0 (00%)</td>
<td>3 (02%)</td>
<td>2 (2.4%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>MIS</td>
<td>13 (10%)</td>
<td>10 (08%)</td>
<td>6 (7.1%)</td>
<td>23 (18%)</td>
</tr>
<tr>
<td>Management of Technology</td>
<td>1 (01%)</td>
<td>8 (06%)</td>
<td>7 (8.2%)</td>
<td>5 (3.9%)</td>
</tr>
<tr>
<td>Marketing Management</td>
<td>10 (08%)</td>
<td>10 (08%)</td>
<td>5 (5.9%)</td>
<td>1 (0.3%)</td>
</tr>
<tr>
<td>OB/HRM</td>
<td>9 (07%)</td>
<td>8 (06%)</td>
<td>4 (4.7%)</td>
<td>7 (5.5%)</td>
</tr>
<tr>
<td>Policy &amp; Planning</td>
<td>4 (03%)</td>
<td>9 (07%)</td>
<td>3 (3.5%)</td>
<td>4 (3.1%)</td>
</tr>
<tr>
<td>Operations &amp; Mgmt. Sci.</td>
<td>6 (05%)</td>
<td>6 (05%)</td>
<td>3 (3.5%)</td>
<td>5 (3.9%)</td>
</tr>
<tr>
<td>MS - Accounting</td>
<td>2 (02%)</td>
<td>5 (04%)</td>
<td>3 (3.5%)</td>
<td>5 (3.4%)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>133</td>
<td>132</td>
<td>85</td>
<td>128</td>
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### MBA Students

Ethnicity of Graduate Students (including EMBA)

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</tr>
</thead>
<tbody>
<tr>
<td><strong>GENDER</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>40%</td>
<td>43%</td>
<td>42%</td>
<td>39%</td>
<td>40%</td>
<td>44%</td>
<td>42%</td>
<td>58%</td>
<td>54%</td>
</tr>
<tr>
<td>Male</td>
<td>60%</td>
<td>57%</td>
<td>58%</td>
<td>61%</td>
<td>60%</td>
<td>56%</td>
<td>58%</td>
<td>42%</td>
<td>46%</td>
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<tr>
<td><strong>ETHNICITY</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Indian</td>
<td>1.77%</td>
<td>2.61%</td>
<td>2.39%</td>
<td>2.75%</td>
<td>3.4%</td>
<td>3.0%</td>
<td>3.12%</td>
<td>7.41%</td>
<td>5.28%</td>
</tr>
<tr>
<td>African Amer.</td>
<td>1.22%</td>
<td>1.42%</td>
<td>1.30%</td>
<td>1.37%</td>
<td>3.4%</td>
<td>2.0%</td>
<td>2.45%</td>
<td>2.45%</td>
<td>1.65%</td>
</tr>
<tr>
<td>Asian</td>
<td>3.76%</td>
<td>3.08%</td>
<td>2.82%</td>
<td>2.52%</td>
<td>2.5%</td>
<td>2.0%</td>
<td>1.78%</td>
<td>1.99%</td>
<td>6.93%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>10.84%</td>
<td>10.66%</td>
<td>10.63%</td>
<td>9.84%</td>
<td>14.4%</td>
<td>16.6%</td>
<td>14.03%</td>
<td>24.50%</td>
<td>24.75%</td>
</tr>
<tr>
<td>White, non-hisp.</td>
<td>57.08%</td>
<td>56.87%</td>
<td>52.71%</td>
<td>55.15%</td>
<td>54%</td>
<td>54%</td>
<td>61.47%</td>
<td>58.69%</td>
<td>59.74%</td>
</tr>
<tr>
<td>Foreign</td>
<td>4.65%</td>
<td>4.74%</td>
<td>4.99%</td>
<td>4.35%</td>
<td>5.4%</td>
<td>4.3%</td>
<td>5.57%</td>
<td>0.85%</td>
<td>0%</td>
</tr>
<tr>
<td>Decline</td>
<td>20.58%</td>
<td>20.62%</td>
<td>25.16%</td>
<td>24.03%</td>
<td>16.9%</td>
<td>18.1%</td>
<td>11.58%</td>
<td>3.99%</td>
<td>1.65%</td>
</tr>
</tbody>
</table>

### Spring 1999

Average Age 31.75

Average GPA 3.44

Residency of MBA Students—Spring 1999 (not including EMBA)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Instate</td>
<td>76%</td>
</tr>
<tr>
<td>International</td>
<td>8%</td>
</tr>
<tr>
<td>Out of State</td>
<td>15%</td>
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</tbody>
</table>
## CHANGES IN FACULTY

- **Appointments:** Virginia Gerde was hired as Assistant Professor of Social Issues in Management in the Department of Organizational Studies, Leslie Oakes was appointed Associate Dean, Paula Silva was hired as Assistant Professor of Organizational Behavior/Human Resources Management in the Department of Organizational Studies.
- **Promotions:** Jeanne M. Logsdon was promoted to full Professor.
- **Resignations:** Kristi Yuthas resigned to take a position at Portland State University.
- **Leaves without pay:** Geoffrey Bannister to World Bank, New York City, Raul de Gouvea to American University, Washington, DC.
- **Sabbaticals:** Stephen D. Burd, Fall 1998 - Spring 1999, Donald Coes, Spring 1998, Richard A. Reid, Fall 1998, Joni Young, Fall 1998 - Spring 1999 semesters.

### Full Time Faculty

<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Department</th>
<th>Institution</th>
<th>Degree</th>
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<tbody>
<tr>
<td>Baker, Kenneth G.</td>
<td>Mktg/InfoDecScial</td>
<td></td>
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<tr>
<td>Bernstein, Geoffrey</td>
<td>Mktg/InfoDecScial</td>
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<tr>
<td>Blevins, Ronald E.</td>
<td>Mktg/InfoDecScial</td>
<td></td>
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<tr>
<td>Bose, Ranjel</td>
<td>Mktg/InfoDecScial</td>
<td></td>
<td></td>
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<tr>
<td>Bougen, Philip</td>
<td>Mktg/InfoDecScial</td>
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<tr>
<td>Bullers, William L.</td>
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<tr>
<td>Burd, Stephen D. (Chr)</td>
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<tr>
<td>Champoux, Joseph E.</td>
<td>Org studies</td>
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<td>Togo, Dennis F.</td>
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<td>Vora, Gautam</td>
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<td>Young, Joni J.</td>
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<td>Yourstone, Steven A.</td>
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**Institutions:**

- Ph.D. U Oregon
- Ph.D. U Texas/Austin
- MLS/MS Columbia/Cornell
- ABD NMSU
- Ph.D. U Texas/Austin
- Ph.D. London Sch Econ
- Ph.D. Purdue
- Ph.D. Purdue
- Ph.D. U California
- Ph.D. U New Mexico
- Ph.D. U So Carolina
- Ph.D. U Illinois
- Ph.D. Texas A&M
- Ph.D. U Pennsylvania
- Ph.D. Virginia Tech
- Ph.D. U Pennsylvania
- Ph.D. Arizona State
- Ph.D. U Col/Boulder
- Ph.D. U Arizona
- Ph.D. UNM
- Ph.D. U Iowa
- Ph.D. U Cal/Berkeley
- Ph.D. Oklahoma State
- Ph.D. U So California
- Ph.D. MIT
- Ph.D. U Wis/Madison
- Ph.D/JD UCLA/UNM
- Ph.D. Temple
- Ph.D. U Bath
- Ph.D. Carnegie-Mellon
- Ph.D. U Texas/Austin
- Ph.D. Stanford
- Ph.D. Ohio State
- Ph.D. U Nebraska
- Ph.D. U Tennessee
- Ph.D. U New Mexico
- Ph.D. U Colorado
- Ph.D. U Michigan
- Ph.D. RPI
- Ph.D. U No Carolina
- Ph.D. Northwestern
- Ph.D. U of Florida
- Ph.D. U Michigan
- Ph.D. U Washington
- Ph.D. Arizona State
- Ph.D. U Indiana
- Ph.D. Texas Tech
- Ph.D. U Kansas
- Ph.D. U Illinois
- Ph.D. U Washington
Endowed Chair
New Mexico Bankers Chair of Banking

Donald G. Simonson

Professorships
Anderson Advisory Board Professor of Management
Arthur Andersen Professorship (Accounting)
ASM Foundation Professorship
Albert Black Professorship (Entrepreneurship)
Douglas Minge Brown Professorship (Finance)
KPMG Peat Marwick Professorship (Accounting)
Regents’ Professor of Management
Regents’ Professor of Management
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Rutledge Professorship

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Douglas Minge Brown Professorship (Finance)
KPMG Peat Marwick Professorship (Accounting)
Regents’ Professor of Management
Regents’ Professor of Management
Regents’ Professor of Management
Rutledge Professorship

Lectureships
Lobo Center/Norwest Lectureship
Rogoff Diamond Walker Lectureship (Accounting)
Sandia Federal Lectureship (Finance)
Sandia Federal Lectureship II (Finance)
UNM Regents Lectureship
Ed Wood Lectureship

Organizational Studies
John Ackerman
Ray Beach
Tom Bonafair
Tarby Bryant
David Coe
David Euler
Dan Faber
Jennifer Flowers
Kelly Fonville
Renee E. Gutierrez
Jim Hayes
Marianne Johnston
Pat Jones
Kim Leifeste
Anthony Louderbaugh
Judy Moore
Catherine Muisequeen
Jerry Munisisky
Larry Nicholson
Marina Oborotova
Kalyn Pirk
Elaine Ramirez
Rebecca Rigney
Karen Schemidler
Judith Thompson
Patrick Vigil
Jacqueline Woodcock

Part Time Faculty
Accounting
Dawn Addington
Steve Avery
Douglas Azar
Deborah Bower
Patricia Elliott (emerita)
Charles Emmons
Steve Erickson
David Euler
Eileen Iles
Lawrence Pearsall
Dennis Sterosky
Robert Tepper

Organizational Studies
John Ackerman
Ray Beach
Tom Bonafair
Tarby Bryant
David Coe
David Euler
Dan Faber
Jennifer Flowers
Kelly Fonville
Renee E. Gutierrez
Jim Hayes
Marianne Johnston
Pat Jones
Kim Leifeste
Anthony Louderbaugh
Judy Moore
Catherine Muisequeen
Jerry Munisisky
Larry Nicholson
Marina Oborotova
Kalyn Pirk
Elaine Ramirez
Rebecca Rigney
Karen Schemidler
Judith Thompson
Patrick Vigil
Jacqueline Woodcock

Finance/International & Technology
Vic Bernklau
Olin Bray
Wendy Cain
Dante DiGregorio
Todd Dunvan
Rich Engstrom
Chris Fogel
Mitch Marzec
Joelie Nisolle
Jerry Pacheco
Bob Raybarman

Marketing/Information & Decision Sciences
Renee Barela
John Banevídex
Mary Burt
Glenn Byrnes
Tim Cone
Ed Consroe
Bill Epler
Chris Fogel
Renee Guiterrez
Howard Kraye
David LaBarge
Len Malecznski
Seana Moran
Terry Olinick
Kerry Perry
Dean Reed
The Anderson Schools of Management Faculty have provided extensive community service in New Mexico while continuing to gain national recognition for their unique research. Some of these highlights are described below.

- Dr. Jacqueline N. Hood is a leader in the area of organizational conflict and managing diversity. In addition to maintaining an active research agenda, she has been invited to speak on conflict management for many New Mexico organizations, including the Arts and Sciences Administrative staff and Department chairs. In the last year, she has presented diversity workshops for the University of New Mexico coaches, Albuquerque/Santa Fe/Los Alamos Equal Employment Opportunity Council, the Hispanic Chamber of Commerce, and the Navajo " Courage to Succeed" conference. She has done training for the New Mexico Highway and Transportation Department, the U.S. New Mexico Federal Credit Union and the University of New Mexico School of Medicine.

- Drs. Steve Walsh and Sul Kassiebliche are leaders in the area of management of technology. They have created a mentorship program for graduate students interested in working in high tech industries. In particular, they have received awards for exploring entrepreneurial issues in high tech firms and have generated corporate support for their research and mentorship programs.

- Dr. Leslie Oakes works with small non-profit and cooperative organizations in New Mexico, providing financial management training. During the past year, she has provided workshops for the New Mexico Community Foundation and the New Mexico Community Loan Fund in Santa Fe, Roswell and Albuquerque. The participants include the directors of a small community newspaper from Zuni, daycare organizations in Navajo communities, arts associations in southern New Mexico, community health care organizations, athletic leagues and wood cooperatives from New Mexican land grants and in Silver City. Dr. Oakes has published in this area and is developing pedagogical materials for micro-organizations.

- Drs. Jeanne Logsdon and Virginia Gerde are leading national experts in the area of business ethics and policy. Dr. Logsdon was invited to present at the Ruffin Lecture Series at the University of Virginia and received a $15,000 Sloan Foundation grant for Business Citizenship Research projects. She is the program chair for the SIM's Division's Professional Development workshop at the Academy of Management annual meetings. Dr. Gerde also publishes in this area and was selected to work on the New Mexico Ethics Business Awards panel.

- Dr. Laurie Shatzberg was elected as an officer of the Association of Computing Machinery SIGMIS, an organization with 1000 members nationwide. She is an expert in Analysis and Design Manufacturing Information Systems.

- Dr. Helen Muller is a leader in management issues in Native American communities. She was the recipient of the "Breaking the Frame" Award for the best article of 1998 in the Journal of Management Inquiry. The article was entitled "American Indian Women Managers: Living in Two Worlds." Together with several graduate students, Dr. Muller also developed case studies on tribal organizations that will be published and are among the first pedagogical materials for the study of management issues on Native American lands.

- Drs. Vora and Grant are leaders in the area of valuing complex options. Their work on Monte Carlo simulations to value complex path-dependent options has received national attention, as has their work on No-Arbitrage Modeling of Interest Rates. They have published extensively and have been invited to give talks at national meetings.

- Dr. Allen Parkman is an expert on economic analysis of legal family issues. His book, Good Intentions Gone Awry: No Fault Divorce and the American Family is currently undergoing revision and will be published in early 2000.

- Dr. Richard Reid is an expert on quality improvement in service organization. He has published four articles in the area during the last year and has been invited to give several talks on this topic.
Faculty Activities

DEPARTMENT OF ACCOUNTING

Intellectual Contributions

Dillard, Jesse F.

Publications


Presentations


Hamill, James R.

Publications

Refereed


Invited non-refereed


Tax benefits may require family separation. *Succession Solutions*, Fall 1998, 3.


The ABCs of LLCs, LLPs, Ss and Cs. *New Mexico Business Journal*, June 1998, 37-38.


Two ways homeowners may deduct construction interest. *Client/Advisor*, Summer 1998, 2.


Chapters


Presentations

Institute of Management Accountants: speaker on Tax Simplification and Reform, November 1998

New Mexico Estate Planning Council: speaker on Gifts of Options, September 1998

Estate Planning Council of Santa Fe: speaker on Gifts of Options, March 1999

International Association for Financial Planning: speaker on Stock Options, February 1999

Albuquerque Chapter, New Mexico Society of CPAs: speaker on CPA-client privileged tax communication, February 1999.

Oakes, Leslie S.

Publications


Preston, Alistair M.

Publications

Reinvent or dismantle: Efforts to restructure U.S. federal financial management (with Oakes, L. and Young, J. J.). In O. Olson, J. Guthrie, & C. Humphrey (Eds.), Global warning! Oslo: Cappelen Akademisk Forlag (1998), 346-375.

Togo, Dennis F.

Publications


White, Craig G.

Publications


Presentation

What is an "equitable" tax policy? The implicit choices western European countries and the United States have made regarding the marriage tax penalty (with Gerde, V.) International Association for Business and Society Research Conference, Paris (France), June 1999.

Young, Joni J.

Publications


From contract to speech: The courts and CPA licensing laws (with Mills, P.). Accounting, Organizations and Society, 24 (1999), 243-262.

Presentations


University of Essex (UK), November 11 1998.

London School of Economics, November 4 1998.

From contract to speech. London School of Economics, November 18 1998.

Copenhagen Business School (Denmark), October 23 1998.
Qualitative research considerations. University College, Cork (Ireland), November 13 1998.


Risky Standards. Copenhagen Business School (Denmark), October 22 1998.

DEPARTMENT OF FINANCE, INTERNATIONAL AND TECHNOLOGY MANAGEMENT

Intellectual Contributions

Donald Coes

Publications


Dwight Grant

Publications

Dwight Grant and Gautam Vora, Implementing No-Arbitrage Term Structure of Interest Rate Models in Discrete Time When Interest Rates are Normally Distributed. Journal of Fixed Income 8 4 (March 1999), 85-98.

Suleiman Kassicieh

Publications


Presentations

S. K. Kassicieh, Technology Applied to Business. 2nd International Business Symposium, University of Guanajuato, Mexico, September 24, 1998

Research


Don Simonson

Publications

Bank Management: Text and Cases (co-authored with George Hempel). published November 1998 (800 pages) John Wiley & Sons, Inc. NYC.


Presentations


Gautam Vora

Publications


Presentations

I discussed two papers at the annual meetings of the Financial Management Association in Chicago, IL, October 14-17, 1998. The first paper was The Asymmetric Response of Volatility to Returns: Leverage, Cash Flow, and Crash Effects by Hazem Daouk of Indiana University. The second paper was Alternative Approaches to Hedge Ratio: Theory and Empirical Analysis by Sheng-Syan Chen, Cheng-few Lee and Keshab Shrestha of Nanyang Technical University, Rutgers University and Nanyang Technical University, respectively.

Research

In 1998 I submitted two proposals to UNM RAC, viz., (a) Earnings, Expectations and Capital Market Phenomena, requesting consideration for the I/B/E/S data for $4,000 and (b) New Securities Issues, Trading Volume and Volatility, requesting consideration for the Securities Data Company's data set on new securities issuances for $7,500. The UNM RAC has funded the second proposal in the amount of $3,000. The UNM RAC asked me to revise my first proposal and resubmit. I have already done so, I am waiting to hear about the decision of the RAC.

I have continued to work on two more projects started last year. These projects were (a) a development of the analytical model for option-adjusted spreads using my research on interest-rate modeling with Professor Grant, and (b) an empirical study of volatility of stocks and volume of trading with John A Guthmann. For the second project, I have
collected the history of prices and volume of trading of companies comprising the S&P500 index. The econometric work remains to be done.

Steve Walsh

Publications


Presentations


Intellectual Contributions

Bose, Ranjit

Publications


Proceedings


Burd, Stephen D.

Publications


Bullers, William I.

Proceedings


Reid, Richard A.

Publications


**Presentations**


**Proceedings**


**Shama, Avi**

**Presentations**


Shama, Avi. Participant in the Dual Educational System of Germany — Relevance to the U.S.A., 10 day seminar, Germany, 1999.
Yourstone, Steven A.

Publications


Presentations


Yourstone, Steven A. Understanding and Teaching the Baldridge Criteria in POM Classes. POMS 1998, March, 1998, Santa Fe, NM.


DEPARTMENT OF ORGANIZATIONAL STUDIES

Intellectual contributions

Champoux, Joseph

Books and Book Chapters


Publications


Corzine, Jan

Publications


**Proceedings**


**Dry, Eddie**

**Publications**


**Proceedings**


**Presentations**


Tourism Career Development. Presentation at the Western Regional Leadership Conference in Albuquerque, NM, November 1998.

**Gerde, Virginia**

**Publications**


**Proceedings**


Hood, Jacqueline

Publications


Proceedings


Presentations


Logsdon, Jeanne

Publications


Proceedings


Presentations


Muller, Helen J.

Chapters in Books


Publications


Proceedings


Presentations


North, Monica

Presentations


Parkman, Allen

Chapters in Books


Publications


Presentations


Porter, James

Publications


Sarason, Yolanda

Publications


Proceedings


Presentations


Silva, Paula

Publications


Proceedings


Presentations


Publications


Book Chapters

What follows is the Architecture Annual Report covering the period July 1, 1998 through June 30, 1999. The report below documents key developments and events in the program regarding personnel, curriculum, student life and activities, public events and outreach, and administrative reforms. The report also addresses faculty research and professional activities.

Significant Developments and Events

**JB Jackson and American Landscape Conference**

In October 1998, the program sponsored a major conference on the work and influence of JB Jackson on the fields of architecture, landscape architecture, photography, journalism, geography, planning, art and history. Over 300 students, professionals and others attended the three day conference, which was organized by Stephen Schreiber, Associate Professor and Chris Wilson (now J.B. Jackson Professor). The conference featured 11 keynote speakers, 75 paper presentations, several workshops, and 2 exhibitions.

**John Gaw Meem Lecture Series**

Several architects, historians, academics, and landscape architects participated in the School's John Gaw Meem Lecture Series, participants included:

**FALL 1998**
- James Howard Kunstler, Author, Saratoga Springs, NY, *Can America Survive Suburbia*
- Laurie Hawkinson, Smith-Miller and Hawkinson Architects, New York, NY, *Inside Out*
- Mario Gandelsonas, Professor, Princeton University, *X-Urbanism: Architecture and the American City*
- Kathryn Anthony, Professor, University of Illinois, *Designing for Diversity*
- Steve Badanes, Partner, Jersey Devil, *Devil's Workshop*
- Roxanne Swentzell, Santa Clara Pueblo, NM, *Permaculture Practices in Northern New Mexico*
- Rodolfe El Khoury, Assistant Professor, Harvard School of Design, *SeeThrough Ledoux*

**SPRING 1999**
- Sym Van Der Ryn, Professor Emeritus, University of California, *The Geometry of Hope*
- Steve Martino, Landscape Architect, Phoenix, *Desert Gardens*
- Fernando Vasconcelos, Albin Vasconcelos Elizondo Arquitectos, Mexico City, *Recent Work*
- Tullio Inglese, TIA Architects, Amherst, MA, *Principles of Ecological Architecture*
- Bruce Kuwabara, Architect, Toronto, *Hybrids and Archetypes*
- Kent Klineman, Associate Professor, University of Michigan, *Notes on Almost Nothing*
ACSA Satellite Teleconferences

Program students, faculty and local professionals participated in two teleconferences, sponsored by the Association of Collegiate Schools of Architecture. An October conference linked architecture schools in the Southwest United States and Mexico – the theme was “Architecture Across Boarders.” In November, a teleconference linked all schools of architecture in the United States. Prominent architects, faculty and students discussed issues of the “Architect as Citizen.”

Thesis and Studio Reviews

Several prominent architects from around the country were invited to participate in Masters Project, graduate and undergraduate studios. Participants included:

- Ed Baum, Dean, University of Texas (Arlington)
- George Gintole, Graduate Director, University of Texas (Arlington)
- Peter Waldman, Chair, University of Virginia
- John Brittingham, Assistant Professor, Montana State University
- Deborah Morris, Associate Professor, University of Houston

New Building Charrette

Fourteen graduate students, several faculty members, and prominent professionals spent a weekend in January brainstorming ideas for a new building for the UNM School of Architecture and Planning. The work was published in a book “Millenium Visions” which was distributed to state legislators, alumni and others. The visiting architect participants included:

- Tom Laging, Nebraska
- Brian Kelly, Maryland
- Tim McGinty, Colorado

The charrette was organized by Andy Pressman, Stephen Schreiber and Roger Schluntz.

School Journal

Michael Hughes led a group of student writers and editors in the production of a new school journal – “Jumbo.” The journal has been published on the web and will be printed in the fall.

New Mexico Board of Examiners for Architects

The architectural registration board held one of its quarterly meetings at the School in November. The meeting included a question and answer session with students and faculty. The board, which has an architect/educator position, recently voted to create a student observer
position to better facilitate communication with the program. Stephen Schreiber was elected as chair of the Board in May.

American Institute of Architects

The AIA Albuquerque held one of its monthly meetings at the school. The meeting, held in November, focussed on the issue of alternate careers.

International Council for Caring Communities

A graduate/undergraduate studio at the School was honored as a finalist in an international competition. The work from the studio, which was taught by Professors Richard Nordhaus and Stephen Schreiber, was exhibited and presented at the United Nations in February 1999.

Faculty

- Edith Cherry was promoted to full Professor in June 1999.
- Gabriella Gutierrez, Associate Professor, was granted tenure in July 1998.
- Geoff Adams was appointed Visiting Assistant Professor for the period January 1999 through June 2000.
- Greg Watson joined the faculty as Associate Professor in August 1998 (and subsequently left the School for private practice in January 1999).
- Luis Carranza joined the faculty as Assistant Professor in August 1998 (and subsequently left the school for a position at Roger Williams in June 1999).
- Chris Wilson was appointed JB Jackson Professor of Cultural Landscape Studies in June 1999.
- Mark Childs was appointed Visiting Assistant Professor in June 1999 for a 3 year term.
- Roger Schluntz joined the Program as Full Professor and the School as Dean in June 1999. Dean Schluntz is the School's fourth Fellow of the American Institute of Architects (the others are Professor Edie Cherry, Professors Emeriti Don Schlegel and George Anselevicius).
- Min Kantrowitz, Adjunct Associate Professors was on leave in Fall 1998 to conduct research on urban development.
- Barbara Coleman, Lecturer, was on leave July 1998 to June 1999 to pursue her painting and personal activities.
- Fernando Vasconcelos (Mexico City) and Chris Calott (San Francisco/Albuquerque) joined the faculty as visiting distinguished critics in Spring 1999.

Curriculum

Curriculum Planning

The faculty has been involved in an extensive review of our graduate and undergraduate curricula. After much discussion, the faculty voted to approve significant changes to the pre-professional and professional programs, which will address deficiencies observed by our accreditation board and will capitalize on our strengths. The changes include:
• A rigorously structured undergraduate studio sequence, coordinated with support courses, and culminating on a comprehensive studio semester
• Rigorous, broad graduate studio options, coordinated with seminars and culminating in a restructured thesis year

After review and approval by numerous School and University groups, the changes take effect in Fall 1999.

Evening and Weekend Degree Program

The School continues to offer one of the only evening and weekend professional Master of Architecture programs in the country. The program attracts many excellent students with daytime personal and career obligations. Joel Condon, who was a student in the fall evening/weekend studio won the prestigious BPLW fellowship in February 1999.

New Courses

• Seminar in Physical Planning, Paul Lusk, Spring 1999
• Downtown Design and Planning Studio, Paul Lusk, Dick Nordhaus, Mark Childs, fall 1998, Spring 1999
• School Journal, Michael Hughes, Spring 1999
• Auto Cad I and II, Don Dudley, Bobby George & Steve Osborn, Summers 1998 & 1999
• America at Mid Century, Chris Domin, Summer 1999
• Mexican Modernity, Luis Carranza, Fall 1998
• J.B. Jackson, Edie Cherry, Fall 1998

Student Life

Architecture student groups were very active in 1998 – 1999. The program continues to have three organized groups, which are active in a broad range of areas:

• American Institute of Architecture Students (AIAS)
The group sponsored symposia, workshops, mentorship programs, open houses and social activities (often in collaboration with the AIA).
• Society of Women in Architecture
The Society sponsored dinners, lectures, film clips, receptions, and other activities.
• Native American Architecture Students
The group sponsored mentorship programs, workshops, and lectures.

Student Awards

Architecture students received the following awards in 1998 – 1999:
AIA Henry Adams Medal Brian Panasiti
AIA Certificate Janet Carpio
Alphia Rho Chi Susan Marbury
AIA Albuquerque Douglas Patterson
AIA Santa Fe Michael Howells
AIA New Mexico Patricia Pollock
Brown Scholarship Krystine Graziano
CSI Scholarship
Friends of the School for 1st year studios
Friends of the School for 2nd year studios
Friends of the School for 3rd year studios
Friends of the School for 4th year studios
Friends of the School for DPAC
Friends of the School for 500 level studios
Friends of the School for 409 studios
Frontier Scholarship
FMSM Endowed Fellowship
Letha Leitka Bazard Memorial Scholarship

Michael Ryan
TBD
Rachel Hill
Rana Abu-Dagyeht
David Allen
Susan Marbury & Teresa Jacks
Bill Bridwell
Kearney Bolton
Luciana Mello
Luciana Mello & Michael Ryan
Thelma Antonio & Prudence Bradley

Faculty Research and Professional Work

Edith Cherry

Stephen Dent


Mark Childs
*Parking Spaces*, John Wiley & Sons, 1998

Christopher Mead

Stephen Schreiber


Paul Lusk


Min Kantrowitz
Nominated by the NM Chapter of the American Planning Association to be a Fellow of the American Institute of Planners (not one of 50 finally selected nation-wide), 1998.


Gabriella Gutierrez
Eastwood Clinic, Taffet Residence, Affordable House (all by Morris Gutierrez) included in *AIA Guide to Houston* (1998).


Richard Nordhaus
Residential projects and remodel of synagogue sanctuary renovation (by Dent Nordhaus).

Article in *Albuquerque Tribune* on the work of DPAC, February 1999.

Anne Taylor
Hayward, CA, educational facility study.
East Haven CT, learning landscape.
Harrison Middle School Landscape.

Andy Pressman


**Kramer Woodard**


Exhibit of work in "GA House" exhibit in Japan.
What follows is the CRP Annual Report covering the period July 1, 1998 through June 30, 1999. The report below documents key developments and events in the program regarding personnel, curriculum, student life and activities, public events and outreach, and administrative reforms. The report also addresses faculty research and professional activities and funded research.

**Significant Developments and Events**

**New Newsletter**

The CRP Program initiated a new community newsletter called “CRP Musings”. The first issue was sent to all members of the CRP community, including alumni. This informal ‘chatty’ newsletter is designed to keep alumni, students, and faculty up to date on where the program is going and ways that they can participate.

**Planner’s Day at the Legislature**

Students participated with Studio Professor David Henkel at “Planners Day” at the state legislature. Their poster presentation was based on Prof. Henkel’s fall studio on agricultural development and land use planning in northern New Mexico.

**Annual orientation event**

In what is becoming a CRP tradition, new students had the opportunity in August to learn about the breadth and depth of planning directly from Albuquerque’s professional community. At the August, 1998 event, approximately 30 municipal, regional, and community planners came prepared to discuss “How Planning Contributes to Albuquerque’s Future” with new students. The discussion quickly shifted into a professional statement of the need to institutionalize Participatory Planning. This event also led to conversations with the New Mexico Chapter of the American Planning Association about professional development workshops in the practice of community based planning. The first of those workshops will be held in October 1999.

**NAFTA Symposium**

During the week of March 22, the CRP Program held a Symposium titled “NAFTA: Planning Impacts of Globalization.” Students, Faculty and Community Members heard perspectives on the economic, environmental, and infrastructure implications of NAFTA, particularly along the US/Mexico Border, from visiting activists and scholars. Visiting participants includes:

- José Bravo, Co-Director of the Border Justice Campaign based in San Diego, California
- Cipriana Jurado, Co-Director of the Border Justice Campaign based in Ciudad Juarez, Chihuahua
- Francisco Rosado May, Professor of Ecology from the Institute of Science and Technology of the Universidad de Quintana Roo, Chetumal Quintana Roo.
Ruben Solis, from the "Justicia y Dignidad" program of the Southwest Workers' Union, based in San Antonio, Texas

**John Gaw Meem Lecture Series:**

Several academic and practicing planners were invited to participate in the School's John Gaw Meem Lecture Series.

On September 14, 1998 James Howard Kunstler, the Saratoga Springs, New York author of *Home from Nowhere* and *The Geography of Nowhere*, spoke on "Can America Survive Suburbia?"

On October 12, 1998 Mickie Lauria, Professor of Planning in the College of Urban and Public Affairs at the University of New Orleans spoke on "Community Planning in New Orleans: Racial and Economic Diversity on a Neighborhood Scale".

On October 26, 1998 Kathryn Anthony, a Professor in the Landscape Architecture and Women Studies Programs at the University of Illinois, spoke on "Designing for Diversity: A Gender, Racial, and Ethnic Critique of the Architecture and Planning Professions."

On November 9, 1998 Roxanne Swentzell of the Flowering Tree Permaculture Institute at Santa Clara Pueblo spoke on "Patterns of Design in Natural Systems: Permaculture Practices in Northern New Mexico".

On February 15, 1999 David Henkel, then Assistant Professor of Planning at UNM spoke on "Community Management of Public Lands".

On March 22, 1999 participants in the CRP NAFTA Symposium presented a panel in the lecture series on "Planning Impacts of Globalization".

**Faculty:**

**Personnel**

- David Henkel received tenure and promotion to Associate Professor in June, 1999
- Bill Fleming was hired as an untenured Associate Professor in Natural Resources Planning in Spring, 1999.
- On June 1, Associate Professor Ric Richardson completed 2.5 years as Interim Dean of the School of Architecture and Planning. He will continue as Associate Dean, and will move back on to active participation on the CRP Faculty.
- Adjunct Associate Professor Min Kantrowitz was on leave without pay in the fall '98 to conduct research on urban redevelopment projects in New York, Boston and Los Angeles.

**Curriculum:**

**Curriculum Planning and New Course Development**

The faculty has been engaged in an extensive review of our curriculum for the past year. Some of the issues we continue to address include:
• role of land use and physical planning in the curriculum;
• rationalizing faculty course loads;
• linking course offerings to the internal cohesion of the program emphases;
• adjusting course sequencing to meet student needs.

New Courses:

“Seminar In Physical Planning” (taught by Paul Lusk, spring ’99).

“Community Planning as Community Organizing” (taught by Teresa Córdova, summer ’99)

“Interdisciplinary Seminar in Indigenous Planning” (taught by Ted Jojola in collaboration with faculty from Law and the Anderson School, spring ’99).

“Land and Water Economics” (taught by William Fleming, spring ’99)

Community Outreach in Classroom Settings

In keeping with a long-standing tradition of client-based studios, CRP faculty and students have conducted several important studio projects within the region. 1998 – 1999 studios included:

• “Rio Arriba Economic Development” (CRP 521 Studio taught by David Henkel and Paul Lusk);
• “Community Design Alternatives for the Bataan Memorial Park” (CRP 510 Communications Studio taught by Ted Jojola, with Paul Lusk, Ric Richardson, Tim Karpoff and Teresa Córdova);
• “Community Building Alternatives for Mesa del Sol” (CRP 520 Studio taught by Paul Lusk);
• “A pilot LESA (Land Evaluation and Site Assessment) for a property in Medanales, Rio Arriba County” (CRP 564 Foundations of Natural Resource Planning, taught by David Henkel)
• “Interdisciplinary Downtown Infill and Design Guidelines” (CRP 408, DPAC Studio, taught by Dick Nordhaus and Mark Childs, a collaboration between Architecture and Planning students)

Program Grants and Awards

The CRP Program received USDA funded work-study fellowships in Rural Community Development. These fellowships provide tuition support and work-study stipends to three students or two years. Fellows work with local planning agencies, community-based organizations, and research efforts engaged in local community development in rural places in the State. 1998-99 awardees were Robert Griego, Chris Lopez, Arthur Neskahi, and Lawrence Shorty.


The program received funding from the school’s JB Jackson Endowment to hire adjunct faculty to teach two Economic Development courses in the 1999-2000 academic year. One will focus on general economic development techniques, and another on land development economics.
The program was successful in a joint proposal with the NM Chapter of the American Planning Association to conduct a Professional Development series in association with the John Gaw Meem Lecture Series in 1999-2000.

CRP Faculty recipients of the 1999 Dean’s Awards for Excellence were Min Kantrowitz and William Fleming for excellence in teaching, and Paul Lusk for excellence in research.

Student Life

Student Organizations

CRP Student organizations were very active in 1998-99. Students took a full governance role in admissions, a tenure track faculty search, and all Program events. The program continues to have four organizational channels for students to participate in program governance. Their main activities are described below.

The Resource Center for Raza Planning organized a series of “Platicas” on water issues, and produced a publication on land-water development issues. (funded in part by the JB Jackson Endowment). This student driven organization is currently discussing ways to increase their institutional stature and capacity, perhaps by becoming a research/practice center.

Planners in Latin America organized a discussion on Ethical Concerns in Latin American Development Planning with panelists Claudia Isaac (CRP), Ken Roberts (Political Science), David Henkel (CRP), and Judith Espinoza (New Mexico State Border Commission).

The Student Chapter of the American Planning Association continued their role in the local APA chapter.

The CRP Graduate Student Organization continues to channel student participation in CRP Program collective governance. In July 1998, they sponsored Alumnus Derrick Archuleta to give a very well attended workshop on platting process, subdivision and development review process. Archuleta donated his time.

Student Awards

CRP Students received the following awards in 1998-99:

- Marsha Kellogg: Outstanding Service Award
- Sarita Nair: Outstanding First Year Student
- Tony Sylvester: Outstanding Second Year Student
- Loretta Naranjo-Lopez: New Mexico APA Award
- Robert Griego: Frontier Scholarship in Planning
- Barbara Ford: Outstanding Overall Student

Graduating Students

The following students graduated with an MCRP degree in the 1998-1999 academic year.

- Victoria Gass
- Josette Griffiths with distinction
- Barbara Herrington
- Julia Hirshfield
- Alexandra Ladd with distinction
Margaret Milton
Gregory Smith
Peter Smith
Cynthia Tidwell

Faculty Research and Professional Work (including awards received)

Teresa Córdova, Associate Professor


1998: “Dignity of Labor is More than a Tourist Attraction”, Voces, Vol. 8, # 2


Bill Fleming, Visiting Associate Professor

1998: New Mexican Riparian Council Award for Public Awareness/Education; for founding and directing the NM Watershed Watch Program

1998: Testimony on watershed planning on behalf of Los Alamos National Laboratory before NM Water Quality Control Commission to adopt new water quality standards.

1999: New Mexico Chapter of the American Planning Association Award for Public Education for leadership on the NM Watershed Watch Program.


1999: Public Education award from the New Mexico Chapter of the American Planning Association for his "Watershed Watch" program.


David Henkel, Assistant Professor


Claudia Isaac, Associate Professor


Ted Jojola, Professor


1998: Wacaso Sa Review Special Issue on Technology and Native American Culture, guest editor, University of Minnesota Press, Fall, 13:2.


Min Kantrowitz, Adjunct Associate Professor

1998: Nominated by the NM Chapter of the American Planning Association to be a Fellow of the American Institute of Planners (not one of 50 finally selected nation-wide)

1998: Juror/member of Selection Committee for the Rudy Bruner Award for Urban Excellence.


Paul Lusk, Associate Professor


James (Ric) Richardson, Associate Professor


1998: Session leader and Panelist on “Historical Review and Update of Pocket of Poverty Strategic Plan”, at the Pocket of Poverty Urban and Youth Summit, April.


1998: Convener, Middle Rio Grande Water Assembly and Action Committee.

**Research Funding (includes only funding brought through UNM)**

**Teresa Córdova, Associate Professor**

$9000 over 1 year from the Urban Strategies Council for RCRP to support teaching and research on the collaborative community research model.

**William Fleming, Visiting Associate Professor (during report period)**

Second year of a 5 year $216,000 grant to continue Watershed Watch Project

Completed final year of a 2 year grant from the McCune Foundation for the Watershed Watch Project.

**David Henkel, Assistant Professor**

$330,000 over 3 years from the US Department of Agriculture "Rural America Program" to generate and document agricultural development strategies in Rio Arriba County, New Mexico

**Ted Jojola, Professor**

$90,000 from the City of Albuquerque over 1.5 years to conduct a community assessment of urban Indians in the Albuquerque Metropolitan area.

**Paul Lusk, Associate Professor**

1998 Regents Lectureship Award to continue Greenroom/cool tower – design/build/research on interior constructed wetland, passive solar heating and cooling systems.

**James (Ric) Richardson, Associate Professor**

Grants from the Hewlett and McCune Foundations to support the New Mexico Consensus Council, a joint project of the UNM School of Architecture and Planning, the Institute of Public Law, and the School of Medicine.
Mission
The Design and Planning Assistance Center (DPAC) supports the community service mission of the School of Architecture and Planning, working on a wide range of community based projects with public, non profit and community clients. The DPAC is structured as graduate and undergraduate studios offering students the opportunity to work directly with client groups on public service projects. The scope and nature of projects vary, including physical planning, urban design, architectural programming, architectural design, and landscape. Many projects assist client groups to articulate project needs and explore alternative approaches enabling them to acquire funding and professional support required for implementation.

Significant goals, plans and developments
During the past year efforts have focus on several goals to enhance the DPAC’s longstanding service education mission:

• Develop projects cooperatively with other studios.
  Over the past year, several studios have been joined to form the DPAC/Downtown studio, including the undergraduate DPAC studio, the graduate “Community” studio and the joint CRP/Architecture studio. Cooperating faculty included Richard Nordhaus, Mark Childs and Paul Lusk.

• Focus on downtown Albuquerque
  The DPAC/Downtown studio operated out of a storefront at 5th and Central for the Fall and Spring semesters. The intention was establish a presence of the School and the University downtown and work on projects in support of the revitalization efforts of the City and the Downtown Action Team.

• Establish partnerships with community organizations and city agencies
  Successful projects with non profit community organizations and city agencies has provided a foundation for long term working relationships and additional support for service learning in the School.

• Develop funding and support for DPAC
  The DPAC/Downtown studio successfully generated over $24,000 in support and reimbursements with an opportunity for continued support.

• Improve university visibility in the community
  The DPAC/Downtown studio provided a University presence working in the community including presentations, displays, and several articles in the Albuquerque Journal.
Impacts and outcomes

1. Over $24,000 in support and contributions was generated by the DPAC/Downtown initiative during the year.
   - Rent and remodeling support from the Downtown Action Team and the building development community: $14,000
   - Support for materials, supplies, expenses by the City and non-profit organizations: $8,500.
   - City subsidy of student bus passes: $1,400
   - In kind contributions by professional architects: undetermined

2. The Design Guidelines produced by the Affordable Infill Housing project have been incorporated in the City’s Request for Proposals from non profit developers and integrated into the design and review process. The City is exploring ways to replicate the community based process on other areas.

3. The 4th Street Mall study, has won an award from the Albuquerque Chapter of the American Institute of Architects

4. The Rhyme and Meter project has completed 2 phases involving local poets and artists. A subcommittee of the DAT is actively developing additional phases.

5. The Buskers project has contributed to the inclusion of busking on the 4th street mall and the Summer Festival.

6. The student projects for the WHEELS Museum have been widely used by the organization to promote the project and raise funds.

7. Several students have been employed by non-profit Community Development Corporations, city agencies and practicing professionals to continue working on projects.

8. DPAC/Downtown resulted in a series of articles in local papers contributing to School’s intention to raise public awareness and knowledge of planning and design issues.

Projects

Over the past year the DPAC and cooperating studios have completed work on a wide range of community based projects:

- **Design Guidelines for affordable Infill housing**
  A project working with the City and a non profit neighborhood development corporation to develop design guidelines for affordable Infill housing in Albuquerque’s pocket of poverty. The project involved extensive participation of neighborhood residents and the work will be used by the neighborhood to guide the project during implementation.

- **Apartment conversion study**
  The project undertook a study for the Greater Albuquerque Housing Partnership to examine the feasibility of converting two fourplex courtyard apartments in the Trumbull neighborhood to home ownership. The conversion did not prove to be cost effective.

- **Fourth Street Mall design study**
  A downtown project exploring visions for redesigning the Fourth Street Mall. The project won an AIA award.
• **A Village Center at 12th and Candelaria**
  Working at the request of the North Valley Neighborhoods Coalition, the DPAC team developed phased design alternatives for a Village Center identified in the North Valley Area Plan. The work will be used to generate public interest and discussion of the village center concept.

• **Airport Recreation Park**
  Planning and design of an old city dump site west of the Sun Port to provide exercise opportunities for employees of the Sun Port and surrounding businesses, and eliminate an eyesore adjacent to the car rental facility.

• **Claremont streetscape project**
  The Uptown Classic Neighborhood Association requested studies and presentation materials to assist the neighborhood and the city to slow traffic and develop landscaping and a linear recreation park along Claremont. The project proposed prototype concepts for drainage, water harvesting, landscaping and recreation that could be extended to other streets.

• **Chimayo Youth Center**
  A group of Chimayo residents obtained funding from the State and formed a non profit corporation to develop a youth center for Chimayo and the surrounding areas. DPAC assisted with architectural programming, site analysis and design studies. The work helped the group clarify their needs and presentation materials will assist with fund raising.

• **Rhyme and Meter project**
  Working with a poets group and the arts community the DPAC/Downtown studio assisted with a project to enhance downtown parking meters with poetry and art. Two phases of the project have been completed and the project is ongoing.

• **The Buskers project**
  The Buskers project examined the opportunities and liabilities of busking in the downtown area. The project proposed an ordinance which would permit busking and discourage panhandling. The ordinance was not passed, but busking will be permitted on the Fourth Street mall and has been permitted in downtown festivals.

• **WHEELS Museum**
  DPAC/Downtown explored design ideas for the WHEELS Museum in the old Santa Fe Railroad Shops. The presentation boards have been used for fund raising and to develop community awareness of the project.

• **Downtown housing/mixed use urban design studies**
  Two projects have examined urban mixed use in the downtown core area.

• **Other Downtown studies**
  A variety of planning and design projects in the downtown area have included planning and design of the shuttle loop, concepts and designs of street lighting, a study of Christmas and special events lighting.
1. Significant Developments

Places, people, and things all changed, sometimes dramatically, during the 1998-99 year. At the end of it all, we have emerged as, arguably, a stronger and more focussed institution.

Places: the University Museum Downtown closed its doors for good on December 19, 1998, thus ending a three year-plus run of lively exhibitions and public programs, which drew total audiences of over 25,000 people. In a last flurry of activity, the Downtown Action Team first promised and then regretfully declined to raise funds necessary for the survival of that outreach center, which - for the last year of its existence - had been jointly run by the University Art Museum and the Maxwell Museum of Anthropology. One hopes that the audiences we so successfully reached down there took away a new appreciation of the University and its museums; most, according to our surveys, had never visited us on campus. Perhaps at least some of them have joined our audiences here in the Center for the Arts (where attendance has gratifyingly increased) and at the Jonson Gallery. And speaking of the Jonson Gallery, during 1998-99 Jonson Gallery Curator Tiska Blankenship headed the successful effort to oppose plans for a new parking structure which, at one time, threatened our building with destruction.

People: regretfully, there were lots of departures in 1998-99, including many wonderful and long-time members of our staff, most of whom left for out-of-state job (and life) opportunities. Fortunately, we have been able to attract competent, enthusiastic replacements. But we spend an inordinate amount of time searching for new appointments, which necessarily slows the pace of institutional advancement. We can only hope for a period of less staff turnover (although, as this is written, we are now about to embark on yet another search: for a new Jonson Gallery Curator).

Things: this has been a record year for attracting support to help grow our collections. Our Friends of Art and other individual friends gave us over $200,000 to fund art acquisitions. Plus we had another banner year in terms of art objects directly donated to our collections, with significant works coming both from established supporters and new donors. Fortunately, we have in the offering a device by which to chronicle the net result of this (and previous years') acquisition activity: thanks to a $40,000 grant from The FUNd at the Albuquerque Community Foundation, we are working toward our first handbook to the collections, which will highlight some 120 works characteristic of our holdings; we are aiming toward a Spring 2000 publication date for that handbook. Also, our "things"—our permanent collection of art objects—continue to be conserved through the continuing support (currently, at $80,000 per year) from the Stockman Family Foundation.
2. Plans and Recommendations

Unfortunately, that conservation effort pales in comparison with the over $500,000 per year (conservatively) estimated damage to our collections, caused by lack of environmental controls. We welcome the fact that the University - which earlier helped to fund engineering studies of a proper, humidity-controlling air system - put us for the first time on the priority list for capital funding from the State Legislature. The proposed system will cost $650,000, and as this is written we can only hope that the Committee on Higher Education will successfully recommend us for funding during the next session of the Legislature.

The physical future of the Jonson Gallery has been assured; now, we need to plan its future role in the scheme of University life. Currently before President Gordon is a recommended new governance structure for the Jonson, which envisions that facility evolving into Jonson House: a carefully restored (to c. 1950 conditions) residence upstairs, suitable to temporarily house visiting dignitaries and/or small meetings for many campus departments, and a semi-permanent installation and archive below. This vision is predicated upon moving the bulk of the collections and the important exhibition function to a (still unplanned) new or expanded University Art Museum. We hope that this vision will be endorsed, and will help to guide our search for a new Jonson Gallery Curator.
3. Staff Appointments

Tyler Anderson  January 8, 1999
Kelvin Beliele   April 19, 1999
Michael Certo   April 5, 1999
David M. Gutierrez  September 15, 1998
Cindy L. Leyba    September 29, 1998

4. Staff Separations

Floramee Cates  July 10, 1998
Jeanette Entwisle  October 31, 1998
Kittu Longstreth-Brown  May 21, 1999
Nancy Montoya   November 20, 1998
Christine Squire  July 17, 1998
Scott Williams   February 12, 1999
5. Achievements/Products

A. Exhibitions

University Art Museum

Upper Gallery

1998
June 9—Sept. 27
Better Than the Picture of the Camera: Early Twentieth-Century Pueblo Indian Painting Curators: J. J. Brody and Peter Walch

Oct. 13—Dec. 20
Revealing the Holy Land: The Photographic Exploration of Palestine An exhibition organized by the Santa Barbara Museum of Art Curator: Kathleen Howe (Also West Gallery)

1999
Jan. 19—May 16
Spanish Traditions Curator: Peter Walch

June 8—Sept. 26
That Certain Look! The Minimalist Tradition in New Mexico Curators: John Abrams and Kathleen Howe

West Gallery

1998
Through Sept. 27
Roy Lichtenstein’s Interior with Yves Klein Sculpture Curator: Peter Walch

1999
Jan. 31—Mar. 28
Recuerdo mi dueño—Remember My Owner: Andean Textiles of the 19th and 20th Centuries Curators: Connie Fulwyler and Kathleen Howe

April 6—May 16
Bust of Christ Curator: Kathleen Howe

June 8—Aug. 1
Dancing through the Lens Curator: Kathleen Howe

Van Deren Coke Gallery

1998
Through Sept. 27
Interior Worlds: Photographs by Adrienne Salinger Curator: Kathleen Howe

Oct. 13—Dec. 20
Clinton Adams: Twenty-five Lithographs from Fifty Years Curator: Peter Walch

1999
Jan. 31—May 16
Arf! Arf! The Dog in Art Curators: Linda Tyler and Peter Walch

June 8—August 17
Dances: Religious Observance/Tourist Attraction Curator: Kathleen Howe
Study Gallery
1998
June 30—Aug. 30  
_Odas y Cantos_
Curator: Kathleen Howe

Sept. 15—Nov. 15  
J.B. Jackson's Eye for Cultural Landscape
Curator: Kathleen Howe

1999
Jan. 12—April 11  
Georgia O'Keeffe/Alfred Steiglitz
Curator: Kathleen Howe

April 20—July 2  
Conceptual Art
Curator: Peter Walch

Lower Gallery
1998
Through Oct. 18  
Nineteenth-Century Lithography in Europe
Curator: Peter Walch

Oct. 27—Feb. 14  
California Art: North and South
Curator: Peter Walch

1999
Feb. 28—May 30  
You've Read the Book, Now See the Picture
Curator: Peter Walch

June 22—Sept. 5  
Frederick Hammersley Retrospective
Organized by the Museum of Fine Arts, Museum of New Mexico, Santa Fe

Jonson Gallery
Aug. 25—Oct. 16  
Not Divisible by Two
Curators: Michael Hart and Tiska Blankenship

Aug. 25—Oct. 16  
Collages
Curators: William Conger and Tiska Blankenship

Aug. 25—Mar. 19, 1999  
Raymond Jonson: Seven Decades
Curator: Tiska Blankenship

Oct. 20—Nov. 20  
Mystic (Howard Schleeter)
Curator: Tiska Blankenship

Oct. 20—Nov. 20  
the quiet seduction of Edward
Curator: Jayson Hoyt

Dec. 1—Jan. 15, 1999  
It's About Time:
UNM Dept. of Art and Art History Graduate Student Invitational Exhibition
Curator: Tiska Blankenship

Dec. 11—Apr. 11  
Vision and Spirit: The Transcendental Painting Group
Curator: Tiska Blankenship

1999
Jan. 19—Feb. 12  
Political Intentions
Curator: Tiska Blankenship
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<tr>
<th>Date Range</th>
<th>Exhibition Title</th>
<th>Curator</th>
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<tr>
<td>Jan. 19—Feb. 12</td>
<td>Barbara Growths: Crux</td>
<td>Tiska Blankenship</td>
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<td>Feb. 16—Mar. 19</td>
<td>Jessica Bryce Picket: Circuitous Nimbus Cupola</td>
<td>Tiska Blankenship</td>
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<td>Feb. 16—Mar. 19</td>
<td>Kathryne Cyman: Porcelain Vessels of Color</td>
<td>Tiska Blankenship</td>
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<td>Mar. 30—Apr. 30</td>
<td>Fifth Annual Juried Graduate Student Exhibition</td>
<td>Tiska Blankenship</td>
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<td>May 11—July 30</td>
<td>Angela Battle</td>
<td>Tiska Blankenship</td>
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<tr>
<td>May 11—July 30</td>
<td>Kindred Notes: Raymond Jonson’s Artistic Development</td>
<td>Tiska Blankenship</td>
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<td>Revealed through Family Correspondence</td>
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B. Print Study Room

During Fall Semester 1998 and Spring Semester 1999, the Print Study Room supported classes offered through the Departments of Art and Art History, History, English, Art Education, and the General Honors College. Graduate seminars in Victorian Studies, Cultural Studies, and Art History met in the Print Study Room, as did studio classes in photography, printmaking, painting and drawing. Participants in programs offered by the Tamarind Institute and the Latin American and Iberian Studies Institute also met in the Print Seminar Room. In all, UNM faculty scheduled fifty-two class meetings in the Print Study Room. Over 720 individual student and faculty visits were logged during Fall 1997 and Spring 1998 semesters.

Non-UNM visitors to the Print Study Room included classes from Santa Fe Community College, Moriarty High School, Albuquerque Academy Summer Art Camp. The New Mexico Council on Photography held its spring quarterly meeting in the Print Study Room. In addition, Museum collections of photographs and prints were utilized by researchers from other museums and universities.
C. Purchases and Gifts

Purchases

University Art Museum

Bonfils, Felix
Terre Sainte, c.1870
Album of twelve albumen of silver prints
Museum purchase
99.8.1

Gropius, Walter
One negative and a group of seven gelatin silver prints
Museum purchase
99.7.1-.7

Lendvai-Dircksen, Erna
Hessian Farmer, c.1925
Gelatin silver print
Museum purchase
98.40

N.D.; Savone, editeur
Alpes-Maritimes Vues de Nice et de la Principauté, de Monaco, n.d.
Album of twenty nine hand-colored photographs
Museum purchase
99.9.1-.29

Pawela, Krzysztof
Group of four gelatin silver prints
Museum purchase
98.50.1-.4

Pawela, Krzysztof
Group of five gelatin silver prints
Museum purchase
98.51.1-.5

Pawela, Krzysztof
Group of six gelatin silver prints
Museum purchase
98.39.1-.6

Pawela, Krzysztof
Set of two gelatin silver prints
Museum purchase
98.49.1-.2

Unknown artist, 17th cen.
Santiago a Caballo  n.d.
Wood, gesso, polychrome, metal
Purchased with funds from the Friends of Art, Julius L. Rolshoven Memorial Fund, C. Leslie Everett, and other donors
99.17
Various artists
Group of 53 lithographs, 1998
The Tamarind Archive Collection
Museum purchase
99.15.1-.53

Jonson Gallery

No purchases for 1998-1999
University Art Museum

Abbey, Rita Deanin
Still Life with Red Chair, 1958
Oil on canvas
Gift of Peter Eller
98.59

Adams, Kenneth
Four sketches, graphite and linocut
From the Bray-Simpson Collection
99.16.2-4

Bing, Ilse
Girl in Bathtub, 1953
Gelatin silver print
Gift of Eric Alterman
98.56

Blumann, Sigismund
Twelve bromoil prints
Gift of James Hughes
98.58.1-.12

Brown, Bolton
Adventures, n.d.
Lithograph
From the James T. Forrest Collection
98.46.2

Campbell, K. F.
San Francisco of Pecos 1961
Aquatint
From the James T. Forrest Collection
98.46.4

Capogrossi, Giuseppi
Untitled, n.d.
Screenprint
Gift of Robert M. Ellis and Caroline Lee
98.57.3

Cassidy, Gerald
Untitled 1919
Lithograph
From the James T. Forrest Collection
98.46.3

Contractor, Rahoul
31 color photographs
Gift of Delia Contractor in memory of Rahoul Contractor
98.43.1-.31
Dali, Salvador
Untitled, from Divine Comedy Suite, n.d.
Lithograph
From the Bray-Simpson Collection
99.16.1

Dehn, Adolf
Two lithographs
Gift of Peter Eller
99.4.1-2

Dept. of Photograph, Memphis Academy of Arts
Photographs, 1972
Portfolio of gelatin silver prints
Gift of Laurie and Thomas Barrow
99.5.2

Dike, Phil
Fishing Pier  n.d
Lithograph
Gift of Peter Eller
99.4.3

Fontana, Lucia
Untitled, 1968
Embossed print
Gift of Robert M. Ellis and Caroline Lee
98.57.1

Heinecken, Robert
She:/He:, 1979
Color photocopy
Gift of Laurie and Thomas Barrow
99.5.1

Homer, Winslow
Two wood engravings
From the James T. Forrest Collection
98.46.8-.9

Jackson, J. B.
Seventeen Sketches
Gift of Noreen Moon
98.45.1-.17

Ker~llke, Kenneth O.
The Shape of Anxiety, 1962
Intaglio·
The Clinton and Mary Adams Collection
98.47
Laurent, J.
Two albumen silver prints
Gift of Joan and Van Deren Coke
99.6.2-.3
Gift of Joan and Van Deren Coke

Legros, Alphonse
Two drypoint etchings
From the James T. Forrest Collection
98.46.5-.6

Marsh, Reginald
Merry-go-round, 1930
Etching
From the James T. Forrest Collection
98.46.1

Martin, David Stowe
Highland Logging, n.d
Lithograph
Gift of Peter Eller
99.4.4

Meriere, Gene
Charviere Sketching, 1934
Etching
From the James T. Forrest Collection
98.46.7

O'Brian, Tony
Two color prints
The Eliot Porter Fellowship Collection, gift of the New Mexico Council on Photography
99.10.1-.2

Ranney, Edward
Cerro Colorado, Paracas Peninsula, Peru, 1985
Gelatin silver print
The Eliot Porter Fellowship Collection, gift of the New Mexico Council on Photography
99.11

Regnier, F.
Three albumen silver prints
Gift of Judith Hochberg and Michael Mattis
99.3.11-.13

Ribak, Louis
Getting Warm, c.1930
Oil on canvas
Gift of Joan and Van Deren Coke
99.6.1
Rickett, Sophy
Vauxhall Bridge, 1995
Gelatin silver print
Gift of Judith Hochberg and Michael Mattis
99.3.1

Rush, Olive
Two graphite works
From the James T. Forrest Collection
98.46.10-11

Schooley, Elmer
Nude Back, n.d
Lithograph
Gift of Peter Eller
99.4.5

Seward, C. A.
Granite Wall - Cimarron Canyon, 1926
Lithograph
Gift of Mr. and Mrs. Peter Kaestner in honor of Fred and Frances Huston
99.13

Sharp, William
Setting Type, n.d
Lithograph
Gift of Peter Eller
99.4.7

Skeen, W. L. H. & Co.
Four albumen silver prints
Gift of Joan and Van Deren Coke
99.6.4-.7

Soulages, Pierre
Litho #3, c.1955-57
Lithograph
Gift of Robert M. Ellis and Caroline Lee
98.57.2.

Strand, Paul
Barn and Woodpile, Gaspe Coast, 1929
Platinum print
Gift of Judith Hochberg and Michael Mattis
99.3.14

Strang, William
Bacchus, n.d
Etching
Gift of Peter Eller
99.4.8
Strang, William
Self-portrait, 1895
Etching
Gift of Peter Eller
99.4.9

Surrendorf, Charles
How Sad the Story! n.d.
Woodcut
Gift of Peter Eller
99.4.10

Tapies, Antoni
Untitled, n.d.
Lithograph
Gift of Robert M. Ellis and Caroline Lee
98.57.4

Unknown, 20th cen.
Untitled, n.d.
Photogram
Gift of Judith Hochberg and Michael Mattis
99.3.7

Vallou de Villeneuve, Julien
Mme. Leroux, c.1848
Salt print
Gift of Judith Hochberg and Michael Mattis
98.28

Ward, Lynn
Two woodcuts
Gift of Peter Eller
99.4.11-.12

Wolcott, Marion Post
Eight gelatin silver prints
Gift of Linda Wolcott-Moore
98.44.1-.8

Wolcott, Marion Post
Four gelatin silver prints
Gift of Linda Wolcott Moore
99.12.1-.4

Zsissly, Alfred
Untitled n.d.
Woodcut
Gift of Peter Eller
99.4.13
Various artists
One-hundred and fifty works:
Photographs, photograph albums, periodicals
Gift of Joan and Van Deren Coke
98.52.1-.32 & 98.52.ff

Various artists
Three 19th century albumen silver prints
Gift of Judith Hochberg and Michael Mattis
99.3.8-.10

Various artists
Five 20th century Marine Corps gelatin silver prints,
Gift of Judith Hochberg and Michael Mattis
99.3.2-.6

Various artists
Sixty-eight various photographs, 19th and 20th century
Gift of Alexander Novak and Family
98.60.1

Jonson Gallery
Alan Paine Radebaugh
Close Tolerance, 1995
Painting

B.J.O. Nordfeldt letters
Gift of Joan Hale

Raymond Jonson
Watercolor No. 10, 1950

Frank Walker
#10, 1976

William Conger
Collage #25, 1998

Michael Hart
This Way, 1986
D. Works Deaccessioned

University Art Museum
No Works Deaccessioned in 1998-1999

Jonson Gallery
No Works Deaccessioned in 1998-1999
### E. Conservation

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<tr>
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<td>Max Weber</td>
<td>97.10</td>
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<tr>
<td>Oil on canvas</td>
<td>Joan Weber</td>
<td>76.250a-b</td>
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<td>Lithographs</td>
<td>Two Taller Grafica de Popular</td>
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University Art Museum

The Berkeley Museum
Berkeley, California

Museum of New Mexico/Fine Arts Museum
Santa Fe, New Mexico

Sangre de Cristo Art Center
Pueblo, Colorado

Gerald Peters Gallery
Santa Fe, New Mexico

Albuquerque Museum
Albuquerque, New Mexico

Harwood Museum
Taos, New Mexico

Museum of Art, Brigham Young University
Provo, Utah

Center for Southwest Research
University of New Mexico, Albuquerque, New Mexico

Oakland Museum of California
Oakland, California
Crocker Art Museum, Sacramento, California

Art & Culture Center of Hollywood, Florida
Hollywood, Florida

Museum of Contemporary Art
Chicago, Illinois

Walker Art Center
Minneapolis, Minneapolis

Exhibits USA
Kansas City, Missouri (Travelling Mata Ortiz Exhibit)
Tour: Southwest School of Arts & Crafts, San Antonio, Texas
Riverside Art Museum, Riverside, California
J. Wayne Stark University Center Gallery, College Station, Texas
Perspective Gallery, Blacksburg, Virginia
Plains Art Museum, Fargo, North Dakota
Lakeview Museum of Arts and Science; Peoria, Illinois
Clark County Heritage Museum, Henderson, Nevada
Canton Museum of Art, Canton, Ohio
Jonson Gallery

Roswell Museum and Art Center
Roswell, New Mexico

University House
University of New Mexico, Albuquerque, New Mexico

Smithsonian National Museum of American History
Washington, D.C.
G. Programs, Receptions and Other Events

• The total number of visitors to the University Art Museum including the Jonson Gallery and 516 University Art Museum Downtown was 42,482, an increase of 1,718 from 1997-98.

• Total general attendance to the main University Art Museum was 35,709, an increase of 3,926 from last year.

• The combined tours, public programs and special events attendance to the main University Art Museum was 4,737, a decrease of 51 from last fiscal year.

The decrease was probably due to the absence of a full time Curator of Education during a good portion of the fiscal year and a corresponding decrease in scheduled programs and promotion for that period.

Attendance is broken up into several categories: public and private school tours, University class tours, community organizations (i.e. Elderhostel) tours, and finally Tuesday Talks, Museum Events, and Opening Reception attendance.

**EDUCATION & PUBLIC PROGRAMS TOTALS:**

| Private and public school tours | 1585 |
| University class tours          | 672  |
| Community organizations tours   | 208  |
| Tuesday Talks, Museum Events, Opening Receptions | 2272 (The actual number is probably higher) |
| **TOTAL**                       | 4737 |

**UNIVERSITY ART MUSEUM**

**JULY 1998**

<table>
<thead>
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<tr>
<td>11 Contemporary Art Society Gathering</td>
<td>19</td>
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<tr>
<td>14 Tuesday Talk</td>
<td>57</td>
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<tr>
<td>Elderhostel Tour</td>
<td>7</td>
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<tr>
<td>15 Oasis Tour</td>
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<tr>
<td>21 Elderhostel</td>
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<tr>
<td>22 Art Education Class (UNM)</td>
<td>27</td>
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<tr>
<td>School Tour</td>
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<td>24 Opening Reception (Print Exhibition)</td>
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**AUGUST 1998**

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<tr>
<td>4 Elderhostel</td>
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<tr>
<td>16 Elderhostel</td>
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<td>27 School Tour</td>
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**SEPTEMBER 1998**

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<tr>
<td>15 Tuesday Talk (J.J. Brody)</td>
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<tr>
<td>16 Cultural Studies Colloquia (CSC) A. Salinger</td>
<td>75</td>
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<tr>
<td>22 Elderhostel</td>
<td>10</td>
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<tr>
<td>23 Tuesday Talk (Adrienne Salinger) (CSC) Deborah Jensen</td>
<td>149</td>
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<tr>
<td>29 Elderhostel</td>
<td>28</td>
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<td>30 Opening Reception (Lower Gallery)</td>
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**OCTOBER 1998**

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<td>2 Opening Reception (J.B. Jackson)</td>
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<tr>
<td>7 CSC</td>
<td>41</td>
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<td>NOVEMBER 1998</td>
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<tr>
<td>10 Opening Reception (Clinton Adams)</td>
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<tr>
<td>20 School Tour (Elem.)</td>
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<tr>
<td>School Tour (M.S.)</td>
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<td>1 Elderhostel</td>
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<th>JANUARY 1999</th>
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<tbody>
<tr>
<td>29 Opening Reception (Arf! Arf!, Andean Textiles O'Keeffe/Steiglitz)</td>
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<th>FEBRUARY 1999</th>
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<tr>
<td>2 School Tour (Elem.)</td>
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<tr>
<td>9 Tuesday Talk (Andean Textiles)</td>
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<tr>
<td>10 CSC</td>
</tr>
<tr>
<td>16 Tuesday Talk (Diane Zuliani)</td>
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<tr>
<td>19 Bookmaking Class</td>
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<tr>
<td>24 TVI Sculpture Class Tour</td>
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<tr>
<td>TVI Drawing Class Tour</td>
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<td>26 School Tour (Elem.)</td>
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<th>MARCH 1999</th>
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<tbody>
<tr>
<td>2 Photo Class (UNM) Tour</td>
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<tr>
<td>3 Elderhostel</td>
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<tr>
<td>9 School Tour (M.S.)</td>
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<tr>
<td>10 School Tour (H.S.)</td>
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<tr>
<td>CSC lecture</td>
</tr>
<tr>
<td>11 School Tour (Elem.)</td>
</tr>
<tr>
<td>12 Art History Class (UNM) Tour</td>
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<tr>
<td>16 School Tour (Elem.)</td>
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<tr>
<td>17 Healthcare for the Homeless Tour</td>
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<tr>
<td>18 School Tour (M.S.)</td>
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<tr>
<td>Healthcare for the Homeless Tour</td>
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<tr>
<td>19 School Tours (6 separate groups)</td>
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<td>23 Book Signing (Joel Peter Witkin)</td>
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<tr>
<td>School Tour (H.S.)</td>
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<tr>
<td>24 Print Room Class (UNM)</td>
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<tr>
<td>25 School Tour (Elem.)</td>
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<tr>
<td>29 Albuquerque Museum Docents Tour</td>
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<tr>
<td>30 Opening Reception (You've Read The Book...)</td>
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<td>31 Tuesday Talk (Sex As A Weapon)</td>
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<th>APRIL 1999</th>
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<tr>
<td>6 Tuesday Talk (Peter- O'Keeffe/ Steiglitz)</td>
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<td>7 CSC</td>
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<td>9 School Tour (M.S.)</td>
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<tr>
<td>13 Print Room Class (UNM)</td>
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<td>22</td>
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<td>24</td>
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There were significant underestimates for attendance and programs for November and December of 1998 and January of 1999. Records were not complete for these months.

**Programs and Education Attendance Summaries**

<table>
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<tr>
<th>Program Type</th>
<th>Attendance</th>
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<td>School/other tours</td>
<td>1585</td>
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<tr>
<td>Gallery Talks and CSC lectures</td>
<td>1342</td>
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<tr>
<td>Opening Receptions and Banquets</td>
<td>1810</td>
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4,737 Combined attendance for public events and tours

**Jonson Gallery**

**Attendance:**

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<th>Category</th>
<th>Attendance</th>
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<td>Classes</td>
<td>254</td>
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<tr>
<td>Receptions/Talks</td>
<td>1046</td>
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<tr>
<td>General/Daily</td>
<td>2331</td>
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<tr>
<td><strong>Total</strong></td>
<td>3631</td>
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H. Publications

University Art Museum

Gallery Guides:

*California Art: North and South*
Essay by Peter Walch. 4 pages, 6 color illustrations, 2 b/w illustrations. October 1998.

*Recuerdo mi dueño—Remember My Owner: Andean Textiles of the 19th and 20th Centuries*

Catalogs and Handbooks:

*Clinton Adams: Twenty-five Lithographs from Fifty Years*

*Nineteenth-Century Lithography in Europe.*

Jonson Gallery:

Catalogs and Handbooks:

*Professor Jonson Teacher of Art and Ideals*
Essay by Tiska Blankenship, 12 pages, 8 color illustrations, 6 b/w illustrations

*Fifth Annual Juried Graduate Student Exhibition*
10 Art History Graduate Student Essays
Introduction by Jim Jacob, 16 Pages, 1 color illustration, 20 b/w illustrations

*Kindred Notes*
Essay by Tiska Blankenship, 2 pages, 2 color illustrations, 1 b/w illustration
Exhibitions

1998
Through September 19  Wild Flowers of New Mexico
Curator: Bonnie Verardo

Through September 12  Friends and Relations: Pueblo Painting 1930—1950
Curators: J. J. Brody and Bonnie Verardo

Sept. 26—Nov. 21  Sharing Perspectives: A Woman’s Point of View
Sponsored by the New York Times, the National Press Photographers Assoc.,
and the New Mexico Endowment for the Humanities

Sept. 18—Nov. 28  Chrome
Curator: Carol McCusker

Dec. 5—19  American Institute of Architects Annual Design Awards
Curators: Anthony Anal and Bonnie Verardo

Events

Sept. 18  Opening Reception: Chrome. An Artscrawl evening.
5—9 pm

Oct. 10  Panel Discussion and Reception: Sharing Perspectives.
1—3 pm

Dec. 4  Opening Reception: American Institute of Architects Annual Design Awards
and The Subject is Architecture exhibitions.
6—8 pm
I. Museum Shop

The 1998-1999 fiscal year saw many changes in the University Art Museum Shop. First, a new point of sale system was added. This functions not only as a cash register, which the store has never had, but also allows us to generate computerized orders, returns and a variety of reports. The program also allows us to track sales and to generate customer databases.

We also did a number of large returns this year which allowed us to eliminate back stock almost completely from the store. In the future we hope to keep back stock to a minimum. To this end, we plan to place smaller orders more frequently with our vendors. Not only will this help us to keep back stock low, it will also help us to track sales better and have the best-selling merchandise in the store.

We have also tried to diversify our inventory to appeal to the broadest customer base in terms of both expense and taste. We have added more sidelines, tee-shirts, magazines, and a larger, more diversified selection of books. We also plan to carry more textbooks.

Finally, a concentrated effort was made to streamline staffing, eliminating all but one student-employee position and relying, instead, upon work-study students. In addition, daily scheduling was made more consistent so that maximum coverage can be achieved with the fewest total payroll hours possible.
Thanks to the hardworking Board of Directors, the Friends of Art had a very good year. In September, the Friends hosted a trip to the Getty Museum, Los Angeles, which netted $800. In the spring, the Friends made the single largest donation for acquisition funding ever—$15,000 toward the purchase of a bulto created by Santiago, entitled “St. James.” The successful second FOA Art Sale, was held again in the Old Church, Corrales, on May 29, and netted over $6,000.

The Best Friend award for 1999 was presented to Rab Freeman Howden, past president of the Friends, at the FOA Annual Dinner, held in the University Art Museum on May 6.

The Friends of Art Prize in Art History was presented to Aaron Frye. The Friends of Art Studio Prizes were presented to Julie An and George Moran.

Friends of Art Board of Directors 1998-99

Patricia Savignac, President
Louise St. John, Vice President
Mary Gilstrap, Secretary
Ina Kriebel, Treasurer

Peter Eller
Rab Freeman Howden
Charles Jennings
Susan Lentz
Wes Pullka
Frauke Roth
Peter Smith
Robert Walters
Barbara Weinbaum
Laurel Westman
Luis Neri Zagal
University Art Museum

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<th>Funding Agent:</th>
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<td>Art Restoration and Conservation</td>
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7. Professional Activities

Linda Bahm
Member, Museum Cooperative Council of Albuquerque
Member, New Mexico Association of Museums
Member, UNM Research Administrators Network
Member, UNM Human Resources Network

Professional meetings and classes attended:
New Mexico Association of Museums Annual Meeting
Farmington, New Mexico
September 24-25, 1998

American Association of Museums Annual Meeting
Cleveland, Ohio
April 25—29, 1999

UNM Print Project Management Workshop
October 25, 1998

UNM Basic Fund Accounting Workshop
November 18-19, 1998

UNM Career Development Training
December 4, 1998

UNM Bookholder Training
February 19, 1999

Santa Fe Indian School Career Day
March 25, 1999

Kelvin Beliele
Professional meetings and classes attended:
UNM Purchasing and Accounts Payable: Bookholder Training
May 21, 1999

UNM Travel Policies and Procedures
June 8, 1999

Tiska Blankenship
Member, Friends of Art
Member, American Association of Museums
Member, University of New Mexico Staff Organizing Committee (SOC)
Member, WPA Murals in New Mexico Conservation Committee

Professional meetings and classes attended:
Southwest Art History Conference, Fall 1998
Campus Planning Committee, various dates
Michael J. Certo  
Member, Board Member of Albuquerque Contemporary Art Center (AC²)  
Member, Albuquerque Arts Alliance  

Lectures and Jury Activity:  
Lecture on Collaboration in the Arts, Media Arts, UNM  
Artists' Awards Committee for Magnifico Festival of the Arts  
Juror for the Phi Phenomenon Film & Video Exhibition, ARC Gallery  

Kathryn A. Guscott  
Professional Meetings and Classes Attended:  
Nineteenth Century Photography  
Fall 1998  
Photography Since 1950  
Spring 1999  
National Gallery of Art Apprenticeship, Washington, D. C.  
April 12-17, 1999  
Issues in the Care of Museums Collections  
June 21-25, 1999  

Teaching:  
Conservation Matting and Framing: A Hands On Workshop  
September 23, 1998  
Photograph Preservation Concerns  
March 22, 1999  
Issues in the Care of Museums Collections  
June 23, 1999  

David M. Gutierrez  
Professional meetings and classes attended:  
Art History 427, History of Photography 1950-Present  
Spring 1999  
English 420, Hypertext: Web Page Development  
Spring 1999  
New York International Gift Fair  
Seminar "Visually Speaking: A Demonstration of Store Design Elements"  
February 1999  
UNM Purchasing and Accounts Payable Workshop  
Fall 1998  
UNM Bookholder Training Workshop  
Fall 1998  
UNM Understanding the FRS Monthly Reports  
Fall 1998
Kathleen Stewart Howe
Co-chair, Cultural Studies Committee, University of New Mexico
Member, Print Council of America
Member, American Association of Museums
Member, College Art Association
Member, Historians of Nineteenth-Century Art
Member, Society for Photographic Education

Professional meetings:
Media Literacy Forum, Taos, New Mexico
April 1999

Presentations and public lectures:
Cultural Studies Colloquium, “Geopiety as a Force for Empire”
November 1998

Public lecture, “Photography in Palestine in the Nineteenth Century,” St. Louis Museum of Art
April 1999

May 1999

Teaching:
Art History 525, Care of Collections
Summer 1999

Lee Savary
Museum Y2K Coordinator

Panel Discussion: UNM Theater Arts Class (Dorothy Chansky)
Spring 1999

Bonnie Verardo
Professional meetings and classes attended:
Art History 551, Issues in the Care of Museum Collections

OTJ Training: Museum Registration Methods
SNAP! software program: manager access and related training

Peter Walch
"Angelika Kauffmanns Deckengemälde für die Royal Academy in London," Angelika Kauffmann
Retrospektive (Bettina Baumgärtel, ed.), Hatje, Düsseldorf, 1998
Appendices

A. Personnel: University Art Museum, Jonson Gallery and University Art Museum Downtown

B. Committees: University Art Museum, Jonson Gallery and University Art Museum Downtown
Staff:

Tyler R. Anderson, Office Assistant
Linda Bahm, Associate Director
Kelvin Beliele, Administrative Assistant
Tiska Blankenship, Curator, Jonson Gallery
Floramee M. Cates, Curatorial Assistant
Michael Certo, Curator of Education and Public Programs
Jeanette Entwisle, Curator of Education and Public Programs
Kathryn A. Guscott, Conservation Assistant
David M. Gutierrez, Museum Shop Manager
Kathleen S. Howe, Print/Photo Curator
Cindy L. Leyba, Curatorial Assistant, Jonson Gallery
Kathryn (Kittu) B. Longstreth-Brown, Registrar
Nancy C. Montoya, Administrative Assistant
Lee Savary, Exhibitions Curator
Christina L. Squire, Museum Shop Manager
Bonnie K. Verardo, Curatorial Assistant
Peter S. Walch, Director
Scott Williams, Curatorial Assistant, Jonson Gallery

Work Study, Student and Temporary Part-Time Employees:

Christopher Albert
Linda K. Brown
Nanibah Chacon
Scott B. Davis
Connie J. Fulwyler
Carol Gilge
Yvette Gonzales
Jason B. Jones
Jessica Harrell
Artemisa Hicks
Emily A Hinch
Jenna Hinton
Bonnie Holder
Jayson Hoyt
Amy Kennedy
Kathleen G. Kloster
Jeff Leidner
Sara Marion
Carol T. McCusker
Damon Montclare
Jeckika Perez
Shannon N. Pritchard
Chris Schelling
Kimberly A. Schwenk
Lulu Mist Strongheart
Matt Suhre

August 28, 1998-October 20, 1998
March 8, 1999
June 14, 1999-August 20, 1999
June 1, 1999
May 23, 1998-December 7, 1998
June 3, 1997-July 2, 1998
June 1, 1999
March 3, 1997
June 24, 1998-August 17, 1998
June 23, 1998-August 17, 1998
June 3, 1997-November 16, 1998
September 3, 1997-November 16, 1998
June 1, 1999
February 15, 1999-May 21, 1999
August 28, 1998
January 26, 1999-May 21, 1999
February 2, 1999-April 19, 1999
June 1, 1999
August 14, 1997-February 26, 1999
June 23, 1998-August 17, 1998
May 23, 1998-December 7, 1998
June 14, 1999-August 20, 1999
January 5, 1999-May 21, 1999
June 1, 1999
January 12, 1999-January 29, 1999
June 1, 1999
August 24, 1998-January 10, 1999
October 27, 1998-January 25, 1999
December 5, 1998-June 15, 1999

January 8, 1999
December 9, 1985
April 19, 1999
April 22, 1985
September 19, 1990-July 10, 1998
April 5, 1999
July 23, 1990-October 31, 1998
July 3, 1995
September 15, 1998
July 11, 1994
September 29, 1998
May 1, 1990-May 21, 1999
July 5, 1988-November 20, 1998
August 3, 1992
August 10, 1992-July 17, 1998
November 1, 1995
July 1, 1985
October 1, 1996-February 12, 1999
University Art Museum
Advisory Committee
1998-1999

Clinton Adams, Professor Emeritus, Art and Art History, Chair
Peter Walch, Director, University Art Museums, Secretary

Thomas F. Barrow, Professor, Art and Art History
Van Deren Coke, Professor Emeritus, Art and Art History
Sheila Garcia, Community Representative
Jim Jacob, Director Graduate Program, Art and Art History
Christopher Mead, Professor, Art and Art History
Susan Mullins, University Auditor

Jonson Gallery
Sub-Committee on Jonson Collections

Julie Weaks, University Budget Director
Susan Mullins, University Auditor
Joyce Szabo, Associate Professor, Department of Art and Art History

Ex-Officio Members

Peter Walch, Director, University Art Museum
Tiska Blankenship, Curator, Jonson Gallery

Julie Weaks, Susan Mullins, and Joyce Szabo are the Standing Committee of the University Art Museum's Advisory Committee for the Jonson Collection.
Volunteers:

Angela Battle, Jonson Gallery
William Conger, Jonson Gallery
Kathryne Cyman, Jonson Gallery
Barbara Grothus, Jonson Gallery
Michael Hart, Jonson Gallery
Jayson Hoyt, Jonson Gallery
Danielle Miller, Jonson Gallery
Jessica Bryce Pickert, Jonson Gallery

Adjunct Curators: University Art Museums

Clinton Adams
Thomas F. Barrow
David Craven
Christopher Mead
O.J. Rothrock
TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Overview of Arts and Sciences, 1998-99</td>
<td>1</td>
</tr>
<tr>
<td>II. Administration</td>
<td>1</td>
</tr>
<tr>
<td>III. Recent Major Developments in the College of Arts and Sciences</td>
<td>2</td>
</tr>
<tr>
<td>IV. Affirmative Action</td>
<td>4</td>
</tr>
<tr>
<td>V. Research and Scholarly Activities</td>
<td>4</td>
</tr>
<tr>
<td>VI. Teaching</td>
<td>5</td>
</tr>
<tr>
<td>VII. Special Projects and Functions</td>
<td>5</td>
</tr>
<tr>
<td>VIII. Departmental Reports</td>
<td>15</td>
</tr>
</tbody>
</table>
I. OVERVIEW

The 1998-99 academic year in the College of Arts and Sciences saw slight decreases both in the head count of students enrolled and in student credit hours recorded, consistent with the trend of the past three years.

The ranks of the tenure-stream faculty in the College remained unchanged as seventeen new tenure-track faculty were hired and seventeen resigned or retired. Funds were budgeted for the College in the Spring of 1999 to provide an average salary increase of 4.5% for faculty returning in 1999-00. Although all funds available to the College for 1999-00 exceed funds available in 1998-99, this increase is insufficient to support several aspects of the College’s operations which remain seriously underfunded.

II. ADMINISTRATION

The College’s administration in 1998-99 was unchanged compared to 1997-98. Michael R. Fischer, Dean, appointed Susan Tiano, Laura Crossey and Kenneth Frandsen as Associate Deans. Associate Deans of the College accepted individual responsibilities similar to those identified in annual reports covering the previous three years.

Associate Dean Laura Crossey assumed responsibility for the College’s student advisement effort and for validation of curriculum changes and graduation requirements. She continued to serve as the College office’s liaison with the College’s Undergraduate Education Committee and with the College’s Graduate Education Committee, and provide oversight of the various scholarly publications that the College supports. During 1998-99, she assumed responsibility for coordinating college-wide outcomes assessment.

Associate Dean Kenneth Frandsen continued to provide assistance and information concerning Affirmative Action and Equal Opportunity policies and data sources, liaison
the Equal Opportunity and Faculty Contracts offices, and oversight of search and screening efforts in conjunction with the appointment of regular and temporary part-time faculty in the departments of the College and in the Women Studies Program. Also, he served as Interim Chair, Speech and Hearing Sciences Department.

Associate Dean Susan Tiano assumed responsibility for various aspects of College administration related to faculty, particularly oversight of the process by which files of individuals being considered for promotion and tenure are prepared, received and reviewed at the College level. She administered requests for sabbatical leaves, the allocation of College funds to support special faculty travel and the allocation of funds to support visiting lecturers and the expenses of professional publications. Also, she served as Area Coordinator for the College's participation in the University United Way Campaign.

III. RECENT MAJOR DEVELOPMENTS IN THE COLLEGE OF ARTS AND SCIENCES

In 1998-99, the College of Arts and Sciences focussed on two major initiatives: improving undergraduate education and strengthening our contributions to K-12 education.

Our effort to improve undergraduate education had as its starting point in a Spring 1998 report by a distinguished commission funded by the Carnegie Foundation for the Advancement of Teaching. "Reinventing Undergraduate Education: A Blueprint for America's Research Universities" criticized research universities for neglecting undergraduate education. To improve undergraduate education in our college, we

* Set aside funds for students in our undergraduate honors program
Started a new Excellence in Undergraduate Education fund to support innovative teaching, curricular development, outcomes assessment, and other educational contributions

Established a new freshman seminar program featuring small classes taught by eminent senior instructors on central issues in particular disciplines, such as exploring the mysteries of the ancient world in anthropology

Established the first College of Arts and Sciences teaching awards: the Gunter Starkey Award for Teaching Excellence, made possible through a private contribution from the Anne Gunter Starkey estate and supporting awards to three faculty members and two teaching assistants

Appointed a college-wide committee of faculty and graduate students to strengthen the preparation of teaching assistants in the college

To strengthen Arts and Sciences contributions to K-12 education, we first explored what we were already doing in this area. We discovered that the College of Arts and Sciences was extensively involved in K-12 education. Our participation in the public schools starts with individual faculty members working with K-12 students and sharing their expertise: setting up mathematics contests, staging chemistry shows, judging science fairs, discussing their scholarly interests with students of all ages. Our special college facilities—among them, the Museum of Southwestern Biology, the Maxwell Museum of Anthropology, the Geology Museum, the Physics and Astronomy campus observatory, the Charlie Morrisey Research Hall—regularly host visits from school children and other community groups. The Geology Museum, for example, is free, open to the public, and includes exhibits on New Mexico’s rocks, minerals, fossils, and geology. Department faculty, staff, and graduate students give guided tours and talks to classes.

In 1998-99, some 2750 students, in 80 different elementary to high school classes, toured the museum, most of them from Albuquerque but some from as far away as Shiprock and Espanola.
In addition, numerous Arts and Sciences courses are required of education majors. These courses include our Natural Sciences Program, a three-semester sequence of courses in the physical sciences, life sciences, and environmental science especially conceived for prospective elementary and middle school teachers. Students in these courses learn science by doing it in experiments and projects that can in turn be taught to school children.

Adding to these efforts, the College of Arts and Sciences received a three-year $380,000 grant from Yale University and the DeWitt Wallace-Reader's Digest Fund to establish the Albuquerque Teachers' Institute. The institute is one of four national sites designed to improve secondary education and features seminars taught by Arts and Sciences faculty on topics chosen by APS teachers. The first series of seminars, held spring, 1999, dealt with the environmental consequences of urbanization, archaeoastronomy (the study of prehistoric man's interpretation and use of the skies), architecture in the Southwest, and the political culture of New Mexico. The teachers targeted by the institute work in the six APS high schools with the highest dropout rate, along with their feeder middle schools. In addition to providing continuing professional development for teachers, the seminars focus on developing new curricular strategies for teachers to take back their classrooms.

IV. AFFIRMATIVE ACTION

The College continued its efforts to increase the cultural and gender diversity among its faculty during the 1998-99 AY. Consistent with Regents' policy concerning diversification of search committee membership, several of the members of search committees were from ethnic groups currently underrepresented in the faculty and many of the search committee members were female.
Appointments resulting from conventional searches, conducted during AY 1998-99, added seventeen new tenure track faculty to the College of Arts and Sciences ranks for AY 1999-00. Of those appointed, seven are female, one is Hispanic, one is African-American, and one is Native American. Of the seventeen separating tenure track faculty, seven are female and five are members of protected groups.

During AY 1998-99, the College continued efforts to ensure equity within the faculty salary structure for members of underrepresented groups and to provide support to those faculty for the purpose of career development at the individual level. These efforts to nurture and develop faculty already at UNM will continue during AY 1999-00.

V. RESEARCH AND SCHOLARLY ACTIVITY

The scholarly and creative achievements of Arts and Sciences faculty that resulted in published works during 1998 are thoroughly documented in the annual volume of Faculty Publications and Creative Works issued by the Office of the Associate Provost for Research. The level of activity both in grant expenditures and new grant awards increased in AY 1998-99 compared to AY 1997-98 as detailed in Table 10.

VI. TEACHING

Summary data on various aspects of the College’s teaching efforts are presented in Tables 5, 6, 7, 8 and 9. Although classrooms with a better profile of capacities continue to be a requisite for improved efficiency of instructional delivery, the College’s numerical productivity has declined only slightly, especially with respect to enrollments in courses offered during evening and weekend hours. This decline is particularly notable in view of only a slight decline in the
total FTE budgeted faculty for AY 1998-99 compared to AY 1997-98, as detailed in Table 4. However, our analysis indicates that, in the context of student demand, the College instructional efforts are seriously understaffed, especially in the category, graduate teaching assistants.

VII. SPECIAL PROJECTS AND FUNCTIONS

Advisement and Record Center

Under the supervision of the Associate Dean for Student Academic Affairs, Laura Crossey, the College Advisement Center admits students to the College, advises them and monitors their academic performance (including placing students on probation or suspending them if necessary), and certifies them for graduation. During the report period, six advisors conducted 14,357 personal advisement sessions and handled an approximately equal number of telephone inquiries.

The Center continued operation under modified hours (as in AY98-99): opening from 8:30 am until 4:30 pm Monday through Friday including lunch. Time from 8-8:30 am and 4:30-5 pm is utilized for processing, caseworking and phone contacts. In addition, advisors assist with new admittees and transfer students on Saturdays and after hours. The Advisement Center offers appointments with individual advisors before 10 AM and after 3 PM. All Arts and Sciences athletes are required to make an appointment with an advisor in Arts and Sciences and report to athletic advisement to confirm that the appointment was kept.

In addition to routine matters, the Center handles all student petitions for waivers and the first steps in grievance procedures. Advisors are responsible for all pre-professional advisement.
The advisors continue to assist the Office of the Registrar with Project Progress: a computerized degree audit system. The Associate Dean and advisors met periodically with the Associate Registrar to clarify the rules and academic regulations in the College of Arts and Sciences to implement progress for our College. The advisors continue to use computers to provide more consistent and efficient advising.

The advisors in Arts and Sciences continue to play a major role in Summer Freshman Orientation and are using trained group leaders to assist in advising students. Advisors meet with the undergraduate group leaders and observe their first sessions with freshman to assure that needs are met within the given timeframe (two days, with limited time for academic advising). Freshman students are brought over to Ortega Hall by group leaders on the morning of registration, having already prepared a tentative schedule with the assistance of a group leader. An advisor in Arts and Sciences addresses them as a group in the morning, and then throughout the morning the students are brought to the Advisement Center where they meet individually with the advisors in the advisors’ offices. There, the advisor uses the computer to check on availability of courses and then the advisor assists the student in actually registering for classes using I-TEL UNM. In this way we ensure greater successful registration for the student’s first university schedule.

The Advisement Center office staff helps in the record keeping in advisement by computerizing all the changes in College Curriculum which have been approved and which will be added to the next university catalog.

One or more advisors and the Associate Dean participated in the following extra-mural or campus wide advising activities this year:
Welcome Back Days
Senior Day
New Faculty Orientation
Evening and Weekend Orientation Advisement
High School Visitation Day
African American Student Day
American Indian Student Day
Pre-Dental Reception
Spring Orientation for Freshman
Transfer Day
Star Scholar Reception
American Indian Graduation Ceremony
Advisors Networking Group
Academic Retention Meeting
American Indian Retention Meeting
College Enrichment Program

This year the advisors made multiple trips to the following campuses for advisement:

Gallup
Santa Fe Community College
TVI-Albuquerque
TVI-Montoya
Los Alamos
Valencia
Taos

The advisement staff this year consisted of:

Laura Crosse, Associate Dean
Julie Fields, Receptionist
Julie Bustamante, Advisement Co-ordinator
Monique Denzler, Advisement Co-ordinator
Leonor Lucero, Advisor
Mary Lou Wilkerson, Advisor
Susanna Sprague, Advisor
Jan Wallentine, Advisor
College of Arts and Sciences Curriculum

The College Curriculum Committee consists of six Faculty Undergraduate and Graduate Advisors covering the range of disciplinary areas within the College (Humanities, Social Sciences, Natural Sciences and Mathematics). The subcommittee reviews proposals for curricular modification prior to consideration by the Associate Dean or the College faculty (see procedures below).

College of Arts and Sciences Graduate Committee

Charge - The A&S Graduate Committee is responsible for maintaining and enhancing the quality of graduate education in the College. This includes activities related to curriculum change impacting the College, participating as necessary in periodic reviews of instructional programs, reviewing academic advisement procedures as necessary, and considering changes in administrative or academic regulations which affect graduate programs.

Membership - Each of the 20 academic departments in the College designates one faculty representative (voting faculty as defined in the Faculty Handbook) to the A&S Graduate Committee (see Table 2). In addition, three representatives from this Committee (representing Humanities, Social Sciences and Sciences) serve jointly on the Faculty Senate Graduate Committee. The Committee is chaired by Tom Niemczyk (Chemistry).

Activities Related to A&S Graduate Committee - The A&S Subcommittee on Curriculum comprises six appointed members (three members from the A&S Undergraduate and three from the A&S Graduate Committees). The Subcommittee acts on behalf of the College in curricular concerns as described above. The A&S Subcommittee on Students assists in handling appeals to the College in areas related to graduate student employment in the College. Other types of
programmatic changes (e.g., Core Curriculum, College admission/graduation requirements) may be brought to the Committee for discussion/revision/recommendation on an as-needed basis. Members of the Graduate Committee are also called upon as necessary to assist in College selection committees related to undergraduate programs. Members serve as Departmental contacts when the College distributes information pertaining to graduate issues. The Committee assists in implementing administrative changes impacting graduate programs and graduate students.

*College of Arts and Sciences Undergraduate Committee*

**Charge** - The A&S Undergraduate Committee is responsible for maintaining and enhancing the quality of undergraduate education in the College. This includes activities related to curriculum change impacting the College, participating as necessary in periodic reviews of instructional programs, reviewing academic advisement procedures as necessary, and considering changes in administrative or academic regulations which affect undergraduate programs.

**Membership** - Each of the 20 academic departments in the College designates one faculty representative (voting faculty as defined in the Faculty Handbook) to the A&S Undergraduate Committee (see Table 2). The A&S Undergraduate Committee meets in conjunction with representatives from interdisciplinary degree-granting programs and staff academic advisors within the College. Visitors to the meetings are welcome, and may be called upon to speak to the group as necessary. The Subcommittee on Curriculum provides a brief report at each meeting.

**Activities Related to A&S Undergraduate Committee** - The A&S Subcommittee on Curriculum comprises six appointed members (three members from the A&S Undergraduate and
three from the A&S Graduate Committees). The Subcommittee acts on behalf of the College in curricular concerns. Forms A (minor changes to existing courses) are handled by the Associate Dean for Student Academic Affairs in consultation with the Subcommittee on Curriculum as necessary. Both the Subcommittee on Curriculum and the Associate Dean for Student Academic Affairs approve Forms B (new courses). Forms C (degree/program changes) are handled in the same fashion, but brought to the entire A&S faculty when necessary. Forms D (new graduate degrees) are brought before the entire A&S Faculty after approval by the Subcommittee on Curriculum. Other types of programmatic changes (e.g., Core Curriculum, College admission/graduation requirements) may be brought to the Undergraduate Committee for discussion/revision/recommendation on an as-needed basis. Members of the Undergraduate Committee are also called upon as necessary to assist in College selection committees related to undergraduate programs. Members serve as Departmental contacts when the College distributes information pertaining to undergraduate issues. The Committee assists in implementing administrative changes impacting undergraduate programs (e.g., automated degree audits, transfer articulation, and distance learning).

The Arts and Sciences Undergraduate Committee reviews requests from departments both within and outside the College for curricular degree changes that may impact one or more Arts and Sciences departments. The Committee also met with Kathleen Sena, Associate Registrar and staff from the Office of the Registrar to discuss implementation of Project Progress.

*College of Arts and Sciences Curriculum Sub-committee*

The Curriculum Sub-committee composed of Charlie Steen (Chair), Steve Huestis, Cliff
Dahm, Brad Hall, Ed Fuge, approved 444 Forms A, 90 Forms B, and 22 Forms C. These numbers are relatively high because there was a significant College effort in renumbering graduate courses, necessitating a large number of Forms A; as well as preparation for the upcoming 1999-2001 UNM Catalog.

**College Grant Initiatives**

*New Mexico Collaborative for Excellence in Teacher Preparation*

UNM continues as a major partner in the New Mexico Collaborative for Excellence in Teacher Preparation (CETP). Funded by the National Science Foundation in 1997, CETP represents a major investment in the preparation of future K-12 teachers in New Mexico. Centered at New Mexico State University, the Collaborative fosters interactions among institutions of higher learning (UNM, NMSU, ENMU, WNMU, UNM-V, NMHU, NNMCC, Dine College) and their surrounding school districts. In addition, partners include LANL, SNL, UCAN Rural Systemic Initiative, NM-AMP, NM CHE, NM MESA, NM Department of Education, and the New Mexico Partnership for Math and Science Education. The UNM CETP effort is centered in the College of Arts and Sciences, and is involved in all key components of the statewide collaborative, including

* Reform of pre-service teacher curricula in the science and math areas, including integration of classroom teaching with field experiences (involving Master Teachers from APS).

* Novice teacher support incorporating UNM faculty, Master Teachers, professional development opportunities, and material resource/loan programs.

* Recruitment/retention of pre-service teachers through scholarships.

**UNM/APS Teachers' Institute**

The University of New Mexico was awarded an implementation grant for the
Albuquerque Teachers’ Institute ($380,000 over three years from the DeWitt Wallace-Reader’s Digest Fund). The institute is being modelled after the highly successful Yale-New Haven Teachers’ Institute in New Haven, Connecticut. In the Albuquerque Teachers’ Institute, College of Arts and Sciences faculty create seminars of interest to public school teachers. The teachers apply and are screened by a panel composed of both UNM and APS representatives. During the seminars, the teachers are colleagues, rather than students, and are paid for their participation. The objectives of the seminars are continuing education in key content areas for teachers and the development of new curriculum units to be used in the public schools and shared with other teachers. Arts and Sciences is assisting with formulating a self-sustaining financial support for the Institute through development and legislative efforts.

**Pursue Program**

The National Aeronautics and Space Administration (NASA) has funded the University of New Mexico (UNM) and its collaborating higher education institutions, i.e., Highland University of New Mexico (NMHU); Albuquerque Technical Vocational Institute (ATVI); and Southwestern Indian Polytechnic Institute (SIPI), to build upon their NASA research to enhance the quality of the Mathematics, Science, Engineering, and Technology (MSET) undergraduate education. The goal of the PURSUE program is to strengthen the MSET baccalaureate degree-producing capacity of the University of New Mexico and its collaborating higher education institutions by building upon previous NASA funding. The project focuses on integrating cutting-edge science and technology concepts and practices into relevant areas of the undergraduate curriculum, including into introductory-level courses and laboratories for majors and non-majors. The project also increases participation by faculty and students in projects that
both foster collaborative inquiry, and that promote broad and significant improvements to undergraduate teaching and learning, especially of the techniques and methodologies associated with the conduct of research.

Dean’s List - College of Arts and Sciences Honor Roll

The criteria for inclusion on the Dean’s List are a semester GPA of 3.75 or higher while enrolled for 12 or more credit hours with letter grades, and a cumulative GPA for UNM coursework of at least 3.25. In Fall 1998, 440 students achieved this honor; in Spring 1999 the number of students was 468. Students who met the criteria for inclusion on the Dean’s List received a letter of appreciation and congratulations signed by Dean Fischer.

Summer Session

The 1999 Summer session allocation to the College was slightly less than that of 1998, as detailed in Table 12. Our support of unique summer programs - intensive language institutes, study abroad programs and field schools - continued.

Travel and Special College Funds

The College disbursed about $190,540.00 to faculty in the College for travel expenses to supplement the support provided by departments. It also distributed $11,522.39 to individual faculty to defray the costs of reprints of their scholarly work. In addition, the College provided $4,550.00 to departments to support honoraria for guest speakers. A summary of these distributions appears in Tables 13 and 14.
Research Semester

The A&S Research Semester Program permits faculty selected on a competitive basis to be relieved of formal teaching responsibilities for one semester in order to pursue research activities. Faculty proposals are evaluated according to the applicant’s prior research record, the merit of the proposed research, and the proposed project’s benefit for graduate students. This year the program was modified to include separate research semester competitions for junior and senior faculty. James Brown (Biology) and Robert Sutherland (Psychology) were selected to receive the Senior award in Fall 1998. Joan Bybee (Linguistics) and Virginia Scharff (History) received the Senior award; Kim Lopez (Spanish and Portuguese) received the Junior award in Spring 1999.

Arts and Sciences Women’s Caucus

Under the leadership of Beverly Burris (Sociology), the Caucus enjoyed an active year. The monthly meetings featured a variety of topics of interest (among them, the presidential search and the legislative session) and several guest speakers. The Caucus was instrumental in helping the College develop a new policy on student-faculty relationships, which was approved Spring, 1999.

Development Efforts

In 1998-99, gifts totaling $1,047,856 were received by the College of Arts and Sciences in 2,156 transactions, confirming that an annual base of support of over $1,000,000 is reasonable for the College. Responses to the solicitation included in the Fall and Spring issues
of Inside Arts and Sciences totaled $4,920.02. In any given year the total will vary as a result of bequest of single gift.

The newly established Arts and Sciences Dean’s Council proved to be an especially important vehicle in fund-raising and public relations. The Council now consists of

Connie Beimer
Diane Denish
Robert J. Eagan
Felice G. Gonzales
Robert M. Goodman
James Hinton
Eric D. (Rick) Johnson
Janeth Mattox
Al Sattelberger
Doris Rhodes
Vangie Samora

Council meetings included a May 21, 1999 lunch with new President William C. Gordon, who discussed with the council his priorities for the coming year.

VIII. DEPARTMENTAL REPORTS

Detailed reports on activities in the twenty departments comprising the College of Arts and Sciences are forwarded along with this College report.
<table>
<thead>
<tr>
<th>Department</th>
<th>Chairperson</th>
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</thead>
<tbody>
<tr>
<td>American Studies</td>
<td>Vera Norwood</td>
</tr>
<tr>
<td>Anthropology</td>
<td>Marta Weigle</td>
</tr>
<tr>
<td>Biology</td>
<td>Terry Yates</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Fritz Allen</td>
</tr>
<tr>
<td>Communication/Journalism</td>
<td>Karen Foss</td>
</tr>
<tr>
<td>Earth &amp; Planetary Sciences</td>
<td>Barry Kues</td>
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<tr>
<td>Economics</td>
<td>David Brookshire</td>
</tr>
<tr>
<td>English</td>
<td>Scott Sanders</td>
</tr>
<tr>
<td>Foreign Lang &amp; Literature</td>
<td>Walter Putnam</td>
</tr>
<tr>
<td>Geography</td>
<td>Paul Matthews</td>
</tr>
<tr>
<td>History</td>
<td>Richard Robbins</td>
</tr>
<tr>
<td>Linguistics</td>
<td>Garland Bills</td>
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<td>Ken Frandsen (Interim Chair)</td>
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INTERDEPARTMENTAL PROGRAMS

ASIAN STUDIES (minor, major)
Jonathan Porter

COMPARATIVE LITERATURE (minor, major)
Diana Robin

ECONOMICS-PHILOSOPHY (major)
Russell Goodman

EUROPEAN STUDIES (minor, major)
Charles McClelland

ITALIAN STUDIES (minor)
Rachele Duke

MEDIEVAL STUDIES (minor)
Helen Damico

PEACE STUDIES (minor)
Ted Sturm

QUATERNARY STUDIES (minor)
Les McFadden

RUSSIAN STUDIES & EAST EUROPEAN STUDIES (minor, major)
Natasha Kolchevska

BIOCHEMISTRY (major)
Beulah Woodfin

CRIMINOLOGY (minor, major)
Paul Steele, Lisa Broidy
Bert Useem

ENGLISH-PHILOSOPHY (major)
Barbara Hannan

LATIN AMERICAN STUDIES (Ph.D.)
Linda Hall

RELIGIOUS STUDIES (minor, major)
Andrew Burgess

SCIENCE, TECHNOLOGY & SOCIETY (minor)
Ron Reichel

WOMEN STUDIES (minor)
Shane Phelan

SOCIAL WELFARE (minor)
Richard Coughlin

AFRICAN-AMERICAN STUDIES (minor, major)
Shiame Okunor
TABLE 2

STANDING & SPECIAL COMMITTEES
COLLEGE OF ARTS AND SCIENCES, 1998-99

A&S Graduate Committee

- Tom Niemczyk, Chemistry, (Chair)
- Gabriel Melendez, American Studies
- Patricia Crown, Anthropology
- Cliff Dahm, Biology
- Brad Hall, Communication & Journalism
- Maya Elrick, Earth & Planetary Sciences
- Kishore Gawande, Economics
- Gary Harrison, English
- Lorraine Piroux, Foreign Lang & Lit
- Brad Cullen, Geography
- Patricia Risso, History
- Garland Bills, Linguistics
- Pedro Embid, Mathematics & Statistics
- Sergio Tenenbaum, Philosophy
- Bernd Bassalleck, Physics & Astronomy
- Wendy Hansen, Political Science
- Dick Harris, Psychology
- Beverly Burris, Sociology
- Anthony Cardenas, Spanish & Portuguese
- Bopanna Ballachanda, Speech & Hearing Sciences

A&S Undergraduate Committee

- Laura Crossey, Arts & Sciences, (Chair)
- Mary Jane Young, American Studies
- Les Field, Anthropology
- Gordon Johnson, Biology
- Mark Ondrias, Chemistry
- Mike McDevitt, Communication & Journalism
- Steve Huestis, Earth & Planetary Sciences
- Phil Ganderton, Economics
- James Thorson, English
- Monica Cyrino, Foreign Lang & Lit
- Jerry Williams, Geography
TABLE 2 (continued)

Charlie Steen, History  
Melissa Axelrod, Linguistics  
Vageli Coutsias, Mathematics & Statistics  
John Taber, Philosophy  
Daniel Finley, Physics & Astronomy  
Ellen Grigsby, Political Science  
Jennifer Lesh (Staff), Psychology  
Dodd Bogart, Sociology  
John Bergen, Spanish & Portuguese  
Linda Bivins, Speech & Hearing Sciences

A&S Junior Faculty Promotion and Tenure Committee

Virginia Scharff, History (Chair)  
Gabriel Melendez, American Studies  
Diane Furno-Lamude, Communication & Journalism  
Les McFadden, Earth & Planetary Sciences  
Richard Santos, Economics  
Carolyn Woodward, English  
Diana Robin, Foreign Lang & Lit  
Nancy Gonzales, Mathematics & Statistics  
Russell Goodman, Philosophy  
Sally Seidel, Physics & Astronomy  
Joseph Stewart, Political Science  
Steven Gangestad, Psychology

A&S Senior Faculty Promotion and Tenure Committee

Nebojsa Duric, Physics & Astronomy (Chair)  
Louise Lamphere, Anthropology  
Diane Marshall, Biology  
Deborah Dunaway-Mariano, Chemistry  
James Papike, Earth & Planetary Sciences  
Gary Scharnhorst, English  
Linda Hall, History  
Benjamin Mann, Mathematics & Statistics  
Hank Jenkins-Smith, Political Science  
Robert Sutherland, Psychology  
Beverly Burris, Sociology  
Anthony Cardenas, Spanish & Portuguese
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Resignations/Retirements (continued)

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### TABLE 4

**FTE BUDGETED FACULTY, 1998-99**

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<th>Department</th>
<th>Regular Faculty</th>
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Total                             | 353.72          | 10.04                | 194.50  |

Data Source: College of Arts and Sciences Instructional Budget, 1998-99
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<th>Year</th>
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<th>Semester II</th>
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Data Source: Arts and Sciences Registered Students Listing - 21 day report
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DEGREES AWARDED
COLLEGE OF ARTS AND SCIENCES

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10 Year Change 313 41.0 23 24.5 33 47.6 71 32.6

(a) These figures do not include Master of Arts in Teaching and Master of Education in Science degrees.

Data Sources: Bachelors taken from A&S final graduation lists. Advanced degrees taken from Graduate Studies final graduation lists.
### TABLE 7

**DEGREES AWARDED BY DEPARTMENT***

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**Total (3)** 1369 1252 1199 224 222 212 72 84 104
TABLE 7 (continued)

1
Includes Optical Science Ph.D.s

2
Includes both Spanish and Romance Language Ph.D.s.

3
Bachelor's degrees granted with double majors are counted once in each department, so this total will not agree with Table 6.

*  
Includes summer, fall and spring graduates.

Data Sources: Bachelors from A&S final graduation lists. Advanced degrees from Graduate Studies final graduation lists.
### TABLE 8

**ACADEMIC PROBATIONS, SUSPENSIONS AND RELEASES**

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**Number of Students Enrolled in Arts and Sciences**

- Semester I, 1998-99: 4112
- Semester II, 1998-99: 4218
TABLE 9

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Initiated into Phi Beta Kappa           | 82    |
Initiated into Phi Kappa Phi            | 121   |


TABLE 10

NEW RESEARCH AND TRAINING GRANTS, 1998-99
(tenure track and research faculty)

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<td>44,529 4.52</td>
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<td><strong>$985,988 100.00</strong></td>
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## TABLE 13
### A&S TRAVEL DISBURSEMENTS, 1998-99

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<th>Department</th>
<th>General/Departmental Allocations</th>
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**TOTAL**  
$190,540.00  
$24,968.04
TABLE 14
A&S DISBURSEMENTS OF SPECIAL COLLEGE FUNDS
1998-99

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<thead>
<tr>
<th>Department</th>
<th>Reprint Funds</th>
<th>Speakers’ Honoraria</th>
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<td>Women Studies</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$11,522.39</strong></td>
<td><strong>$ 4,550.00</strong></td>
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The faculty in American Studies continued to operate as a committee-of-the-whole in governing its undergraduate and graduate programs. One faculty member, Beth Bailey, received a positive tenure review in May of this year. Professor Vera Norwood completed her sixth year of service as Chair; Associate Professor A. Gabriel Meléndez served as graduate director; Professor Ruth Salvaggio served as undergraduate director in the Fall and Professor M. Jane Young was undergraduate director in the Spring.

A. Significant Developments

Associate Professor Beth Bailey was hired to a regular ladder position in the Fall 1998 after having been adjunct faculty in the department. Bazán Romero, hired under the Minority Doctoral Student Program, began teaching for the department in the Fall of 1998. Professor Ruth Salvaggio took a sabbatical leave in the Spring 1999. Assistant Professor Eric Porter was hired to a regular ladder position in the Fall after a successful search. Prof. Porter delayed his appointment to the Fall of 1999 after receiving a Post-Doctoral Fellowship at the University of California, Berkeley.

During the period covered by this review the faculty in American Studies maintained a high level of professional activity. Professor Vera Norwood published a review of *Natural Eloquence: Women Re-inscribe Science* in *Environmental History* (July 1998). Professor Norwood also developed and taught a new graduate seminar in "Gender and Culture." She served as a member of Provost García's Southwest Studies Committee and is co-principal investigator for a Regional Humanities Center Planning Grant submitted to the NEH in July 1999. Professor Ruth Salvaggio published her monograph *The Sounds of Feminist*
Theory with the State University of New York Press in January 1999. She continued work on a collection of essays on literature, culture and aesthetics during her semester leave in the Spring of 1999. Professor M. Jane Young is UNM Professor and Regents’ Lecture. She published “Ethnoaesthetics” and “Feminist Perspectives on Folklore Scholarship” in *Folklore: An Encyclopedia of Beliefs, Customs, Tales, Music and Art* in 1998. Professor Young continues to carry a heavy doctoral advisement and direction load. Last year she chaired 15 on-going dissertations. One of her doctoral students, Steve Cormier, successful completed and defended his dissertation in 1998. Professor Young continues to serve as a member of numerous other Ph. D. and M. A. committees. Professor Young served as undergraduate advisor in the spring semester, 1999. Associate Professor, Gabriel Meléndez, was invited to submit a chapter-length article for publication in an edited volume of the *Recovering the U.S. Hispanic Literary Heritage Project* at the University of Houston. He was named Co-Editor for the “Pasó por aquí” series on Hispanic New Mexican Literature at UNM Press. Associate Professor, Beth Bailey published “From Panty Raids to Revolution” in *Generations of Youth* from New York University Press. She create (3) new courses in her first year of teaching in the department. Her seminar on Popular Culture, Theory and Method filled an on-going need in the department. Bailey was successful in obtaining a TAS grant and a Dean’s Equipment Fund Grant for the development of a media classroom for the department. She participate in the development of the Freshmen seminar program for the College of Arts and Sciences in the Fall of 1998. Assistant Professor, James Treat, co-taught American Studies 500 (American Culture Seminar) with Prof. Salvaggio in the fall semester. He published “Religion and American Culture” in *American Religion Course Outlines* for the Center for the Study of Religion and American Culture at Indiana University.

The department continued its second year of undergraduate assessment. An undergraduate assessment report done by Prof. Young was filed with the Office of Student Outcomes in the summer of 1999. The trends identified in the first year of assessment
continue to hold for the second reporting period. At Prof. Young's suggestion the incoming undergraduate advisor will revise the instructions to our demographic survey with an eye toward improving the retrieval of data and bettering undergraduate assessment. The department also undertook graduate outcomes assessment for the first time this past year. A report was filed with the Office of Student Outcomes by Prof. Meléndez in the late summer of 1999.

In the Fall 1998, the department had 71 declared majors and minors. The department added an honors component to the B.A. and in the past year sent four honors students to national conferences where they presented original research papers. The department established two special awards with funds from the Gerald Davis Memorial and the Constance Shortlidge Memorial Fund that will go to worthy undergraduate and graduate student recipients in the department.

For the first time in its history as a department, American Studies conducted its own graduation convocation. Twelve undergraduate students received degrees in American Studies, two with honors. Two undergraduate students, Amber Michelle Arave and Lori Elizabeth Davis were awarded the Constance Morris Shortlidge Memorial Award. Two students completed Masters of Arts degrees and one student completed degree requirements for the Ph. D.

In the Fall of 1999 American Studies carried out a major revision of its curriculum which resulted in several new courses. Topics courses were added at the 200 and 300-level. Several new undergraduate and graduate course were created. Among the new course topics are: Social Movements, Cultural Autobiography, Jazz in America, Social Formation, Racial Formation, Sexuality, Masculinities, Topics in African American Studies and Chicano Style. These additions more closely reflect the expertise and interest of recent faculty hires in the department. Two areas of the curriculum--Popular Culture and of Race, Class and Ethnicity--were expanded as a result. The department also completed a major redesign of the American Culture Studies Reading List in the spring of 1999.
Graduate students had a hand in the redesign of both curriculum projects. The department sponsored a colloquy series in both the fall and spring semesters in which its graduate students and faculty participated.

The department continued to attract high numbers of qualified applicants for the graduate program. 16 students out of a pool of some 86 applicants were admitted to graduate study.

B. Significant Plans and Recommendations for the Future

The department plans to equip its media class room and have it fully operational in the next year. The department expects that Bazán Romero will be hired to a tenure-track position in the fall of 2000 and soon after will be able to take up committee work on M.A. and Ph.D. committees. The faculty in American Studies will meet in the spring of 2000 to elect a permanent chair to head the department for the 2000-2001 academic year and beyond.

Appointments to Staff

Keryn Tucker, Departmental Administrator, effective October 1998

Eric Porter, Assistant Professor, effective August 1999
Significant Developments during the Academic Year, 1998-99

The 1998-99 academic year was a time of (re)visioning and revitalization in both the Department of Anthropology and the Maxwell Museum of Anthropology. Following consultation with Dean Michael Fischer, Chair Marta Weigle and Director Garth Bawden oversaw an organizational change between the two units, effective in January 1999. The Office of Contract Archeology, which until then had reported to the department chair, became a department in Maxwell Museum and now reports to its director.

During an August 1998 meeting between Chair Weigle, Director Bawden, Dean Fischer, and Interim Vice President for Institutional Advancement Judy K. Jones, discussion of certain anticipated funding for anthropology on campus led to a more general, major planning/development commitment by all present. Throughout Fall 1998 Weigle and Associate Professor Mari Lyn Salvador, who is also Chief Curator of Maxwell and in charge of museum development, met regularly, often with Bawden, to organize a collaborative department-museum strategic planning process. Through
the generosity of Vice President Jones and Dean Fischer, university major gifts officer Leslie Elgood, at that time working for both the UNM Foundation and the College of Arts and Sciences, was able to attend most of those meetings. Jones and Fischer also suggested contacting Kate Hildebrand and James R. Richardson (then Interim Dean of the College of Architecture and Planning) of Consensus Builder, a wife-husband consulting team who have facilitated effective strategic planning with other units in the college and university.

Because the strategic planning session of January 22-23, 1999, involved all department faculty and senior museum staff in a different cooperative structure and joint vision for the two units, a new name was adopted: AnthroMax. January 15th packets called on all participants to evolve “a vision for all of anthropology at UNM, one that can be translated into various funding proposals for a variety of agencies, corporations, government entities, university sources, businesses, and individuals who might not otherwise know the full extent of their possible involvement/engagement with us/anthropology.” Twenty-five (all but two) tenure-track faculty, six senior museum staff (in addition to the three who are also tenured faculty members), and UNM Foundation officer Leslie Elgood attended both or the better part of the two-day sessions held at La Posada downtown using department and museum funds.

Facilitators Hildebrand and Richardson conducted and recorded the sessions. On February 3, 1999, they submitted a sixteen-page report. Its “Overview” reads:

On January 22 and 23, 1999, faculty from the Anthropology Department and staff from the Maxwell Museum met in a joint session to plan for the future of Anthropology at the University of New Mexico. The session was designed to address the question, “In the next five years, what are the new directions we want to establish so that Anthropology at UNM can become more vital and self-sufficient?” The day and a half meeting started by identifying major events that have shaped Anthropology at UNM over the past twenty years. Then, in an interactive workshop the participants articulated a five-year vision of “AnthroMax,” the unification of the Anthropology Department and the Maxwell Museum. After pinpointing essential dilemmas that could block progress toward the vision, the subsequent sessions articulated strategic directions for implementing the vision, outlined a detailed one-year implementation plan, and developed specific ninety-day action plans.

Elements of the practical vision for the next five years fell into six categories: faculty/staff development, virtual department, public anthropology, enhanced infrastructure, student training and research, and curriculum integration. Under the rubric “Reinventing Anthropology at UNM,” four strategic directions for the next two-three years were identified: promotion, moving beyond the present structure, innovating instruction, and generating resources. Self-selected teams were formed to develop one-year and first-quarter (February-April) implementation plans for each of the directions. By mid-March many of the ninety-day action plans had been
completed. The positive, visionary momentum of the session was maintained by a monthly “feast of ideas” open to all department and museum staff and faculty. Held in the museum’s North Gallery, these meetings have stimulated lively discussions ranging from the nature of public anthropology to the practicalities of opening a museum entrance into the main hallway on the department side of the building. The latter was effected late in the semester, and the hallway cases from Clark Field Archive and Library to the large lecture hall (163) were completely redone to present AnthroMax activities.

A major outcome of the planning process was the May 1, 1999, submission of a National Endowment for the Humanities Challenge Grant seeking $750,000 over three years (January 2000-January 2003) which would be matched by $2.25 million in non-federal funds for a total of $3 million. Written by Marta Weigle and Mari Lyn Salvador with considerable help from department and museum faculty, staff, and students, the Narrative Proposal begins with the following paragraph:

The University of New Mexico’s Department of Anthropology and Maxwell Museum of Anthropology seek a NEH Challenge Grant to raise funds for endowment and renovation/capital improvements to establish and maintain the Alfonso Ortiz Center for Intercultural Studies. This jointly administered unit will reconfigure, strengthen and augment existing resources to support academic/community humanities programs for teaching, learning, and communicating public scholarship and collaborative stewardship in general anthropology. University and community scholars/practitioners/educators will be brought to campus for mutual dialogue/instruction, and there will be intern/fellowships for students and diverse community members to participate in center programs. The museum’s North Gallery will be renovated to install open study collections. An interactive Website and the museum’s K-12/continuing education outreach activities will bring the center’s intercultural studies to the academic community within and outside UNM as well as the greater public.

The grant application will be reviewed during Fall 1999 and the results of NEH deliberations made known in late October or early November.

Hiring matters continued to be of concern. The hiring plan submitted to the Dean in May 1998 listed four positions in order of priority: (1) Native American scholar, (2) Paleoanthropologist, (3/4) Public Policy: Environmental Anthropologist and Cultural Resource Management Anthropologist. We received permission to hire a junior paleoanthropologist. Professor Lawrence G. Straus ably chaired the search committee. Three candidates were brought to campus (alphabetical order): Osbjorn Magnus Pearson, Post-Doctoral Research Associate, Department of Anthropology, George Washington University (Lecture: “Experimental Perspectives on Skeletal Robusticity”); Mark A. Spencer, Research Assistant Professor, Department of Biological Anthropology and Anatomy, Duke University (Lecture: “Cranial Form and Function in the Evolution of the Genus Homo”); and David S. Strait, Post-Doctoral Fellow,
Department of Anthropology, George Washington University (Lecture: "Hominid Phylogeny: Seeing the Forest Beyond the Tree"). Pearson will join the faculty in August 1999.

Although there will be no request for a position in 1999-2000, Dean Fischer has promised to look favorably on seeking a Native American anthropologist within another two hiring cycles. During Spring 1999, Professor Keith Basso and Associate Professor Sylvia Rodríguez developed a tentative description of such a position and proposed a search process for it. On May 7, 1999, the Department faculty approved their proposal, which specified "a departmental committee appointed by the chair [in 1999-2000 to] lay the groundwork for a formal search to be conducted in 2000-2001."

They outlined a "basic concept" for the position:

A Native American Scholar, Ph.D. in hand, at the Assistant or Associate level, with training in cultural anthropology and one or more allied fields such as law, medicine, art, education, history, archaeology, linguistics, political science, etc. Ideally, the candidate would have conducted original research with one or more Native American groups ("urban" or otherwise) of which she or he may or may not be a member. The candidate would be expected to teach courses on topics pertaining to past or present Indian communities at both the graduate and undergraduate levels. He or she would also be expected to develop productive relationships with Native American groups on the UNM campus and, possibly, Indian communities elsewhere in New Mexico.

Department integration continues to be facilitated by the work of the three Academic Committees:

The Graduate Committee directed by Professor Patricia Crown devoted considerable time to nominating candidates for extra-departmental awards, primarily through OGS, and selecting recipients for departmental awards. They completed timelines for the completion of the doctorate in all subfields and revised the Graduate Handbook in these and other areas. The timelines are to be used in Outcomes Assessment as well, and the first such assessment forms were instituted in the Spring. They formed the basis for the initial outcomes report in the Summer.

The Undergraduate Committee directed by Assistant Professor Les Field concentrated on matters related to the new catalogue, including rewriting course descriptions and renumbering or eliminating courses. The introductory 100 and 200 courses received considerable attention, particularly the former. The Department’s first topical 101 will be offered in Spring 2000. Rather than institute a capstone course, the committee will develop a test for graduating seniors as part of ongoing Outcomes Assessment.

The Instructional Resources Committee, a new committee established this year,
coordinates, oversees, and plans all matters related to the instructional use of computers, media (audio-visual, CD-ROM, renewable and permanent laboratory supplies, etc.), and space. Chaired by Assistant Professor Joseph Powell, this committee completed a room-by-room survey of space and submitted a detailed report on “Current Space Use” and future recommendations to the faculty in March 1999. A machine-by-machine survey of computer software and hardware was also put on a new database with the space survey data to help in future allocation and planning of instructional resources. Some twenty-five surplus and other replacement, upgrade computers were obtained, as was a Xenon dual-processor to replace the aging server in the computer pod. Committee members also completed a campus-wide survey of anthropological films and multimedia available to faculty for use in teaching and are compiling the results into a database.

The Advisory Council, the Department’s administrative committee, continued to consider personnel, policy, budget, and procedural matters. Departmental policy and procedures relating to salary allocation and merit/productivity evaluations were the subject of Spring semester discussions that will continue in the coming year.

At noon on May 15, 1999, the Department of Anthropology held its first singular commencement. (In the previous ten years the Departments of American Studies, Geography, and Linguistics had participated in joint commencement exercises.) The commencement ceremony was convened in Anthropology 163 with the subsequent reception held in Maxwell Museum of Anthropology. Thanks to tremendous work on the part of the staff and good faculty support, this was a successful and memorable occasion.

The 1999 Summer Field School in Archaeological Research was headed by Associate Professor Ann Ramenofsky and headquartered at the James Young Ranch, UNM’s research property between Bandelier National Monument and the Pueblo of Cochiti. Its excavation site was at San Marcos Pueblo on the western edge of the Galisteo Basin and purportedly the largest pueblo in the Southwest. The 32nd Annual Bioarcheological Field School, the fourth under the aegis of UNM, was led by Professor Jane Buikstra at the Center for American Archeology, Kampsveille, Illinois, in the lower Illinois River Valley.

Several Department members were honored during the academic year. Professor Patricia Crown was co-author of “Gender and Status in the Hohokam Pre-Classic to Classic Transition,” which won the American Anthropological Association’s Gordon Willey award for the best archaeology article in the American Anthropologist. Professor Louise Lamphere was appointed a UNM Regents’ Professor for 1999-2002. Assistant Professors Les Field and Joseph Powell received an award from the Arts and
Sciences Excellence in Undergraduate Education Fund for their proposal: “ANTH 101: Planning and Executing a New Curriculum.” Four graduate students received awards: an Office of Graduate Studies Challenge Fellowship to Lance Lundquist, an Office of Graduate Studies Graduate Dean’s Dissertation Fellowship to Brenda Manuelito, a Regents’ Endowed Fellowship to Karl Benedict, and a College of Arts and Sciences Gunter-Starkey Teaching Award to Karen Fennell.

Significant Plans and Recommendations for the Near Future

The Department remains focused on hiring needs, especially an Alfonso Ortiz Native American position; better diversity among faculty and students; the integration and articulation of the four subfields; and the development of undergraduate instruction, particularly the new, issues-oriented 101 introduction to anthropology and the introductory courses/labs in the various subfields. Whether or not the NEH Challenge Grant for the Alfonso Ortiz Center for Intercultural Studies is funded, the plans and projects of AnthroMax will be continued and developed.

Appointments

• Faculty

Assistant Professor Suzanne Oakdale, an ethnologist with a University of Chicago Ph.D., joined the faculty in August 1998.

Assistant Professor Anne Stone, a biological anthropologist with a Pennsylvania State University Ph.D., joined the faculty in January 1999.

• Staff

Stephanie Beck was hired as 1.00 Academic Advisor for graduate students on February 18, 1999.

Separations

• Faculty

None.
Staff

Karen McElveny resigned as Academic Advisor effective November 9, 1998.

Mimi Stephens resigned as Department Administrator effective May 21, 1999. A search for her replacement was underway during the reporting period.

Sabbatical and Other Leaves

Professor Louise Lamphere was on sabbatical leave for the 1998-99 academic year. Associate Professor Carole Nagengast was on sick (bereavement) leave during the Fall 1998 semester. Associate Professor Kim Hill was on sabbatical leave during the Spring 1998 semester.

Publications

There were neither Department nor staff publications during this time, but the faculty continued its good productivity. In the 1998 reporting period, seventeen different tenure-stream faculty members (of twenty-four of twenty-six returning biographical supplements) produced one book, three edited volumes, and sixty-two book chapters/journal articles.

The 1998 books and edited volumes follow:


Ann F. Ramenofsky and Anastasia Steffen, eds., Unit Issues in Archaeology: Measuring Time, Space, and Material, University of Utah Press

B. V. Eriksen and Lawrence G. Straus, eds., As the World Warmed: Human Adaptations across the Pleistocene-Holocene Boundary, Elsevier Science

-7-
Outside Professional Activities

During the 1998 reporting period, among twenty-four reporting tenure-stream faculty members, seventeen gave one or more meeting papers and/or posters, five participated in one or more international symposia, and seven gave one or more invited lectures. Assistant Professor Les Field participated in a day-long invited session organized for the Annual California Indian Conference, "Anthropologists and Unacknowledged Tribes: An Encounter." Professor Louise Lamphere was co-organizer and chair of an invited session of the AAA Public Policy Forum on Anthropology and Middle Class Working Families at the American Anthropological Association Meetings. No staff members were professionally active outside the University.

Other reported faculty professional activities (excluding editorial boards) include:

Basso: Consultant for White Mountain Apache Tribe, San Carlos Apache Tribe, Western Apache Cultural Advisory Committee, Western Apache Placename Project

Bawden: Vice President for Anthropology Grants, G. L. Bruno Foundation, Fresno, California

Bulkstra: Board of Directors, American Board of Forensic Anthropologists; member, Reorganization Committee, Paleopathology Association; President of Board of Directors and Acting Executive Director, Center for American Archeology; member, Laboratory Committee of the Managing Committee, Wiener Laboratory of the American School of Classical Studies, Athens; member, Staley Prize Selection Committee, School of American Research; review committees for Department of Anthropology, UCLA, Department of Anthropology, UC Berkeley, University of Illinois at Chicago, and United States Museum of Natural History

Crown: Selection Committee for the Excellence in Ceramic Research Award, Society for American Archaeology

Dinwoodie: Member, Nominating Committee, Society for Linguistic Anthropology

Field: Consultant for Esselen Nation of Costanoan Indians

Froehlich: Adjunct Curator of Paleontology, New Mexico Museum of Natural History and Science

Hill: Advisor, Ache tribe of Paraguay; advisor, Fundacion Moises Bertoni, Paraguay

Hurtado: Tuberculosis control officer, National Commission of Tuberculosis Control, Ministry of Health, Paraguay; director, medical relief program, Ache communities of eastern Paraguay

Kaplan: Consultant for Ministry of Education, Western Cape Province, South Africa

Lamphere: President elect, American Anthropological Association; chair, Finance Committee, American Anthropological Association

Lancaster: Board of Directors, Society for the Study of Social Biology; Board member, Publications
Committee, member, Program Committee for Annual Meeting, Human Behavior and Evolution Society

Leonard: Member, Bylaws Committee, Society for American Archaeology

Powell: Consultant for research design and bone conservation, U.S. Army Corps of Engineers St. Louis and Walla Walla Districts (Kennewick Man Research Design); consultant for NAGPRA, U.S. Department of the Interior, National Park Service at Chaco Canyon and Inter-Mountain Region, Durango; consultant for bioarchaeology, Office of Archeological Services, Laboratory of Anthropology, Museum of New Mexico; consultant for forensic anthropology, New Mexico State Police, Santa Fe Police Department, and Office of the Medical Investigator, State of New Mexico

Ramenofsky: Member, Cultural Properties Review Board, Office of Cultural Affairs, State of New Mexico

Rodríguez: Consultant, Taos Valley Acequia Association; member, Advisory Board, "A Qualitative Study of the Influence of Religious and Cultural Traditions of Hispanic Communities in Northern New Mexico and Southern Colorado on Decisions about Medical Genetics Services and Related Ethical Concerns," Regis University

Schwerin: Member, Fulbright review committee on student proposals for South America

Straus: President, Committee on Human Evolution and Paleoeology, Chair, Working Group on Archeology of the Pleistocene-Holocene Transition, member, Working Group on Isotope Stages 3 & 2, International Union for Quaternary Research (INQUA); elected member, Commission on the Upper Paleolithic of Europe, member, Commission on History of Prehistory, International Union of Prehistoric Sciences (UISPP)

Outside Sponsored Research

Total FY 1999 Awards for Anthropology (7): $172,748 (amounts below FY only)

P. Crown and M. Munson, National Science Foundation: Prehistoric Imagery and Ethnicity on the Pajarito Plateau, New Mexico, $11,998

H. Kaplan, National Institute on Aging: Evolutionary Approaches to the Biodemography of Aging, $87,659

H. Kaplan and B. Connor, National Science Foundation: Determinants of the Kin Assistance Patterns of Garifuna Men, $6,736

R. Leonard, New Mexico Cultural Affairs Office: Paleoenvironmental and Remote Sensing of Galeana, Chihuahua, Mexico, $40,000

R. Leonard and Todd Van Pool, National Science Foundation: Explaining Changes in
Projectile Point Morphology: A Case Study from Ventana Cave, Arizona, $4,313

A. Stone, National Science Foundation: The Evolutionary History of the Genus Pan: A Molecular Investigation Using the Y Chromosome, $15,242

L. Straus, National Science Foundation: REU: Tardiglacial Human Adaptations in the Cantabrian Cordillera, Spain, $6,800

Attachments

Public Lectures

*Journal of Anthropological Research* Distinguished Lecture Series:


Yoland T. Moses, "Race, Higher Education and American Society," February 25, 1999

Annual Wertheim-Snead Lecture, co-sponsored by Departments of Anthropology and History:

Ann F. Ramenofsky, "Pre-Revolt New Mexico: Archaeology Rewriting History," April 8, 1999

Frieda D. Butler Memorial Lecture (Master’s student):

Erik Ozolins, "Putting a New Face on an Old Problem: How Do We Interpret Skeletal Variation among the First Americans?" November 5, 1998

Ruth Kennedy Memorial Lecture (Doctoral student):


Conferences

Third Annual Graduate Student Symposium, sponsored by the Anthropology Graduate Student Union, UNM Student Union Building, March 5-6, 1999:

Keynote Address: Nancy Rosoff (former curator, NMAI Smithsonian Institution), "The Relation between Native American People and Anthropology and Museums"

Papers by: Caroline Todd, Sylvia Clemares-Roca, Stacy Czerniak, Thomas Carter, Patrick Stalb, Bill Wagner, Susan Gallagher, Abbie Adams, Michelle Cristiani, Elizabeth Pillsworth, Elizabeth Bagwell, Sarah Soliz, Brian Mullins, Phillip Laverty, Erik Wilker, Belisa Gonzalez, Leslie Lopez,
Patricia Catoria, Lars Kuelling, Charles Clark, Mike Gurven, Wesley Allen-Arave, Garnett P. McMillan, Mark George, Betsy Erbaugh, Jayme Beaber, Sylvanna Falcon, Tresa Thomas, Bettina Behrens, Sharen T. Pochron, Tanya Mueller, Amanda E. Daly, Cymene Howe, Joe Kinsella, Lavinia Nicolae, Sarah Horton, Yarimar Bonilla
Posters: E. Ann Carson, Vincent H. Stefan, Arianne Pinson, Karl Benedict

■ Bachelor of Arts Degrees Conferred

Forty-four B.A. degrees were awarded in 1998-99. (Those graduating with honors are indicated by an asterisk.)


■ Bachelor of Science Degrees Conferred

Thirty B.S. degrees were awarded in 1998-99. (Those graduating with honors are indicated by an asterisk.)


■ Master of Arts Degrees Conferred

Nine M.A. degrees were awarded in 1998-99. (Those graduating with distinction are indicated by an asterisk.)

Briggs Buchanan, Lois Ellen Frank, Susan Gallagher, Belisa E. González, Alyssa Cymene Howe, Patrick Kozel, Gregory Lockard, Theodore Stearns, William Wagner

■ Master of Science Degrees Conferred

Five M.S. degrees were awarded in 1998-99. (Those graduating with distinction are indicated by an asterisk.)
Doctor of Philosophy Degrees Conferred

Thirteen Ph.D. degrees were awarded in 1998-99. (Those graduating with distinction are indicated by an asterisk.)

Kermyt G. Anderson, “Paternal Care, Divorce and Step Fathers: Analyses of Parental Behavior by Anglo, Hispanic, and Xhosa Men in Albuquerque, New Mexico and Cape Town, South Africa” (Hillard Kaplan, Chair)

Beth Baker-Cristales, “El Hermano Lejano: The Transnational Space of Salvadoran Migration to the United States” (Louise Lamphere, Chair)

Robert D. Dello-Russo, “Climatic Stress in the Middle Rio Grande Valley of New Mexico: An Evaluation of Changes in Foraging Behaviors during the Late Archaic/Basketmaker II Period” (W. H. Wills, Chair)

Lynne Fullerton-Gleason, “Intimate Partner Assault: Trade-off for Protection from Non-Mate Assault?” (Ana Magdalena Hurtado, Chair)

*Erica Hill, “The Art of Political Discourse: Ideology and Sacrificial Ritual among the Moche” (Garth Bawden, Chair)

Phillip Montoya, “Social and Cultural Capital: Empowerment for Sustainable Development in the Mountains of Escazu, Costa Rica” (Karl Schwerin, Chair)

Melissa Payne, “Valley of Faith: Historical Archaeology in the Upper Santa Fe River Basin” (James Boone, Chair)

Sharon Pochron, “Tests of Food Selection Models - Yellow Baboons (Papio cynocephalus cynocephalus), Ruaha National Park, Tanzania” (Jane Lancaster, Chair)

Richard Reycraft, “The Terminal Chiribaya Project: The Archaeology of Human Response to Natural Disaster in South Coastal Peru” (Garth Bawden, Chair)

Francine Romero, “A Population Genetic Study of Athabascan-Speaking Populations in the American Southwest” (Jane Lancaster, Chair)

Susan K. Stratton, “Reconstructing the Role of Faunal Resource Use during the Occupational History of Grass Mesa Village, Southwestern Colorado” (W. H. Wills, Chair)

William Troy Tucker, “Childlessness among American Men: A Life-History Perspective” (Hillard Kaplan, Chair)

David Waynforth, “Male Mating Strategies among the Mayas of Belize” (Ana Magdalena Hurtado, Chair)
Letters of Academic Title

Affiliated Faculty

Joseph C. Winter, Part-time Professor of Anthropology; Director, Office of Contract Archeology (Archaeology subfield and faculty voting rights; no presumption of tenure)

David E. Stuart, Part-time Associate Professor of Anthropology; Associate Vice President for Academic Affairs/Evening and Weekend Degree Programs (no voting rights; no presumption of tenure)

Richard C. Chapman, Part-time Assistant Professor of Anthropology; Associate Director, Office of Contract Archeology (no voting rights; no presumption of tenure)

Patrick F. Hogan, Part-time Assistant Professor of Anthropology; Assistant Director, Office of Contract Archeology (no voting rights; no presumption of tenure)

Bruce B. Huckell, Research Assistant Professor of Anthropology; Senior Research Coordinator, Maxwell Museum of Anthropology (Archaeology subfield and faculty voting rights; no presumption of tenure)

Adjunct Faculty

Adjunct Professor: Richard Bauman, Ines Arenas de Hurtado


Associate in Anthropology: Lisa W. Huckell
In calendar year 1998 JAR received 51 manuscripts; 23 were published. However, 6 of these were solicited comments on the Cavalli-Sforza JAR Distinguished Lecture and 1 was a 1997 JAR Distinguished Lecture (by Prof. Sherry Ortner of Columbia University). Thus the real acceptance rate was 36%. Most rejected manuscripts are returned to authors for revision (ranging from minor to major). All normal manuscripts are reviewed by 3-5 specialist referees plus the Editor. The pace of submissions continues to accelerate, with over 20 manuscripts received just in the period between January-May, 1999.

JAR continues to balance its worldwide scope with its Southwestern heritage, and it continues to provide a balance of publications among the main subdisciplines of anthropology (but mainly ethnology & archeology). The Winter issue (Vol.54, no.4) is a collection on prehistoric ceramic studies in the U.S. Southwest, guest-edited by A. Simon and J. Burton. Submissions come from throughout North America, but also from Europe, Australia, Latin America & Asia.

A record number of pages was printed in 1998: 590. Book reviews continue to increase in timeliness, number and scope, due in great part to the efforts of Student Assistant, Ariane Oberling, working in association with book review editors, Professors Bock, Froehlich & Straus. In 1998 JAR published 76 book reviews in all fields of anthropology. So many books are being received, that JAR was able to donate some 120 unreviewed books to Clark Field Archive & Library this academic year.

The JAR Distinguished Lectures in 1998 were given by Prof. F. Clark Howell (University of California-Berkeley) and Prof. C. Loring Brace (University of Michigan), to be published in the Summer 1999 issue, along with the first 1999 Lecture (by Prof. Yolanda Moses, President of CCNY). Prof. Moses, quite coincidentally, interviewed for the Presidency of UNM during her AR-funded trip to UNM this spring. The Summer issue's theme is “The Evolution, diversity and unity of the Genus Homo”. That issue (Vol.55, no.2) went to the printer on May 12, 1999. The Spring 1999 issue (Vol.55, no.1) was published in April, 1999.

Due the failure of the Business Manager’s old computer, a new computer had to be purchased, impacting on JAR’s bottom line for FY 1999. The College of Arts & Sciences budget line for JAR totalled $53,259.00; JAR took in a total of $54,958.81, for a profit of $1,699.81 returned to A&S.

Subscriptions remain approximately stable and rates unchanged. We are most proud of our over 300 foreign subscriptions, which help bring the name & reputation of UNM Anthropology to a very international audience of anthropologists, sociologists & prehistorians. I am exploring the possibility of making archival issues of JAR available electronically, but am wary of allowing full-text reproduction of current issues for fear of cutting into JAR’s subscription base. JAR is being bombarded by offers to do this, with royalties ranging from 10-20% of receipts from computer usage of such text. I note that JAR’s competitor non-profit journals are also being cautious in entering into such agreements at this time.
Margaret Colclough (Administrative Assistant III) continues to be JAR’s highly efficient de facto Business Manager. Among many other things (especially financial), she is highly successful in making sure that JAR is paid for reprinting & copying rights. Mary Kay Day, working quarter-time (in “retirement”), continues to expertly process JAR manuscripts, increasingly relying on e-mail to rapidly communicate with the Copy Editor & Printing Plant. The contract Copy Editor, Dr. Patricia Nietfeld, continues to work out of Washington, DC. She has found ways to transmit not only text, but also complex tables to the Printing Plant, where the excellent compositor of JAR continues to be Margaret Ortiz. Dr. Nietfeld has recently been appointed Supervisory Collections Manager of the Smithsonian Institution’s National Museum of the American Indian—a major responsibility and honor.

I note that Colclough, Day & Oberling are all grossly undercompensated. Oberling is finishing her Ph.D. in archeology and is being replaced as Student Assistant by Hannah Dodd, another Anthropology graduate student.

Prof. Jeffery Froehlich resigned as member of the Editorial Board and as Book Review Editor for Biological Anthropology. Prof. Jane Buikstra was named to the Editorial Board and Prof. Joseph Powell was made Book Review Editor for Biological Anthropology. Three members of the Editorial Board or of the group of Associate Editors are President (Prof. Lamphere) or Past-Presidents (Prof. Buikstra & Prof. Hill) of the American Anthropological Association—a truly distinguished body of advisors to JAR!

Given its low budget, JAR’s capacity to continue to publish fairly large issues and to support the Distinguished Lectures Series is still being hampered by the decision made by the Anthropology Department to not include the two JAR phone lines within its pool of phones. I continue to request a return to the status quo as of three years ago, when the JAR phones were counted as part of the Department of Anthropology pool.

Lawrence G. Straus, Editor
May 26, 1999
A. REVIEW OF ACTIVITIES AND ACHIEVEMENTS

Fiscal Year 1998-1999 was an extremely difficult year for the Office of Contract Archeology. In January of 1999, OCA was taken over by the Maxwell Museum of Anthropology. Many changes have occurred as a result, an internal audit is being run of our activities, and morale among the OCA senior staff is extremely low. Nevertheless, we managed to have a relatively successful year, as described below.

1. Description of Research

Patrick Hogan worked on three projects as principal investigator during the fiscal year. The major effort during this period was completion of the MAPCO Pipeline project reports. Draft finals of the remaining two volumes in the report series were completed and submitted for review during the summer and fall under the direction of Hogan and Kenneth Brown (Project Administrator). Revision of the draft final reports in response to reviewer comments began in the winter and, by the end of the fiscal year, three of the final report volumes had been completed and final camera-ready copies of the remaining two volumes were being prepared. The report series describes survey of the 415 mile pipeline and excavations at 65 sites.

Fieldwork for archaeological surveys of New Mexico National Guard training areas near Roswell and Deming began in September 1998, concurrent with work on the MAPCO report. The surveys were under the direction of Peggy Gerow and Janette Elyea (Co-Project Directors) with Hogan serving as Principal Investigator. Fieldwork was completed in November 1998, and draft final reports were submitted for review in early June. Thirty sites and 522 isolated occurrences were recorded during the survey of the Roswell training area (4828 acres). Most of these sites dated to the Archaic and/or Formative periods, and appeared to be the accumulated debris from multiple, short-term use episodes focused on hunting. Thirty-three sites and 178 isolated occurrences were documented in the Black Mountain Training Area near Deming (2,080 acres). Most of the sites in this area were Mogollon field facilities, most dating between about AD 1250 and 1400.
The third project on which Hogan was principal investigator was a small survey of a 51 acre subdivision in Placitas, New Mexico. Work on the project was completed during May 1999 by Janette Elyea, the Project Director.

Richard Chapman was the principal investigator on a number of projects completed during the fiscal year. Prehistoric Occupations Near the Lower Placitas Arroyo: Excavations along State Road 26 West of Hatch, NM by William H. Doleman (OCA/UNM Report No. 185-511) summarizes the results of fieldwork and analysis at two sites dating to the terminal Archaic/early agricultural period in southern New Mexico. Research focused upon the organizational linkages among residential mobility, lithic technology and raw material procurement, and thermal feature use. One highlight of the research was a replicative study of thermal fracture properties of different local rock types related to stone boiling versus pit baking. Results of this and other analyses were used to argue that one of the sites (LA 37450) was repeatedly used as a residential locus where food processing activities involved stone boiling rather than bulk processing through pit baking. The other site (LA 37451) consisted primarily of stone tool quarrying debris generated from locally available lithic types. The kinds of lithic debris at the two sites were strongly complementary, suggesting that lithic procurement at LA 37451 may well have been conducted as an embedded strategy related to residential occupation at LA 37450. The research was sponsored by the New Mexico State Highway and Transportation Department; William Doleman served as project director.

Data Recovery at Three Sites in the Church Rock Industrial Park, edited by Jeanne A. Schutt and Richard C. Chapman (OCA/UNM Report No. 185-543), summarizes the results of excavation and analysis of two prehistoric Pueblo II sites and a 1920s-1950s era transient camp located east of Gallup, NM in the floodplain of the Rio Puerco of the West. The largest prehistoric site (LA 66924) contained three pithouses, a probable ramada structure, and numerous exterior roasting pits, storage pits, hearths, and cists, all dating to the late Pueblo II period (A.D. 1050-A.D. 1100). Evidence from analysis of ceramic and lithic artifacts, faunal remains, macrobotanical remains and fossil pollen was used to argue that the pithouses, ramada and associated exterior features were used only seasonally during the spring-fall. Four distinct stratigraphically superimposed occupations could be distinguished at the site, despite the relatively short time frame of occupation indicated by ceramics present. The single hearth and few associated artifacts at the second prehistoric site (LA 68564) also dated to the late Pueblo II period, but could not be definitively associated with particular occupation episode at LA 66924. The transient camp (LA 68565) consisted of a small hearth facility and an extensive scatter of historical artifacts reflecting a spectrum of domestic and leisure activities. Analysis of artifact types and manufacture dates were used to argue the site most likely functioned as a short-term camp used by transients between the late 1920s and mid 1940s. The location of the camp nearby a railroad siding would be consistent with Great Depression transient use. Artifacts suggesting occupation by males, females, and children were present, revealing a distinctly domestic pattern of site use, in comparison to assemblages at railroad work crew sites documented elsewhere. The Church Rock Industrial Park project was sponsored by the Navajo Nation; Jeanne Schutt was project director.
Searching for Piros Near the Old Socorro Mission: Phase IIB Excavation at 41EP2986 and the Phase IIIAIB Monitoring Program, edited by Bradley J. Vierra, Richard C. Chapman and June-El Piper (OCA/UNM Report No. 185-549), summarizes the results of excavation and analysis at sites in the vicinity of the Old Socorro Mission, the probable location of the first mission established ca. 1684 for the Piro Indian allies of the Spanish who fled south with Otermin during the Pueblo Revolt of 1680. Excavation concentrated at site 41EP2986, located within 150 meters of the Old Socorro Mission itself in the El Paso valley near the town of Socorro, Texas. Preliminary testing conducted at the site by another firm was used to argue the probability that 41EP2986 contained evidence of the historic Piro occupation associated with the mission. Results of OCA/UNM excavation and analysis led to the conclusion that this speculation was unwarranted. In addition to discussion of the nature of archeological interpretation, important contributions of the research included summary and publication of previously unpublished notes and analyses of several years of UTEP field school work at the Old Socorro Mission site itself; an extensive reanalysis of previous collections of Valle Bajo Brownware ceramics from several sites in the Socorro area; and documentation of results of trench construction monitoring at eight other sites in the locale. The project was sponsored by the Lower Valley Water District, El Paso County, TX; Brad Vierra was project director for the 41EP2986 excavations, and Robert Estes was project director for the construction monitoring.

The East Side of the Tracks: A Cultural Resources Inventory of a 103 Acre City Park Tract, Raton, New Mexico, by Peggy A. Gerow (OCA/UNM Report No. 185-647), documents the results of a survey of the old railroad yard and associated features across from the historic district at Raton. In addition to providing baseline maps and documentation of feature remnants within the tract for City of Raton planning purposes, the report provides an overview of railroad history at Raton including several historic photographs, and recommendations for city park development of the area. The project was sponsored by the City of Raton; Peggy Gerow was project director.

Richard Chapman was principal investigator on several new and continuing projects for the U.S. Army Corps of Engineers, Albuquerque District. Ongoing projects include the Radar Ridge data recovery project at Fort Wingate Depot Activity near Gallup, NM (Jeanne Schutt, project director); the Rusty Nail Ridge data recovery project at Fort Wingate Depot Activity (Jeanne Schutt, project director); and processing of archived flotation and pollen samples from previous Corps sponsored projects at Abiquiu, Cochiti, and Trinidad lakes (Richard Chapman, project director). New projects undertaken for the Corps of Engineers include providing services of a Senior Research Scientist I for the Albuquerque District office; and reprinting a selected sample of previously published but out-of-print copies of past Corps sponsored reports relating to Abiquiu, Cochiti, Galisteo, and Jemez dam and reservoir projects. This involved extensive bibliographic research to compile an annotated data base of all reports produced under Corps sponsorship since the late 1960s; the equivalent of 2,000 fifty-page reports will be reprinted. Seventy-five copies each of the 1977 publications Archeological Investigations in Cochiti Reservoir, New Mexico (Volume I and 2) edited by Jan V. Biella and Richard C. Chapman (OCA/UNM Report No. 101-82) have been reprinted to date. Ronald Stauber is serving as project director.
Richard Chapman was also principal investigator on two continuing projects sponsored by the Museum of New Mexico Office of Archaeological Studies. The field work for the NM 22 excavation project was concluded in August, 1998, at which time funding for the entire project was suspended by the New Mexico State Highway and Transportation Department. All artifacts and samples from the excavation at 7 sites along the highway were mothballed for storage at the OCA lab. Site directors for this project are Byrd Bargman, John Mark Sheppard, Timothy McEnany and Jeanne Schutt. Similar funding constraints permitted completion of processing but only limited analysis of artifacts and samples from the NM 117 project under the direction of William Doleman. Further activity on both projects is dependent upon resolution of political issues between the Administration, Legislature, New Mexico State Highway and Transportation Department, and the Office of Cultural Affairs in Santa Fe.

Richard Chapman was also the principal investigator on a pilot project for the National Park Service involving assessment of data quality of mapping databases for 112 Chaco Culture affiliated great house sites in the San Juan Basin and environs. The pilot project entailed compiling all documentation relating to the data base files, preparing contour maps of 17 sites, and conducting a first-order evaluation of representational accuracy using other sources of mapping. Results of the project were provided as a letter report and contour maps.

Finally, Richard Chapman along with Joseph Winter and Patrick Hogan are principal investigators for a newly awarded open-end contract for statewide cultural resource services with the New Mexico State Highway and Transportation Department. Specific projects under this umbrella contract will be negotiated as they arise over an 18-month period.

Richard Chapman was principal investigator on a pilot project for the National Park Service involving assessment of data quality of mapping databases for 112 Chaco Culture affiliated great house sites in the San Juan Basin and environs. The pilot project entailed compiling all documentation relating to the data base files, preparing contour maps of 17 sites, and conducting a first-order evaluation of representational accuracy using other sources of mapping. Results of the project were provided as a letter report and contour maps.

Joseph Winter served as principal investigator on a number of projects, including the Tome Hill Phase II project at Tome New Mexico (Dan Scurlock, Project Administrator); excavations at five sites along Highway 44 (Jeanne Schutt, Project Director); test excavations at Santa Rosa Reservoir (Harding Polk and Marie Brown, project directors); a survey on Zia Pueblo land (William Doleman, project director); a survey at Galisteo Reservoir (William Doleman, project director); survey support in eastern New Mexico for the State Land Office; and expert witness testimony concerning a damaged site near Carlsbad. The Tome Hill work resulted in the design of a series of interpretive signs as described in Tome Hill Park Along the Camino Real – Final Interpretive Plan (Office of Contract Archeology and Sightworks) and a visitor brochure (Spiritual land, Historical Land: Tome Hill, by Dan Scurlock, Joe Winter, and Ron Stauber). The Santa Rosa
excavations are reported in Test Excavations at the Santa Rosa Boat Ramp Site (LA 114206) by Marie Brown. The site was severely damaged by wave action, but it yielded many projectile points, thereby suggesting a hunting camp dating from Late Archaic through early historic Pueblo occupation.

The Zia Pueblo project involved the survey of a proposed powerline, and the monitoring of its construction. Seventeen sites were recorded, ranging from probable Archaic to historic Pueblo. The report is titled Archeological Survey of a Transmission Line near Zia Pueblo, Sandoval County, New Mexico by Timothy McEnany.

Other OCA projects are listed in Table 1, which shows the status of all OCA projects as of 6/30/99.

2. Financial Statement

Table 2 lists the direct costs contracted for in new projects and the new indirect costs represented by them, in FY98-99. The direct costs ($573,292.96) is almost exactly the same as the previous 12 year average ($574,302.67) reported in last year’s annual report, while the indirect cost amount ($161,294.73) is more than the 12 year average ($131,472.92). It is not, however, as much as our I-19378 general budget allocations for the fiscal year ($220,642.00).

Another way of looking at this is the Calendar Year 1998 IDC figures, for the amount of IDC actually generated from direct cost expenses, which was $366,301.74, and which is much higher than the IDC promised by new contracts ($161,294.73). The A & S portion of this was $161,172.77, and while our general operating budget was larger, at $220,642.00, the actual IDC generated figure is still much higher than that generated in Calendar Year 1997 ($218,926.00). This indicates that OCA is on the upswing again, and that we are slowing but surely increasing our contract sizes. In fact, this was the best year since 1995.

3. Scholarly Accomplishments

During FY 98-99, Patrick Hogan completed a paper re-evaluating Archaic period spatial-temporal systematics in northwestern New Mexico. The paper will be published in a volume on the Southwestern Archaic being edited by Bruce Huckell and Chip Wills.
<table>
<thead>
<tr>
<th>PROJECT</th>
<th>SPONSOR</th>
<th>BRIEF DESCRIPTION</th>
<th>STATUS</th>
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<tbody>
<tr>
<td>185-511</td>
<td>Office of Archeological Studies, Museum of New Mexico</td>
<td>Data Recovery along NM 26 near Hatch</td>
<td>Completed</td>
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<td>185-517</td>
<td>New Mexico National Guard</td>
<td>Excavations at 3 Sites on Hawk Battalion Facility Near Bernalillo</td>
<td>Final report in preparation</td>
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<td>185-543A</td>
<td>Navajo Nation</td>
<td>Data Recovery of 3 Sites in Church Rock Industrial Park</td>
<td>Completed</td>
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<td>185-547 C,D,E</td>
<td>Mid-America Pipeline Company</td>
<td>Data Recovery Field Work Phase-Four Corners Pipeline Loop project</td>
<td>Final report in press</td>
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<td>185-549</td>
<td>Lower Valley Water District</td>
<td>Phase II/III Data Recovery and Monitoring, Socorro, Texas</td>
<td>Completed</td>
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<td>185-551</td>
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<td>BMDO Monitoring, Ft. Wingate NM 95</td>
<td>Completed</td>
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<td>185-572A</td>
<td>Valley Improvement Association</td>
<td>Tomb Hill Phase II Survey and other work</td>
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<td>185-598</td>
<td>Museum of New Mexico, Laboratory of Anthropology</td>
<td>Highway 44 Data Recovery</td>
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<td>Processing Bulk Soil Samples</td>
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<td>185-613B</td>
<td>Museum of New Mexico, Office of Archeological Studies</td>
<td>NM 117 Analysis and Report</td>
<td>Analysis in progress</td>
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<td>185-615</td>
<td>U.S. Park Service</td>
<td>Data Quality Study of Chaco Outlier Sites</td>
<td>Completed</td>
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<td>185-618C</td>
<td>Museum of New Mexico, Office of Archeological Studies</td>
<td>NM 22 Fieldwork Addendum: Final Fieldwork/Lab Check-In</td>
<td>Completed; project on hold pending further funding</td>
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<td>SGS Whitter</td>
<td>Survey on Zia Pueblo</td>
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<td>185-629</td>
<td>U.S. Army Corps of Engineers, Albuquerque District</td>
<td>Survey of National Guard training areas near Roswell and Deming</td>
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Peggy Gerow made a number of important contributions this past year. The first of these was a chapter co-authored with Dave Brugge, tentatively entitled “Native American Livestock Operations on Tribal Lands in Arizona and New Mexico” for the USDA, Forest Service. This chapter examines the role and impact of livestock for the various tribal groups from mission times to the present. The book, *Ecological and Socioeconomic Aspects of Livestock Management in the Southwest* is going to be published by Elsevir Press in the Netherlands later this fall.

She also completed the draft of the manuscript documenting the results of the five-year Fort Craig public archeology program, which she directed between 1990 and 1994. Titled *Guardian of the Trail: Archeological and Historical Investigations at Fort Craig*, it is going to be published by the BLM as part of its Cultural Resources Series sometime next year. Finally, she wrote a chapter for the book *Fort Craig: The United States Fort on the Camino Real, Collected Papers of the First Fort Craig Conference*, edited by Charles H. Carroll and Lynne Sebastian. The chapter is entitled “Archeological Research and the Fort Craig Field School”. This book is to be published later this year by the USDI, BLM, Socorro Resource Area.

Ronald Stauber made a number of research contributions. He produced a series of seventeen maps for the Maxwell Museum’s Native American Graves and Repatriation Act (NAGPRA) compliance program. The maps show the geographical extents of the NAGPRA areas of concern in New Mexico of fifteen Native American tribes and also “cultural areas” in New Mexico as delineated by anthropologists. He also made a series of maps for publication for the USPS Chaco Center (Tom Windes) showing Puebloan site distributions through time in the Chaco Canyon National Historical Park and nearby, and he made a series of maps and stratigraphic sections for a publication for Dr. L. Straus’ 1998 field season at the Mirón Cave Site, Cantabria, Spain.

Jeanne Schutt and the Archaeological and Historical Research Institute (Jeanne Schutt, President) conducted a Class III Cultural Resources Survey of a portion of Placitas Open Space. This survey was funded by the Las Placitas Association and the State Historic Preservation Division (Project No. 35-97-12034.05) and coordinated through the Albuquerque Open Space Division. The Placitas Open Space covers 560 acres. The Archaeological and Historical Research Institute (AHRI) surveyed the upper two-thirds of this area from the northern boundary to the Mid-America Pipeline (MAPCO) on the south. Jeanne A. Schutt served as principal investigator and Carolyn Daniel as Project Director. A total of 47 sites were recorded and included unknown lithic scatters, Pueblo sites, and a Hispanic structural site. The following document describes the results of that survey “Cultural Resources Inventory of Placitas Open Space: From the Northern Boundary to the MAPCO Pipeline”, AHRI Report No. 1998-1, The Archaeological and Historical Research Institute, Corrales, New Mexico, by Carolyn L. Daniel and Jeanne A. Schutt.

The Archaeological and Historical Research Institute (AHRI) was also contracted by the Las Placitas Association (LPA) and funded by the State Historic Preservation Division (HPD Contract No. 35-98-13134.05) to present a synthesis of...
the northern portion of Placitas Open Space surveyed by AHRI and the southern portion surveyed by the Albuquerque Archeological Society (AAS). Their survey identified an additional 24 sites—all lithic scatters. This report was designed to aid in the planning for the protection and management of the Placitas Open Space—identify potential trails and define sensitive areas. The report is pending.

William Doleman attended the 1999 SAA meetings in Chicago and delivered a paper entitled “Environmental Constraints on Forager Mobility and the Use of Cultivars in Southern New Mexico” in the “Current Research on the late Archaic Along the US/Mexican Borderlands” symposium. The final version of a 1997 SAA paper entitled “Of Late Holocene Luaus: Comparison of Archeological and Simulated Hot-Rock Assemblages from an Archaic Site in Southern New Mexico” was accepted for publication in British Archaeological Reports (1999 or 2000).

Peter Eschman carried out volunteer work for the Albuquerque Astronomical Society, involving data base analysis of membership data, computer hardware and software upgrades, and computer network installation at the General Nathon Twining Observatory. Eschman has also worked for the UNM Patent Attorney’s Office in the roles of Novell Administrator and software consultant, and has performed numerous software upgrades for the Patent Office. He has also assisted the UNM affiliated Science and Technology Corporation in software related issues.

4. Public Outreach

Joseph Winter continued to direct the Traditional Native American Tobacco Seed Bank and Education Program, which provides ceremonial tobacco, other sacred plants, and tobacco health and culture education information to Native Americans throughout the country. In addition to providing plants and materials to hundreds of groups and thousands of individuals, he also put on workshops and presentations to a number of groups, including the staff and inmates at the federal penitentiary in Wisconsin, the Albuquerque Civitan, the Labor Day and Harvest Festival weekends at El Rancho de las Golindrinas, and a meeting of Northern New Mexico Affirmative Action Council. He also gave a tour of the new Tome Hill Monument to local residents, and he led a tour of the New Mexico Archeological Society at the ruin of Kuapa. In addition, he led a tour of the Galisteo Reservoir Project, for a high school archeological class.

Richard Chapman performed the following public service in 1998-1999:
> Chair, UNM Board of Archaeologists, 1998-1999 school year
> Bandelvier Lecture, Archaeological Society of New Mexico annual meeting
> Illustrated lecture for the Cochiti Lake Art Guild
> Illustrated lecture (previous research in Cochiti region), UNM Archaeology Field School
Janette Elyea carried out volunteer work with the South Valley Growers Association and help with the implementation of the WIC (Woman, Infants, and Children) program to help area growers and assist in the purchase of locally grown fruits and vegetables for WIC recipients. She also assisted in the recording and description of materials unearthed on private land at the General Nathan Twining Observatory in Socorro County, New Mexico. The site is a field facility with a hearth and Socorro Black-on-white and Mogollon brownware ceramics that suggest a date from AD 1050 to 1275. Finally, she updated the record of LA 78946 for the Conita Real Neighborhood Association. This Pueblo IV site with glaze A ceramics contains a house mound, midden areas, and human burials (recently exposed). Originally recorded in 1989, this site is on land that has recently changed from private to Bernalillo County status.

Bill Doleman’s public outreach consisted of a lecture on the archeology and geomorphology of LA 117906 (an OCA excavation 6 miles east of Grants, New Mexico) to UNM Earth and Planetary Sciences soils class (EPS 485, Dr. McFadden). He also gave a lecture on OCA’s 1989 sample survey of El Malpais National Conservation Area, and regional prehistory and settlement patterns. In addition, he gave a brief lecture to a Rio Rancho High School archeology class visiting OCA’s Galisteo Reservoir survey project. Subject: Cultural, Environmental, and Management Background of the Survey.

Ronald Stauber was elected Chairman of the Board of Directors of Outpost Productions, Inc., a non-profit arts organization operating since 1988. The Outpost’s Performance Space, currently located (soon to move to a larger building we hope) at 112 Morningside SE in Albuquerque. Outpost presents over 100 shows a year: jazz, folk, classical, blues, international and experimental music; kid’s programs, puppet shows; theatre and performance art; poetry readings; educational programs; free park festivals.

B. PLANS, PROBLEMS, AND RECOMMENDATIONS

Our major goal this year is to survive. Having been the subject of a forced takeover, which has already resulted in the reduction of one Associate Director’s time from full time to half time as paid by our general budget, staff moral is very low and all of the senior personnel are extremely concerned about keeping their jobs. This takeover occurred without any consultation with us or our staff, nor was there any consultation with the anthropology faculty or the Board of Archeologists, which is our board of directors. The OCA director and two associate directors have seen many of their duties and responsibilities taken over by other Maxwell Museum staff, to the extent that we can’t even open the mail, handle our own accounting, or spend a penny on projects without written authorization. In addition, the director’s public service program (Traditional Native American Tobacco Seed Bank and Education Program) has been shut down, and the director has been told that he has to return money before it can be started again. The director and associate directors have also had their control of their gains and losses accounts taken away, and the chain of command between them and the project directors have been seriously under-mined. Finally, we have been ordered to increase the involvement of
students in all OCA projects, as well as increase our involvement with public outreach (despite having one public outreach project shut down). We recognize and accept these as important goals, and in fact the director and associate directors are team teaching one course in the 1999 fall semester and another in the spring of 2000. We are also doing all we can to merge our program with the Maxwell Museum, but the going has been very rough and extremely stressful.

Another important goal is to continue the trend that was started this year, of increasing the amount of revenues from our contracts. By the end of 1-2 more fiscal years we hope that OCA will be breaking even again, assuming that we are allowed to continue with our general operating budget.

C. STAFF APPOINTMENTS AND SEPARATIONS

TABLE 3  OCA STAFF

REGULAR STAFF — FY 1998–1999

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<tr>
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<td>Kenneth L. Brown</td>
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<td>Marie E. Brown</td>
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<td>Richard C. Chapman</td>
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<td>William H. Doleman</td>
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<td>Janette M. Elyea</td>
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STUDENT STAFF — FY 1998–1999

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<td>August Goodman</td>
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<td>Dave Kilby</td>
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<td>Donna Whitcomb</td>
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<td>Troy Woytek</td>
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<td>Michael Knepler</td>
<td>Crew Member</td>
<td>Cheryl Wase</td>
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## SEPARATED STAFF — FY 1998–1999

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<td>Mary Beth Coffee</td>
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<td>Kevin O'Briant</td>
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<td>Patricia Mudd</td>
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<td>March 31, 1999</td>
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<tr>
<td>Robin Slipe-Davis</td>
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MAXWELL MUSEUM OF ANTHROPOLOGY

ANNUAL REPORT
[JULY 1st 1998-JUNE 30th 1999]

Includes the Annual Report of the Office of Contract Archaeology (appended)

Garth Bawden
Director
A. GENERAL

Three important initiatives dominated the year. These included re-organizing the museum store’s staffing and financial structure, transferring the UNM Office of Contract Archaeology from the administrative responsibility of the Anthropology Department to that of the Maxwell Museum as a largely self-supporting department (see appended OCA Annual Report), and initiating a process of formal programmatic collaboration with the Anthropology Department. In addition the year saw continuation of the museum’s structural re-organization commenced last year and planning for the establishment of a research institute, associated with the museum, with moneys donated by Dr. Frank Hibben, Director Emeritus of the Museum.

B. OFFICE OF CONTRACT ARCHAEOLOGY

In January of 1999 the Dean of the College of Arts and Sciences transferred administrative authority for the Office of Contract Archaeology (OCA) from the Department of Anthropology to the Maxwell Museum. The Dean in conjunction with the department Chair (Marta Weigle) had concluded that the OCA was no longer furthering the educational mission of the university nor was it financially viable. In transferring OCA to the Maxwell the Dean directed that both of these issues be addressed and corrected. An advisory committee to the Maxwell Director met throughout the first part of the year to assess the future of OCA and to identify effective remedies for its problems. The committee comprised Associate Prof. Wirt Wills (Anthropology Dept.), Associate Professor Robert Leonard (Anthropology Dept.), and Research Coordinator Bruce Huckell (Maxwell Museum), with Museum Director Professor Garth Bawden and OCA Director Joseph Winter participating as ex officio members. This committee met with OCA staff and with UNM students and solicited input from other contract archaeological divisions and reported their findings to the Dean in May. In summary the committee concluded that the administrative structure and recent policy of OCA to almost exclusively target large projects both detracted from its ability to serve the student community and recommended that major efforts be made to integrate students more fully into OCA activities and to provide a greater level of instruction. The committee also supported the Maxwell director’s efforts to reorganize the division. At this juncture the administrative structure has been integrated into that of the Maxwell Museum, financial procedures have been drastically changed to enable adequate control and oversight from the central office, and assessment of the staffing structure and overall policy is continuing. Specific educational plans in addition to the regular involvement of students include planning a collaborative program with the City of Albuquerque to create an urban archaeological program that would include university and public participants, and collaborating with certain private schools to use OCA to complement their curriculum. This process will continue well into the next year. The Annual Report of the Office of Contract Archaeology is included as an appendix of this report.
B. STORE REORGANIZATION

As a culmination of a multi-year assessment of the store operations that have previously included major staff changes, a comprehensive audit, and massive inventory reduction, the store was significantly reorganized at the end of the 1998-9 year. In conjunction with the Acting Vice President for Business and Finance, the Provost’s Office, and the Dean of the College of arts and Sciences, new staffing and administrative procedures were implemented. On the administrative level the store, as a division of the Maxwell Museum, will now report directly through the museum administration to the Dean of the College of Arts and Sciences. In the past the administrative channels were divided between the Dean, the Provost and the Vice President for Business and Finance. This change both simplifies the administrative structure and aligns it solidly with the other divisions of the Museum. Staff changes include elimination of the junior store assistant position and its replacement by student and volunteer help. Also, the Maxwell Museum Accountant, whose salary was partially provided by store revenues has been transferred to museum administrative accounts supported jointly by Arts and Sciences and Museum funds. Finally all deficits existing at the end of the year were absorbed by the office of the Vice President for Business and Finance and all fiscal responsibilities shifted to the Maxwell Museum and the College. All concerned with this major reorganization hope that it provides the framework for a successful future.

C. ANTHRO-MAX INITIATIVE

Commencing in Fall 1998 the Maxwell Museum commenced a process of assessment and coordinated planning with the Department of Anthropology. The goal of this process is to maximize the joint resources of the two departments on behalf of their collective missions to educate all components of the scholarly and public community on topics of anthropological interest. While it is clearly understood that each of the departments has its own distinct identity and priorities, it is equally clear that these missions complement each other at all intellectual and, programmatic levels in the current state of the anthropological discipline. In the light of this situation the administrations of the two departments concur that joint planning and program implementation is both feasible and beneficial to their individual futures as well as to the wider practice of anthropology at UNM.

The ANTHRO-Max initiative was launched in the context of a two-day retreat attended by departmental faculty and senior museum personnel where overall strengths, weaknesses and related opportunities were identified. With this background completed specific task groups were formed to continue the process and work toward practical implementation of programs to expand teaching, public access to anthropology, development, and interdepartmental collaboration. This initiative continues into the coming year.
D. SPECIFIC PROJECTS

In addition to the three important developments discussed above some other significant events should be noted:

1. Computer infrastructure: First, with funding donated by the Maxwell Museum Association the museum installed a new computerized graphics system which will enable most exhibit material, publicity brochures and advertisements, and simple desk-top publication to be produced with minimal cost in the museum. Second, in the face of excessive cost and diminishing service, the museum administration decided to leave the existing ARGUS catalogue system and develop its own internal network. Work has already commenced on this transfer which should be implemented in the next year. Third the museum is upgrading its entire computer infrastructure with help from CIRT. At this stage all personnel have access to the 400 series PCS and a start has been made on replacing these with Pentium II machines.

2. Re-organization: The museum staff continues to assess and improve the museum's organizational structure. During this year a new Development Committee has been formed with responsibilities to prioritizing funding needs and initiatives and to further implementation of the high priority initiatives. In addition a new exhibition planning and implementation structure brings the collections curators more closely into the process and focuses individual staff duties in the process toward their specific areas of expertise. The reorganization process will probably conclude during the coming year.

3. The Ethnology Department has now commenced an inventory of its holdings. The initiates a multi-year process that will involve comprehensive inventory of all of the museum's holdings as suggested by the recent museum audit.

4. Finally the Hibben planning process has continued and has reached the stage where an outside Trust has been established to manage the bequest. Funding for a new building associated with this process awaits news of the federal match of Dr. Hibben's $3,000,000 pledge. In the meantime preliminary plans for the new storage-research building continue.

E. CHIEF FUTURE PLANS

1. Completion of the internal reorganization for the museum.

2. Completion of museum store re-organization. The target for the coming year is to attain a situation where the store is completely viable financially while having adequate staffing to maintain its high profile.
3. Continue re-assessment of the Office of Contract Archaeology. This involves additional re-structure of procedures and mission. OCA must also implement new educational and commercial initiatives that will be both self-supporting and will provide professional educational opportunities for university students.

4. Continue collections inventory and complete the ethnological phase of this process.

5. Implement the Hibben Endowment program and commence the building phase of the associated storage-research building.

**F. OTHER SIGNIFICANT DEVELOPMENTS, PROJECTS, & EVENTS**

*Museum Projects and External Sponsored Research 1997-1998*

**a. Archeology**

1. Workshop on Flint-napping to accompany the exhibit on Blackwater Draw Clovis Site. (B. Huckell).

2. Continued field research at the Rio Rancho Folsom Site, funded by National Geographic Society. $5000 (B. Huckell)

3. Field Research with Davis Meltzer (SMU) at the Folsom Type Site, Northeast New Mexico $5000 (B. Huckell).

4. Archaeological excavation at God’s Pocket, Arizona with several UNM students and student volunteers. Museum Funds (B. Huckell. L.Huckell).

5. Collaborative project with Ants, Inc. To manufacture replicas of stone tools from the Museum collections for commercial distribution and wrote educational material which accompanies this Museum Funds (B.Huckell).

6. Training program for museum teachers on hunter-gatherer foods including types, harvesting methods and processing techniques (L.Huckell).

7. Various consultancies on ethnobotany at UNM and external projects (L.Huckell)

8. Developed curriculum in paleoethnobotany and ethnobotany for undergraduate and graduate student courses (L.Huckell)

9. Three month field season at the Galliana Site, Nueva Casas Grandes, Chihuahua, Mexico. Major state-funded project using UNM students in a collaborative project with the National University of Chihuahua $32,000 (R. Leonard).
11. The Ilo Project. Ongoing multi-disciplinary archaeological project in southern Peru funded by Southern Peru Copper Corporation and Programa Contisuyu $450,000 to date (G.Bawden).

12. 13 visiting researchers using museum archaeological collections.

13. Continued organization and analysis of the archaeological collections excavated by Professor F.Hibben at Pottery Mound $2500 (B.Dorr, B/Huckell).

14. Numerous funded Culture Resource Management projects conducted by the museum’s Office of Contract Archaeology (see appended OCA Annual Report).

b. Human Osteology
1. Project: Biological Variation in Early Human Remains from South America. Collaborative project with Fundacao de Amparo a Pesquisa do Estado de Sao Paulo, Brazil. $4000 (J.Powell).

2. Continuing consultation on the Kennewick Man case (J.Powell)

3. Completion of Pecos Mission skeletal collection analysis including complete casting of dental remains, evaluation of dental and cranial metrics and non-metrics, complete photographic record and report (J.Powell and Staff).

4. Development of new skeletal inventory program (J.Powell).

5. 44 Forensic Cases in conjunction with the Office of the medical Investigator (R.Zumwalt, V.Stefan and Staffs).

6. 9 visiting researchers using the historic and prehistoric collections.

7. UNM SRAC Grant for research presentation $250 (W.Niewoehner).

8. Sigma Xi grant for travel to Sao Paulo, Brazil to conduct research $700 (E.Ozolins).

9. UNM SRAC grant for dissertation research $180 (E.Ozolins).

10. LAI travel grant to Honduras for dissertation research $500 (M.Rhoads).

11. UNM SRAC and Easter Island Foundation grants for compilation and presentation of research $3000 (V.Stefan).

12. UNM SRAC grants for research $350 (C.M. Stojanowski).
c. Other sponsored projects

2. Army Corps of Engineers Grant to upgrade museum's computerized catalogue system, $25,000 (R. Kneebone, B. Huckell).


4. Education Program Funding for K-12 Classroom teaching program from Albuquerque Public Schools and the Maxwell Museum Association, $5000 (P. Cyman).

d. Temporary Exhibitions


G. STAFF CHANGES

a. Appointments to Staff
Peggy Esquibel, Museum Administrative Coordinator (Admin. Asst. III) 7.98
Dionne Rodriguez, Office Assistant 9.98

b. Staff Separations
David Gutierrez, Store Sales Representative 9.98
Lorna Walsh, Museum Association Administrative Office (Admin. Asst. II) 6.99
c. Staff Reclassification
Patricia Cyman. Admin. Asst. III to Curator of Education 5.99

H. PERSONNEL PROFESSIONAL ACTIVITIES AND PUBLICATIONS

G. Bawden (Director and Professor of Anthropology)


Campbell, J.M. (Research Professor)


Carson E.A., Stefan V.S., and J.F.Powell (Carson & Stefan Human Osteological Assistants, Powell Curator of Human Osteology & Assistant Professor)


P.D.Harrison (Research Professor)


B. Huckell (Senior Research Coordinator and Research Assistant Professor)


10. Participant in filming of the History Channel Program *The First Americans* 1999
L.W. Huckell (Research Associate in Palaeoethnobotany)


W.A. Niewoehner (Research Associate, Human Osteology)


E. Ozolins (Research Assistant, Human Osteology)

1. A New Look at an Old Face: How do we Interpret Variation Among the First Americans? Frieda Butler Memorial Lecture. Annual Invited Lecture and Award, Maxwell Museum and Department of Anthropology, University of New Mexico. 1998

2. Craniofacial Morphometric Similarity between North American PalaeoIndian and Archaic


J.Powell (Curator of Human Osteology and Assistant Professor)


J.Powell (Curator of Human Osteology and Assistant Professor) and E.Ozolins (Research Assistant, Human Osteology)


Seidemann R.M., Stojanowsk C.M., and GH Doran (Research Associates, Human Osteology)


V. Stefan (Senior Research Assistant, Human Osteology)


C.M. Stojanowski (Research Assistant, Human Osteology)


ANNUAL REPORT
of the
DEPARTMENT of BIOLOGY

FY 1998–99
Annual Report
by:

Kathryn G. Vogel, Chair
Department of Biology
The University of New Mexico
# TABLE OF CONTENTS

## STUDENTS
- Undergraduate Program ........................................................ 1
- Graduate Program ............................................................... 1

## FACULTY
- Faculty Hired in Fall 1998 .................................................... 2
- Faculty Recruited in 1998-99 ................................................ 2
- Promoted to Associate Professor, with Tenure .......................... 3
- On Leave during 1998-99 ....................................................... 3
- Resigned during 1998-99 ....................................................... 3
- Department Chairmanship ...................................................... 3
- Professor Jim Brown is awarded UNM Annual Research Lectureship .... 3
- Scholarly Publications and Presentations .................................. 4
- Sponsored Research ............................................................. 4

## STAFF
- NEW ADMINISTRATIVE AGREEMENTS ....................................... 5
  - Organization of the Museum of Southwestern Biology .................. 5
  - Agreement with Charles Darwin Research Station (CDRS), Galápagos Islands, Ecuador .... 6

## BUILDINGS
- CONCLUSIONS ................................................................. 6

## APPENDICES
- A. Masters and Ph.D. Degrees, Fall 1998-Summer 1999 .................. F-1
- B. Biology Department Active Contracts/Grants, as of September 1999 ........ F-1
- C. Annual Reports: Museum of Southwestern Biology, U.S. Geological Survey F-1
- D. Annual Report: Long-Term Ecological Research Program ................. F-1
- E. Annual Report: Molecular Biology Facility .............................. F-1
- F. Biology Faculty Scholarly & Professional Activities, CY 1998 ............ F-1
  - I. Teaching ........................................................................ F-1
    - A. Graduate Education .................................................. F-1
      1. Masters degrees awarded ............................................ F-1
      2. Doctoral degrees awarded ......................................... F-2
      3. Graduate courses taught ......................................... F-3
      4. Service on graduate student committees ....................... F-5
      5. Professional accomplishments of graduate students ......... F-7
    - B. Undergraduate Education—undergraduate courses taught .......... F-10
    - C. Teaching Awards ..................................................... F-13
    - D. Curriculum Development/Production of Teaching Materials ........ F-13
E. Museum Curator, Advisor, Assistant Chair, EM Director, etc. ........................................ F-14
F. Other Teaching Activities ................................................................. F-15

II. Publications ................................................................. F-17
A. Books Authored ................................................................. F-17
B. Books Edited ........................................................................ F-17
C. Chapters in Books, Major Synthetic Reviews ........................................ F-17
D. Articles in Refereed Journals ............................................................ F-18
E. Book Reviews ........................................................................ F-23
F. Articles, Non-scholarly Journals .................................................. F-23
G. Quasi-public Reports ................................................................ F-24
H. Abstracts (refereed or invited) ...................................................... F-26
I. Abstracts (contributed) .............................................................. F-28
J. Other .......................................................................................... F-33

III. Research Projects or Other Creative Work ........................................ F-33
A. Grants ......................................................................................... F-33
   1. Submitted to all agencies ......................................................... F-33
   2. Awarded with 1997 start date .................................................... F-38
   3. In force from previous years ..................................................... F-40
B. Other .......................................................................................... F-44

IV. Activities in Learned and Professional Societies .................................. F-45
A. Invited and Plenary Talks ............................................................ F-45
B. Contributed Talks ....................................................................... F-49
C. Attendance at Professional Meetings ............................................... F-54
D. Service as Editor of Scholarly Journal ........................................... F-58
E. Service on Editorial Board of Scholarly Journal ............................... F-58
F. Service as Officer in Professional Organization ................................ F-59
G. Other .......................................................................................... F-61

V. Other Professional Activities ............................................................. F-61
A. Colloquium Presentations ............................................................. F-61
B. Seminar Presentations .................................................................. F-62
C. Testimony in a Scholarly Capacity ................................................ F-63
D. Presentations to General Audiences ............................................... F-64
E. Service in a Scholarly Capacity ....................................................... F-65
F. Papers Refereed in Professional Journals ......................................... F-67

VI. Non-teaching University, College and Department Service .................... F-70
A. Symposia, Workshops, Etc., Hosted .............................................. F-70
B. Distinguished Visitors Hosted ........................................................ F-71
C. Committee Service ........................................................................ F-72
   1. Departmental committees ......................................................... F-72
   2. College/University committees .................................................. F-75
D. Other ........................................................ F-76
VII. Advanced Study and New Scholastic Honors, Fellowships ................. F-77
VIII. Sabbaticals, Leaves of Absence, Summer Teaching Elsewhere, Travel .... F-78
IX. Public Service .................................................... F-80
G. Professional and Technical Support Staff
H. Ancillary Faculty
I. All Course Offerings, Biology, FY 1998–99
J. Departmental Seminar Series
K. Graduate Students and Faculty Advisors, Biology, FY 1998–99
L. MSB Agreement
M. Charles Darwin Research Station Agreement
N. Graduating Undergraduate Student Survey Results
O. Undergraduate Outreach Assessment Report
P. Faculty and Staff Student Outreach Summary
THE UNIVERSITY OF NEW MEXICO

DEPARTMENT OF BIOLOGY

FY 1998-99

STUDENTS

UNDERGRADUATE PROGRAM

The undergraduate program remains strong and attractive to UNM students. The first two semesters of the program (Biol. 121/122) enrolled 1,520 students this year, compared to 1,428 in 1997-98. The next two semesters of the program (Biol. 219/221, Cell Biology and Genetics) enrolled 799 students, a slight decrease from the 855 enrolled in these two classes in '97-98. These enrollment numbers in the lower-division classes indicate that the enrollment pressure in upper division biology courses will continue at least for the next few years. In broad strokes, enrollment in the initial courses of our curriculum for majors decreases by half moving from the first to the second course (~2,000 in Biol. 121; 1,000 in Biol. 122), goes to about half again in the third course of the series (450 in Biol. 219, Cell Biology), and stabilizes at about 350 in the fourth course (Biol. 221, Genetics). There are many reasons for the high rate of attrition between these classes. For example, many academic programs use the first or the first two introductory biology classes as part of their curriculum. These students had no intention of moving through the curriculum. Nonetheless, we are concerned about the large number of students who earn a D or F in this class. Most of the students who take the fourth course are planning to major or minor in Biology.

In the Fall 1998 semester, the last semester for which data are available, there were 815 students in the College of Arts and Sciences who indicated Biology as the intended major. In addition, 266 students in the BUS program indicated Biology as the intended major. There were also 21 students with a dual major in Biology and another discipline. Thus, the number of undergraduate students with a declared major in Biology was 1,102. Since most students do not declare the major until reaching sophomore or junior status, the number of Biology majors on the UNM campus is actually higher.

The number of undergraduate students to graduate with a degree in Biology each year is difficult for us to determine exactly. From information available at the time of graduation in May 1999, we estimated that at least 220 B.S. degrees and 19 BA degrees were awarded during '98-99.

GRADUATE PROGRAM

According to the Fall 1998 enrollment data, there were 106 graduate students enrolled in the Department of Biology. The names of 114 active graduate students and their faculty mentors are listed in Appendix K. The number of Teaching and Graduate Assistantships in the department was 41. Most of the other graduate students are supported by funds provided by grants to the faculty mentors or to the students themselves. The Biology Graduate Student Association sponsors student activities throughout the year. In order to teach the art of writing and reviewing grant proposals, as well as to help students carry out their research and travel to meetings to present the results, a Graduate Research Allocation Committee is constituted. Run entirely by students themselves, the GRAC reviews
applications and awards small grants throughout the year. During 1998-99, GRAC awarded $6,000. This money was allocated from the department’s overhead account.

The graduate program in the Department of Biology awards both the M.Sc. and the Ph.D. degrees. During the 1998-99 academic year nine M.Sc. degrees were awarded; seven of these were completed by thesis (Plan I) and two without a thesis (Plan II). A total of 17 Ph.D. degrees were completed during the 1998-99 academic year. These were divided with seven in the Fall 1998 semester, six in the Spring 1999 semester, and four during the summer of 1999. The complete list of students completing degrees, the title of their thesis or dissertation, and the names of faculty mentors is shown in Appendix A.

FACULTY

There were 33 tenure-track faculty at the beginning of 1998. However, six of these individuals were either on sabbatical, on leave, or not teaching due to a Research Semester, leaving the department seriously depleted. After so many retirements in the preceding two years, it was wonderful to welcome four new individuals to the department—three Assistant Professors (Cripps, Turner and Wagner) and one Full Professor (Charnov), who was recruited from the University of Utah as Full Professor and UNM Distinguished Professor. The department was saddened, however, to have four Assistant Professors resign during the year: Paul and Louise Lewis moved to the University of Connecticut; Gretchen Hofmann went to the University of Arizona; and Ann Evans decided to resign after her family moved to Virginia. Thus, the number of faculty remains far too low and is significantly lower even than in recent years. It is especially troubling to have lost so many of our new faculty members and to lose three women.

The department is helped in its work by a large number of part-time instructors and ancillary faculty. We have 31 people with Research or Visiting Professor appointments and most of these work directly with the department and our students. An additional seven faculty at UNM have joint appointments in the Department of Biology. There are 11 emeritus faculty and about 80 individuals with Adjunct faculty status. Adjunct faculty are usually not working directly in the department, but they contribute to the department’s work, assist graduate students by serving on committees, and contribute nationally to the reputation of the department and UNM.

FACULTY HIRED IN FALL 1998

- Richard Cripps, Assistant Professor
- Thomas Turner, Assistant Professor
- Andreas Wagner, Assistant Professor
- Eric L. Charnov, Full Professor, Distinguished Professor

FACULTY RECRUITED IN 1998-99

- David Faguy—will begin Fall ’99
- William T. Pockman—will begin Spring ’00
PROMOTED TO ASSOCIATE PROFESSOR, WITH TENURE

- Robert D. Miller

ON LEAVE DURING 1998-99

- Ann S. Evans—on leave '98/99
- James H. Brown—A&S Research Semester, Fall '98
- Donald O. Natvig—sabbatical '98-99
- Mary Anne Nelson—sabbatical '98-99
- Howard Snell—½ time purchased by Charles Darwin Research Station, Galápagos Islands, Ecuador
- Margaret Werner—Washburne—on leave, Program Director, Microbial Genetics, National Science Foundation, ’98-99

RESIGNED DURING 1998-99

- Ann S. Evans, Assistant Professor
- Gretchen E. Hofmann, Assistant Professor
- Louise Lewis, Visiting Assistant Professor
- Paul O. Lewis, Assistant Professor

DEPARTMENT CHAIRMANSHIP

In December, Chairman Terry L. Yates announced that he intended to step down at the end of his four-year term the next August. Nominations from the faculty resulted in two candidates for the position: Profs. Diane L. Marshall and Kathryn G. Vogel. Each candidate prepared a written statement in response to faculty questions and also met individually with faculty members and as a group with the museum staff, graduate students, and office and building staff. Marshall, who planned to be on sabbatical during the 1999-00 academic year, announced in March that she was withdrawing her candidacy. The department voted to support Vogel and she was officially appointed by Dean Michael Fischer in April, to assume the position August 1, 1999. The process was notable for its lack of rancor and for the fact that Kathryn Vogel is the first woman and the first cell biologist to ever become chairman of the Department of Biology.

PROFESSOR JIM BROWN IS AWARDED UNM ANNUAL RESEARCH LECTURESHP

Professor James H. Brown was awarded the UNM Annual Research Lectureship for 1999. Dr. Brown presented a lecture titled “The Scale of Life: Of All Creatures Great and Small” on April 26, 1999 in the Continuing Education Building. The lecture was introduced by Dr. Geoffrey West of Los Alamos National Laboratories and Santa Fe Institute, collaborator and co-author on the work that was being honored. The third collaborator acknowledged was Dr. Brian Enquist, a recent Ph.D. graduate of the Department of Biology. During the lecture, Prof. Brown told the audience how happy he is to be on the faculty of the Department of Biology at UNM. Prof. Brown and his wife, Prof. Astrid

This is the third UNM Research Lectureship to be awarded to a current faculty member in the Department of Biology. Prof. Randy Thornhill was so honored in 1986 and Prof. Kathryn Vogel in 1996.

**SCHOLARLY PUBLICATIONS AND PRESENTATIONS**

A textbook published by Professor Manual Molles has been an event not just for Dr. Molles, but for the entire field of Ecology. This book, *Ecology, Concepts and Applications*, was published by WCB/McGraw-Hill. It has been enthusiastically embraced nationwide, capturing 50% of the national market during the first year. Molles is an outstanding teacher who continues to teach in our undergraduate curriculum and to develop his presentations from the UNM classroom for classrooms around the world.

As reported in the 1998 annual report, faculty published 5 scholarly book chapters, 57 refereed articles, 24 refereed abstracts and also contributed 51 abstracts to local, national and international scientific meetings.

**SPONSORED RESEARCH**

The total of sponsored research dollars brought to UNM through the Department of Biology from July 1, 1998 through June 30, 1999 was $8,285,678. This figure is the result of prodigious effort and remarkable success on the part of the faculty and associated personnel of the department.

The new projects starting during 98-99 are varied in terms of their intention and scope. They include funding for basic research, educational programs for graduate and undergraduate students, scientific administration, and conservation and resource management. For example, Prof. James Brown was awarded $960,000 from the Packard Foundation for a five-year innovative research project titled "Biology Scaling Laws: Interdisciplinary Collaboration between Physics and Biology;" and Prof. Sam Loker won funds from the National Institutes of Health to study "Evolution of *Schistosoma mansoni* and its Snail Hosts." The *Neurospora* Genome Project at UNM was awarded three years of support from the National Science Foundation; congratulations to Assoc. Prof. Mary Anne Nelson, who is the Principal Investigator. A major five-year grant from the National Science Foundation (~$2.5 million in total requests) was awarded to Prof. Cliff Dahm in collaboration with the Department of Earth and Planetary Sciences at UNM and also the University of Alabama; this IGERT grant is designed to create a program in graduate studies which will integrate ecology, hydrology and geochemistry in regions of the U.S. with contrasting climates. In addition, a three-year grant to fund research experiences for undergraduate students at the Sevilleta site gained $120,000 in funding from the National Science Foundation; Prof. James Gosz and Robert Parmenter are Principal Investigators of this program. The LTER Network Office, the national headquarters for this NSF program, is now located at the University of New Mexico under the direction of Robert Waide. More than $1 million was awarded for this office during 1998-99. It is also important to note that our newest faculty were successful in
gaining funds during the year; Asst. Prof. Richard Cripps was awarded grants from both the Muscular Dystrophy Association and American Heart Association to continue his molecular genetic investigations of muscle formation in \textit{Drosophila}. Asst. Prof. Larry Li won SURP funding from Sandia National Lab. Finally, through the efforts of Dr. Patricia Mechlihop and the New Mexico Natural Heritage Foundation, funding was gained from such varied sources as the NM Department of Environment, the U.S. Geological Survey, and the Middle Rio Grande Council on Governments to study and report on environmental issues.

The level of success noted above and documented in Appendix B does not come without some unsuccessful proposals, and every proposal submitted takes an enormous amount of time and effort. The proposal to create a National Science and Technology Center for Fungal Genomics was one of these. This was a $20 million request to the National Science Foundation that involved five universities. The co-PIs at UNM were Assoc. Prof. Mary Anne Nelson and Prof. Don Natvig. The application process went from submission of a pre-proposal in February 1998 through selection of UNM as a finalist, surviving several eliminations, and a major site visit in February 1999. At the last point, however, the fungal genomics proposal was not selected. Disappointment was also felt at the news that a proposal for another four years of funding for the Howard Hughes undergraduate research program, with Assoc. Prof. Margaret Werner–Washburne as director, would not be funded.

The Department of Biology continued to receive good publicity at the national level. UNM biologists made all of the major news networks as well as CNN, the Learning Channel, The Discover Channel, BBC and CBC (Canada). TV cameras and crews were a common sight in the building.

\section*{STAFF}

The professional and technical support staff in the Department of Biology numbers 77. There were 20 terminations during the '98-99 year. The biggest need that the department has is for additional state-funded support staff. At the moment, the department's overhead funds support a full-time storeroom clerk, a full-time bookkeeper, a half-time greenhouse technician and \% of the time of a student recruitment and retention coordinator.

\section*{NEW ADMINISTRATIVE AGREEMENTS}

\section*{Organization of the Museum of Southwest Biology}

An agreement was concluded concerning the organizational relationship between the Museum of Southwest Biology and the Department of Biology. The provisions of this agreement are to be monitored for a period of two years and then evaluated for continuation or modification. The process of reaching this agreement involved important conversations throughout the department, resulting in a reaffirmation of the importance of the museums to the entire department and the feeling that we did not want to split units away from the department as a whole.

Key parts of this agreement include having the Director of the Museum of SW Biology become head of a discrete entity and have budgetary authority over funds that come to the museum. Those parts
of the department budget which flow directly to the museum will now be turned over to the museum director for allocation to museum units. The director will attend Chair’s Council meetings and meet with the Dean of A&S. Tenure and promotion of museum curators will be handled by the department and chairman. The museum director and, to a lesser extent, curators will have partial teaching release. The disposition of indirect costs generated by grants with museum relevance will be agreed upon by the director and chairman at the time the proposal is submitted.

AGREEMENT WITH CHARLES DARWIN RESEARCH STATION (CDRS), GALÁPAGOS ISLANDS, ECUADOR

An agreement was concluded with CDRS involving Associate Professor Howard Snell. For the four-year period from 1997–2001, the CDRS will arrange to pay UNM $40,000/year as compensation for Dr. Snell spending six months (% of the nine-month academic year in Ecuador. He will teach at UNM for % of each semester.

BUILDINGS

This year was marked by a series of ceiling leaks in the basement, first floor and second floor that did a great deal of water damage to the journals, books and computer equipment in several faculty and graduate student offices. The leaks were all in the new wing of the building and almost always occurred at night during a weekend. All of these floods were the result of corrosion and bursting of hot-water plumbing. As previous leaks were fixed, the pipes simply burst in another location nearby. Eventually, the hot water plumbing throughout the building was turned off to prevent further leaks. Through the successful intervention of Terry Yates, Chair, and Julie Weaks, Interim Provost for Business and Finance, funds were identified to completely replace the corroded galvanized pipes of the Potter wing with copper pipes. This work was schedule to occur during the Fall 1999 semester.

Plans to renovate the Old UNM Bookstore as a home for all divisions of the Museum of Southwestern Biology and the LTER Network Office were completed, and more than $5 million funding for the project was in place. Congratulations to Terry Yates. The construction bids were let. Although the delays have been great, there is optimism that construction will begin in Fall 1999 with completion now targeted for summer 2000.

Plans to install an emergency electrical generator with sufficient power to run the entire main building were approved. This project will make Biology the first campus building to have such emergency backup power. Although stimulated by Y2K concerns, this system is really needed to assure that critical equipment and freezers are not left without power for an extended period. This project will begin in the Fall 1999.

CONCLUSIONS

This annual report was prepared by Kathryn Vogel in September 1999. She has been Chairman of the Department of Biology only since August 1999. The report contains accurate data about the many activities of the Department of Biology during the 1998-99 academic year, but it does not contain the sort of analysis that someone acting as chairman during that year could provide.
During the first month in office, this chairman found the department to have been well run; no egregious problems have been identified. There is an excellent, hard-working faculty and a very fine staff. Some initiatives already undertaken include:

1. Election of an Executive Committee of faculty to advise the chairman;

2. Appointment of an *ad hoc* committee to study and make recommendations concerning the teaching of microbiology and operation of the microbiology culture/media center;

3. Appointment of a standing committee for computer issues, particular in response to the breakdown (due to break-ins) of the biology server; and

The major financial issue immediately apparent to the new chairman is that the dollars allocated from our overhead budget on an annual basis are greater than the dollars that can reasonably be expected to be earned each year. This difference is due to several factors: less overhead is coming back to the department, more overhead is being removed by the VPR for cost-share agreements, the VPR is requiring the department to pay a greater proportion of start-up costs for new faculty, and the cost of salaries being carried by the overhead account continues to increase. Although the chairman is committed to responsible fiscal management, this deficit situation is troubling. It will take a concerted effort on many fronts to continue high-level operation of the department and also balance this budget.
APPENDICES

FY 1998–99
ANNUAL REPORT
DEPARTMENT OF BIOLOGY
MASTERS AND DOCTOR OF PHILOSOPHY DEGREES FY 1998-99

Master of Science Degrees

Fall 1998

JANE E. MYGATI (Dr. T.K. Lowrey)
Comparisons of the Distributions of Life Forms and Relative Occurrences of the Native and Introduced Flowering Plants of Hawai'i.

SCOTT NORRIS (Dr. J.H. Brown)
Variation in Nest Predation and Breeding Ecology of Black-Headed Grosbeaks (Pheucticus melanoccephalus) across an Elevational Gradient.

MICHELLE PRICER (Dr. R.D. Miller)
Germline and Non-Germline Contributions to the IgH Repertoire in a Marsupial.

Spring 1999

JENNIFER E. BROWN (Dr. H.L. Snell) (non-thesis)

KIM D. EICHHORST (Drs. M.C. Molles, Jr. and C.S. Crawford)
Dynamics of Defoliator Activity along an Urban to Rural Gradient in the Middle Rio Grande Riparian Corridor.

KIRSTEN A. MEYER (Dr. B.S. Loker)
Characterization of Expressed Sequence Tags (ESTs) from the Colonial Tunicate, Botryllus schlosseri.

PHILIP TONNE (Dr. T.K. Lowrey)
A Morphometric Analysis of Erigeron pulcherrimus and Erigeron bistiensis and Related Erigeron Species.

Summer 1999

CLAIRE M. CARPENTER (Dr. G.E. Hofmann)
Variation in Heat Shock Protein Expression in Teleost Fish: Correlation with Environmental Temperature.

KEVIN M. RICH (Dr. J.H. Brown) (non-thesis)

Doctor of Philosophy Degrees

Fall 1998

DANIEL ALBRECHT (Dr. A. Kodric-Brown)
Parental Manipulation of Offspring Sex Between and Within Broods of House Wrens (Troglodytes aedon).

DAVID BATES (Dr. M.A. Nelson)
Analysis of the Replication Origin in Escherichia coli, Oric.

LAURA GONZALEZ-GUZMAN (Dr. J.H. Brown)
Consequences of Migratory Behavior in the Ecology and Biogeographical Distribution of Birds.
JOHN HNIDA (Dr. D.W. Duszynski)
Clarifying the Taxonomy and Systematics of Eimeria of Murid Rodents with Cross-Transmission Experiments, ITS1 Sequencing and Riboprinting.

DAWN KAUFMAN (Dr. J.H. Brown)
The Structure of Mammalian Faunas in the New World: From Continents to Communities.

PAMELA A. PADDIL (Dr. M. Werner-Washburne)
Characterization of the SNZ and SNO Gene Families in Saccharomyces cerevisiae.

DIANE ROWLAND (Drs. G.V. Johnson and C.S. Crawford)
Variation in Physiological, Morphological and Demographic Traits Among Cottonwood Populations in New Mexico: Evidence for an Environmental and Genetic Basis of Variation.

Spring 1999

WILLIAM H. DVORACHEK, JR. (Dr. D.O. Natvig)
Characterization of Manganese Superoxide Dismutase in Neurospora crassa.

MOSHE KIFLAWI (Dr. A. Kodric-Brown)
Developmental Instability in the Study of Macro-Ecological Phenomenon and Life-History Trade-offs.

HILLARY A. NOSKIN (Dr. L.L. Barton)
The Surface Characterization and Subsequent Bioremedial Uses of the Sulfate-Reducing Bacterium Desulfovibrio desulfuricans.

KELLI K. SAPP (Dr. E.S. Loker)

DOV F. SAX (Dr. J.H. Brown)
Native and Exotic Species Distributions: Implications for General Models of Diversity, From Community to Biogeographic Scales.

EDWIN J. WEEBER (Drs. D.O. Natvig and K.K. Caldwell)
Characterization of Rat Brain Phospholipase C-β1: A Role for Phospholipase C-β1 in Learning and Memory.

Summer 1999

LISA M. ELLIS (Dr. M.C. Molles, Jr.)
Floods and Fire Along the Río Grande: The Role of Disturbance in the Riparian Forest.

JULIE C. HAGELIN (Dr. J.D. Ligon)
Sexual Selection, Plumage Ornamentation and Behavior of Gambel's and Scaled Quail.

MARK A. JORDAN (Dr. H.L. Snell)
Phenotypic Plasticity in the Reproduction of Galápagos Lava Lizards (Microlophus delanoi).

A. JOSHUA LEFFLER (Dr. A.S. Evans)
Temporal and Geographic Physiological Variation in Fremont Cottonwood.
APPENDIX B

ACTIVE CONTRACTS & GRANTS,
as of Sept. 1999
University of New Mexico  
Main Campus and Branches  
FY 1999 Awards by Campus Unit  
July 1, 1998 - June 30, 1999

Biology

Principal Investigator(s):
   Snyder, Alexandra  
   Plantania, Steven  
Title: San Juan River Drift Studies  
Sponsor: Bureau of Reclamation  
Project: 00923  FY Amount: $212,194  Project Period: 3/18/92-9/30/02

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Principal Investigator(s):
   Brown, James  
Title: A BIO Research Training Group in Ecological Complexity  
Sponsor: National Science Foundation  

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Principal Investigator(s):
   Loker, Eric  
Title: Biology of Trematode-Snail Associations  
Sponsor: National Institute of Allergy & Infectious Disease  

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Principal Investigator(s):
   Gosz, James  
   Evans, Ann  
   Duszynski, Donald  
   Yates, Terry  
   Brown, James  
Title: Sevilleta LTER II: Biome-level Constraints on Population, Community, and Ecosystem Responses to Climate Fluctuations  
Sponsor: National Science Foundation  
Project: 03256  FY Amount: $845,158  Project Period: 10/15/94-1/31/00

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Principal Investigator(s):
   Lightfoot, David
Title: The Effects of Small Mammals on Spatial and Temporal Patterns of Vegetation in the Northern Chihuahuan Desert
Sponsor: NM State University
Project: 03258 FY Amount: $24,000 Project Period: 11/1/94-10/31/99
Principal Investigator(s):
   Duszynski, Donald
Title: The Coccidia of the World
Sponsor: National Science Foundation
Project: 03510 FY Amount: $142,380 Project Period: 8/1/95-8/31/00
Principal Investigator(s):
   Milne, Bruce
   Parmenter, Robert
   Brunt, James
Title: REU Supplement to the Sevilleta Long-Term Ecological Research Project (for "LTER II: Biome-Level Constraints on Population, Community, ..."
Sponsor: National Science Foundation
Project: 03738 FY Amount: $15,000 Project Period: 2/15/95-1/31/00
Principal Investigator(s):
   Dahm, Clifford
   Campana, Michael (Earth & Planetary Sciences)
   Crawford, Clifford
Title: REU & RAMHSS Supplement to Stream/Groundwater Ecotones: Hydrology, Biogeochemistry and Ecology
Sponsor: National Science Foundation
Project: 03854 FY Amount: $5,000 Project Period: 2/1/95-10/31/99
Principal Investigator(s):
   Yates, Terry
   Koster, Frederick (Medicine)
Title: Hantavirus Infections: Ecology, Immunity and Treatment
Sponsor: National Institute of Allergy & Infectious Disease
Project: 04050 FY Amount: $374,654 Project Period: 8/15/96-7/31/99
University of New Mexico
Main Campus and Branches
FY 1999 Awards by Campus Unit
July 1, 1998 - June 30, 1999

Principal Investigator(s):
Valett, Maurice
Dahm, Clifford
Title: Nitrogen Uptake Retention and Cycling in Stream Ecosystems
Sponsor: Virginia Polytechnic Institute and State Univ.
Project: 04453 FY Amount: $1,260 Project Period: 6/1/97-8/31/00

Principal Investigator(s):
Nelson, Mary Anne
Title: Developmental Regulation of Signal Transduction: Bcy1p in Stationary-Phase Yeast
Sponsor: National Science Foundation
Project: 04580 FY Amount: $20,786 Project Period: 9/1/96-8/31/00

Principal Investigator(s):
Waide, Robert
Brunt, James
VandeCastle, John
Title: A Proposal for the Network Office of the U.S. Long-Term Ecological Research Network from an Association of Institutions
Sponsor: National Science Foundation
Project: 04623 FY Amount: $1,120,400 Project Period: 3/15/97-2/29/00

Principal Investigator(s):
Muldavin, Esteban
Title: River Bar Vegetation Monitoring in the Middle Rio Grande
Sponsor: Bureau of Reclamation
Project: 04879 FY Amount: $27,254 Project Period: 8/14/96-9/30/02

Principal Investigator(s):
Yates, Terry
Title: Longitudinal Studies of Rodent Reservoirs of Hantaviruses in the Southwestern United States
Sponsor: Centers for Disease Control and Prevention
University of New Mexico
Main Campus and Branches
FY 1999 Awards by Campus Unit
July 1, 1998 - June 30, 1999

Principal Investigator(s): Brown, James
Title: Long-Term Monitoring and Manipulation of the Desert Granivore System
Sponsor: National Science Foundation
Project: 07336  FY Amount: $83,000  Project Period: 9/15/97-8/31/00

Principal Investigator(s): Hofmann, Gretchen
Title: Ecological Significance of Heat Shock Proteins as Molecular Chaperones: Temperature-dependence of hsp Function in Marine Fish.
Sponsor: National Science Foundation
Project: 07377  FY Amount: $80,268  Project Period: 8/15/97-7/31/00

Principal Investigator(s): Muldavin, Esteban
Title: LANL Ecological Site Assessment for the Species of Concern Habitat Management Plan: A Pilot Project
Sponsor: LANL
Project: 07901  FY Amount: $15,000  Project Period: 8/12/97-12/30/98

Principal Investigator(s): White, Carleton
Title: Ecology of Fire in Semi-Arid Grasslands: Responses Two Years After Fire
Sponsor: Forest Service
Project: 07919  FY Amount: $18,850  Project Period: 7/21/97-7/31/00

Principal Investigator(s): Waide, Robert
Title: NPACI Program: Earth Systems Sciences Thrust
Sponsor: University of California, San Diego
Project: 08452  FY Amount: $60,000  Project Period: 10/1/97-9/30/99

Principal Investigator(s): Mehlhop, Patricia

22
Title: Integrated Natural Resource Management Plan, WSMR
Sponsor: White Sands Missile Range
Project: 08469 FY Amount: $285,000 Project Period: 3/2/98-2/29/00

 Principal Investigator(s):
    Marshall, Diane
    Evans, Ann

Title: Can Non-Random Mating Result in Evolutionary Change: A Selection Experiment Using Wild Radish as a Model System, Phase II
Sponsor: National Science Foundation
Project: 08504 FY Amount: $210,949 Project Period: 9/1/98-8/31/01

 Principal Investigator(s):
    Hofmann, Gretchen

Title: REU supplement to NSF Grant IBN 9723063
Sponsor: National Science Foundation
Project: 08508 FY Amount: $5,000 Project Period: 4/1/98-7/31/00

 Principal Investigator(s):
    Kodric-Brown, Astrid

Title: Introgression in Pubfish: Role of Sexual & Natural Selection
Sponsor: National Science Foundation
Project: 08515 FY Amount: $115,166 Project Period: 8/15/98-7/31/00

 Principal Investigator(s):
    Dragoo, Jerry

Title: Taxonomy and Conservation of Swift Foxes and Kit Foxes in New Mexico
Sponsor: NM Game and Fish Department

 Principal Investigator(s):
    Dahm, Clifford
    Crossey, Laura (Earth & Planetary Sciences)
Northup, Diana
Title: Geomicrobiological Interactions in Cave Deep Subsurface Environments: A Novel Extreme Environment
Sponsor: National Science Foundation
Project: 08554 FY Amount: $292,134 Project Period: 10/1/98-9/30/01

Principal Investigator(s):
Nelson, Mary Anne

Title: The Role of Snz and Sno Proteins in the Yeast Saccharomyces Cerevisiae
Sponsor: National Science Foundation
Project: 08584 FY Amount: $110,000 Project Period: 9/1/98-8/31/00

Principal Investigator(s):
Muldavin, Esteban
Inglis, Michael (Earth Data Analysis Center)

Title: Biodiversity Conservation in the Chihuahuan Desert
Sponsor: Nature Conservancy
Project: 08603 FY Amount: $19,507 Project Period: 12/30/97-6/30/99

Principal Investigator(s):
Yates, Terry
Gannon, William
Ruedas, Luis

Title: Improvement of the Museum of Southwestern Biology's Biological Materials Collections: A Genetic Resource for the 21st Century
Sponsor: National Science Foundation
Project: 08615 FY Amount: $72,187 Project Period: 7/1/99-6/30/00

Principal Investigator(s):
Lightfoot, David

Title: Biodiversity of Ground-dwelling Arthropods Across an Elevation Gradient at the Jemez Mountains
Sponsor: LANL

Principal Investigator(s):
Miller, Robert
Title: International Workshop on the Immunobiology of Marsupials  
Sponsor: National Science Foundation  
Project: 08803 FY Amount: $25,000 Project Period: 11/15/98-10/31/99  
Principal Investigator(s):  
   Muldavin, Esteban  
   Mehlhop, Patricia  
Title: River Bars of the Rio Grande  
Sponsor: U.S. Fish & Wildlife Service  
Principal Investigator(s):  
   Yates, Terry  
Title: Knowledge Networking of Biodiversity Information  
Sponsor: University of Kansas Center for Research  
Project: 08898 FY Amount: $256,905 Project Period: 10/1/98-9/30/01  
Principal Investigator(s):  
   Smith, Felisa  
Title: Ecosystem response to increased urbanizationion in eastern Asia  
Sponsor: University of California  
Project: 08916 FY Amount: $45,000 Project Period: 6/1/98-10/31/99  
Principal Investigator(s):  
   Lowrey, Timothy  
Title: NM 130 Rare Plant Mitigation Project  
Sponsor: NM Highway and Transportation Department  
Project: 08938 FY Amount: $19,900 Project Period: 9/17/98-6/30/02  
Principal Investigator(s):  
   Miller, Gary  
Title: Molecular Analyses Subcontract for: High Trophic Level Ecosystem Response to Climate Change in Antarctica  
Sponsor: University of North Carolina  
Project: 08947 FY Amount: $44,410 Project Period: 2/1/99-1/31/00
Principal Investigator(s):
  Loker, Eric
Title: Evolution of Schistosoma mansoni and its Snail Hosts
Sponsor: National Institute of Allergy & Infectious Disease

Principal Investigator(s):
  Johnson, Kristine
Title: Prairie Chicken Surveys
Sponsor: Nature Conservancy

Principal Investigator(s):
  Muldavin, Esteban
  Mehlhop, Patricia
Title: Wetlands Assessment Protocol & GIS
Sponsor: NM Environment Department

Principal Investigator(s):
  Li, BaiLian
Title: 1998-99 (SURP) - Developing Ecological Indicators of Sustainable Land Use for Arid and Semi-Arid Environments
Sponsor: Sandia National Laboratories
Project: 08980  FY Amount: $34,990  Project Period: 10/1/98-9/30/99

Principal Investigator(s):
  Ladyman, Juanita
Title: Threatened and Endangered Species Floristic Survey/ Vegetation Community Delineation at Happy Valley, Carlsbad, NM
Sponsor: Army Corps of Engineers
Project: 08989  FY Amount: $101,400  Project Period: 7/10/98-4/1/00

Principal Investigator(s):
  Dahm, Clifford
Unnikrishna, Padinare (Earth & Planetary Sciences)
Title: NO3-N Retention in Headwater Streams: Influences of Riparian Vegetation, Metabolism and Subsurface Process
Sponsor: National Science Foundation
Project: 09006  FY Amount: $80,000  Project Period: 6/1/99-5/31/00

Principal Investigator(s):
Brown, James

Title: Habitat Requirements of Bell's Vireo: A Landscape Analysis of SW Populations
Sponsor: NM Game and Fish Department
Project: 09043  FY Amount: $9,056  Project Period: 7/1/98-6/30/99

Principal Investigator(s):
Altenbach, J. Scott

Title: Evaluation of Bat Habitat and Habitat Potential in Abandoned Mines in New Mexico
Sponsor: NM Energy, Minerals and Natural Resources Dept.
Project: 09060  FY Amount: $12,250  Project Period: 7/1/98-6/30/99

Principal Investigator(s):
Mehlhop, Patricia

Title: Jemez Mountain Salamander Population Study
Sponsor: NM Game and Fish Department
Project: 09068  FY Amount: $6,000  Project Period: 7/1/98-6/30/99

Principal Investigator(s):
Kodric-Brown, Astrid

Title: Forces Driving Rapid Introgression Between a Rare Pupfish (Cyprinodon pecosensis) and its Close Congener (c. variegatus).
Sponsor: Environmental Protection Agency
Project: 09091  FY Amount: $6,343  Project Period: 8/24/98-8/31/01

Principal Investigator(s):
Mehlhop, Patricia
Inglis, Michael (Earth Data Analysis Center)
Title: Tools to Address Biodiversity Resources & Management Concerns in the Southwest
Sponsor: U.S. Geological Survey
Project: 09098 FY Amount: $72,655 Project Period: 8/1/98-3/31/00

Principal Investigator(s):
Nelson, Mary Anne

Title: The Neurospora Genome Project at UNM: Expressed Sequence Analyses
Sponsor: National Science Foundation
Project: 09105 FY Amount: $164,938 Project Period: 2/1/99-1/31/00

Principal Investigator(s):
Brown, James

Title: REU: Long-term monitoring and manipulation of an arid ecosystem.
Sponsor: National Science Foundation

Principal Investigator(s):
Cripps, Richard

Title: Genetic Analysis of Muscle Remodeling in Drosophila Melanogasner
Sponsor: Muscular Dystrophy Association
Project: 09126 FY Amount: $64,370 Project Period: 1/1/99-12/31/99

Principal Investigator(s):
Nelson, Mary Anne

Title: REU support: Developmental Regulation of Signal Transduction: Bcylp in Stationary-Phase Yeast
Sponsor: National Science Foundation
Project: 09158 FY Amount: $8,750 Project Period: 6/1/98-8/31/00

Principal Investigator(s):
Mehlhop, Patricia

Title: Developing a Regional Open Space Plan
Sponsor: Middle Rio Grande Council on Governments
Project: 09159 FY Amount: $9,214 Project Period: 8/12/98-12/21/98
Principal Investigator(s): Gremillion, Valerie
Title: Realistic Modeling of the Early Visual Pathway
Sponsor: Burroughs Wellcome Fund

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Principal Investigator(s): Mehlhop, Patricia
Title: Database Product Delivery
Sponsor: Environmental Protection Agency

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Principal Investigator(s): Mehlhop, Patricia
Title: Application & Assessment of Species at Risk
Sponsor: NM State University
Project: 09263 FY Amount: $15,000 Project Period: 7/1/98-6/30/00

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Principal Investigator(s): Parmenter, Robert
Gosz, James
Title: Research Experiences for Undergraduates Site Program with the Sevilleta LTER: Ecosystem Productivity, Biodiversity & systematics.
Sponsor: National Science Foundation
Project: 09285 FY Amount: $120,000 Project Period: 5/15/99-4/30/02

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Principal Investigator(s): Mehlhop, Patricia
Muldavin, Esteban
Title: EGR Reviews
Sponsor: Nature Conservancy

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Principal Investigator(s): Barton, Larry
Thomson, Bruce (Civil Engineering)
Title: WERC: Strategies for Remediation of Sites Containing Polycyclic Hydrocarbons (PAHs)
Sponsor: NM State University
Project: 09332 FY Amount: $60,000 Project Period: 1/1/99-2/19/00

Principal Investigator(s):
Brown, James

Title: Biology Scaling Laws: Interdisciplinary Collaboration between Physics and Biology
Sponsor: Packard (David & Lucile) Foundation
Project: 09375 FY Amount: $960,000 Project Period: 7/1/99-6/30/04

Principal Investigator(s):
Mehlhop, Patricia
Inglis, Michael (Earth Data Analysis Center)

Title: Tools to Address Biodiversity Resources & Management Concerns in the Southwest
Sponsor: U.S. Geological Survey
Project: 09387 FY Amount: $25,346 Project Period: 8/1/98-3/31/00

Principal Investigator(s):
Muldavin, Esteban
Mehlhop, Patricia

Title: Field Testing & Production of the Wetlands Identification and Assessment Manual
Sponsor: NM Environment Department
Project: 09418 FY Amount: $8,418 Project Period: 12/2/98-10/31/99

Principal Investigator(s):
Gannon, William

Title: Acoustic and netting sampling of bats in New Mexico: Year 5
Sponsor: NM Game and Fish Department
Project: 09427 FY Amount: $4,000 Project Period: 2/16/99-6/30/99

Principal Investigator(s):
Mehlhop, Patricia
Title: Support & Enhancement of the BISON-M Database
Sponsor: NM Game and Fish Department
Project: 09475  FY Amount: $70,000  Project Period: 5/10/99-3/31/03

Principal Investigator(s):
Waide, Robert

Title: Continuation IPA for Christine French
Sponsor: National Science Foundation

Principal Investigator(s):
Dahm, Clifford

Title: Dissertation Research: Ecosystem Metabolism and Nitrate Retention in Headwater Streams: Influence of the Hyporheic Zone
Sponsor: National Science Foundation
Project: 09492  FY Amount: $10,456  Project Period: 6/1/99-12/31/00

Principal Investigator(s):
Cripps, Richard

Title: Molecular Genetic Analysis of Myogenesis in Drosophila
Sponsor: American Heart Association
Project: 09496  FY Amount: $60,000  Project Period: 7/1/99-6/30/01

Principal Investigator(s):
Mehlhop, Patricia
Gottlieb, Sara

Title: Providing the US Air Force with Data on Species Sensitive to Noise from Low Flying Aircraft
Sponsor: Nature Conservancy
Project: 09507  FY Amount: $50,000  Project Period: 12/1/98-8/14/99

Principal Investigator(s):
Dahm, Clifford
University of New Mexico
Main Campus and Branches
FY 1999 Awards by Campus Unit
July 1, 1998 - June 30, 1999

Title: IGERT: Freshwater Graduate Studies Link Fundamental Science with Applications through Integration of Ecology, Hydrology, & Geochemistry in Regions with Contrasting Climates
Sponsor: University of Alabama
Project: 09514 FY Amount: $334,700 Project Period: 9/1/99-8/31/00
Principal Investigator(s):
Mehlhop, Patricia

Title: Continuation and Enhancement of the Sensitive Biological Elements Database
Sponsor: White Sands Missile Range
Project: 09534 FY Amount: $47,000 Project Period: 3/3/99-6/30/00
Principal Investigator(s):
Yates, Terry

Title: Inspection and Decontamination of File Boxes Potentially Infected with Hantavirus
Sponsor: Department of the Interior
Principal Investigator(s):
Johnson, Kristine

Title: Lesser Prairie Chicken Surveys on NMDGF Prairie Chicken Management Areas, 1999
Sponsor: NM Game and Fish Department
Project: 09577 FY Amount: $10,000 Project Period: 2/10/99-9/30/99
Principal Investigator(s):
Nelson, Mary Anne

Title: REU Supplement: Neurospora Genome Project at UNM: Expressed Sequence Analyses
Sponsor: National Science Foundation
Project: 09650 FY Amount: $12,000 Project Period: 2/1/99-1/30/00
Principal Investigator(s):
Marshall, Diane
<table>
<thead>
<tr>
<th>Title</th>
<th>Sponsor</th>
<th>Project</th>
<th>FY Amount</th>
<th>Project Period</th>
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<td>REU Supplement: Can Nonrandom Mating Result in Evolutionary Change</td>
<td>National Science Foundation</td>
<td>09657</td>
<td>$10,000</td>
<td>9/1/98-8/31/01</td>
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<td>Kodric-Brown, Astrid</td>
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<td>REU supplement: Introgression in Pupfish: Role of Sexual &amp; Natural Selection</td>
<td>National Science Foundation</td>
<td>09683</td>
<td>$3,750</td>
<td>4/30/99-7/31/00</td>
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<td>Principal Investigator(s):</td>
<td>Yates, Terry</td>
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<td>Biological Diversity of New Mexico State Trust Land</td>
<td>NM State Land Office</td>
<td>09692</td>
<td>$10,000</td>
<td>3/15/99-6/30/99</td>
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<td>Principal Investigator(s):</td>
<td>Waide, Robert</td>
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<td>LTER 2000 planning grant: Media production</td>
<td>National Science Foundation</td>
<td>09811</td>
<td>$24,995</td>
<td>6/1/98-2/28/00</td>
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<td>Principal Investigator(s):</td>
<td>Mehlhop, Patricia</td>
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<tr>
<td>Providing the Department of Defense with Data and Information on Species of Conservation Interest</td>
<td>Association For Biodiversity Information</td>
<td>09826</td>
<td>$4,000</td>
<td>12/1/98-9/30/99</td>
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<td>Principal Investigator(s):</td>
<td>Johnson, Kristine</td>
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<tr>
<td>Principal Investigator(s):</td>
<td>Muldavin, Esteban</td>
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</table>
Title: Kuenzler's Cactus Surveys II  
Sponsor: Nature Conservancy  

Principal Investigator(s):  
Muldavin, Esteban  

Title: Lee's Pincushion Cactus Surveys II  
Sponsor: Nature Conservancy  

Total FY Awards for Biology (79)  $8,285,678
APPENDIX C

ANNUAL REPORTS:
MUSEUM OF SOUTHWESTERN BIOLOGY
&
U.S. GEOLOGICAL SURVEY
1. DIVISION HIGHLIGHTS.

The focus of this year’s museum activity was to continue cataloging specimens into the BIOTA database. By summer’s end, over 1,500 records had been entered into our database. We also incorporated donations from the Sevilleta LTER into a discrete voucher collection of specimens from the Sevilleta National Wildlife Refuge. This year we also reinstated tours of the museum for public and private schools as well as talks about the museum in the schools.

2. TABLE OF COLLECTION USE. Fill in the blanks with the correct statistics. Collection growth should be the number of cataloged specimens added to the division. Loans (outgoing) should include the number of loans and the number of lots or specimens separated by a “/”. Loans (incoming) same format as for Loans (outgoing). # of Visitors should include the number of researchers and general public separated by a “/”.

<table>
<thead>
<tr>
<th>Collection Growth</th>
<th>Loans (outgoing)</th>
<th>Loans (incoming)</th>
<th># Visitors</th>
<th># Data Requests</th>
<th># of Publications</th>
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<tbody>
<tr>
<td>3350</td>
<td>1/20</td>
<td>1/2</td>
<td>5/28</td>
<td>N/A</td>
<td>7</td>
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</table>

N/A — due to lack of regular staff, records are estimates; number of data requests are numerous, but uncatalogued.

3. COURSES USING THE COLLECTIONS.

BIOL 402/502 Insect Taxonomy and Systematics. Dick Fagerlund and Sandy Brantley. Loan of specimens to students for training and presentations.

BIOL 402/502 Bosque Ecological Monitoring Program Interns. Cliff Crawford and Mary Stuever. Loan of specimens to students for training and presentations.

4. COLLECTION MANAGEMENT.

The Museum TAs continued incorporating specimens into BIOTA, a relational electronic database. To date, over 1,500 records have been created. In addition, TA’s expanded the collection into new drawers, labeled specimens within series, updated synonymies and incorporated recent acquisitions into the collection. Donations from the Sevilleta LTER have been organized, identified, and labeled.

5. AWARDS, GRANTS, AND CONTRACTS.

GRANTS SUBMITTED, FACULTY

Bosque Ecological Monitoring Program. C.S. Crawford, M. Stuever. National Science Foundation, $35,000
GRANTS RECEIVED AND IN FORCE FROM PREVIOUS YEARS


Habitat requirements of Bell’s Vireo. **J. M. Parody**, NM Department of Game and Fish, Share with Wildlife 1997-1998, $9,000; $3,000 approved for 1999-2000

CONTRACTS

6. PUBLICATIONS.

A. Publications by Museum staff, students and Associates.

BOOKS

JOURNAL ARTICLES


ARTICLES IN EDITED VOLUME

B. Publications and reports based on museum specimens by researchers excluding Museum staff, students and Associates.

7. ACTIVITIES IN LEARNED SOCIETIES.

A. Invited or plenary talks.

**M. C. Molles**. Evidential constraints at large scales: lessons from studies along the Middle Rio Grande in New Mexico. National Center for Ecological Analysis and Synthesis, University of California, Santa Barbara, CA, February 1999.


**M. C. Molles**. Flooding and riparian ecology along the Middle Rio Grande. Invited seminar, Department of Biological Sciences, San Diego State University, San Diego, CA. April 1998.
M. C. Molles. Riparian ecosystem restoration in the Middle Rio Grande. Invited lecture, Department of Biological Sciences, San Diego State University, San Diego, CA. April 1998.

B. Contributed talks or posters.

C. Attendance at professional meetings.


D. Service as editor or on editorial board of a journal.

E. Service as officer of professional society or organization.

Manuel Molles, Trustee for The Nature Conservancy of New Mexico
Manuel Molles, Volunteer Training, Rio Grande Nature Center

8. OTHER PROFESSIONAL ACTIVITIES. List alphabetically under each category.

A. Seminar or colloquium presentations.

B. Presentations in a scholarly capacity at hearings, workshops, legislative committees, etc.

C. Presentation to general audience in a scholarly capacity.

Dick Fagerlund – weekly bug column in the Albuquerque Tribune on Tuesdays
Dick Fagerlund – 7 different 2-hour segments on KKO8 AM (770) – talking about pests and answering arthropod questions from the public.
Dick Fagerlund and Sandy Brantley – 3 different 2-hour segments on KKO8 AM (770) – talking about pests and answering arthropod questions from the public.
Dick Fagerlund – over 12 newspaper articles for the Tribune, the Croswinds, and the Santa Fe New Mexican

D. Service in a scholarly capacity as a member of a local, state, regional or national committee, panel etc.


Manuel Molles, National Center for Ecological Analysis and Synthesis Working Group Member, Scientific Evidence Project, 1999-2001, University of California, Santa Barbara.

E. Journal referee.

Manuel Molles – Restoration Ecology, 1 paper
- Pedobiologia, 1 paper
9. SERVICE.

A. Symposia, workshops, conferences, etc. sponsored, organized, held etc.

B. Public Service.

Volunteer Training, Rio Grande Nature Center

Dick Fagerlund – Created a web page on basic arthropods of New Mexico information, pest control, beneficial aspects to insects, etc.

Kim Eichhorst – Visits to Albuquerque public schools to talk about insects and biodiversity.

Dick Fagerlund – talks to child care groups, Medical groups, and custodians at UNM about bugs and hantavirus

Dick Fagerlund – conducted training seminars for the City of Albuquerque, City of Santa Fe, State of New Mexico (at the governor's request), the Albuquerque School District, the Rio Rancho School District, Kirtland AFB and several seminars for the pest control industry.

Dick Fagerlund – newspaper article in the New Orleans paper – Formosan termites.

Jennifer Parody – Participant and Small Group Facilitator for Second Assembly for Regional Water Planning of the Middle Rio Grande. Founder and voting member of the Southwest Biodiversity Initiative

10. ADVANCED STUDY, HONORS, AWARDS, FELLOWSHIPS, ETC.

11. DONATIONS AND GIFTS RECEIVED.

Juanita Ladyman, 30-50 arthropod specimens collected from Lepidoptera in the Alkali Lakes Region, Otero County, New Mexico, map of the study area, and disk of collection dates, family, species name and location collected.

Dick Fagerlund, Handbook of Household Ants in New Mexico

Sevilleta LTER, more arthropod specimens from ongoing research

12. CURRENT STAFF. List faculty, staff, students and volunteers.

Manuel Molles, Ph.D., Professor, Curator. Riparian ecology
Cliff Crawford, Ph.D., Emeritus Professor, Emeritus Curator, Riparian ecology, desert ecology
David Lightfoot, Ph.D., Research Associate, Associate Curator. Arthropod ecology, grasshopper systematics, desert ecology
Robert Parmenter, Ph.D., Program Director Sevilleta LTER, Associate Curator. Desert ecology
Sandra Brantley, Ph.D., Post-doctoral Associate, Sevilleta LTER. Arthropod communities
Kim Eichhorst, M.S. student. Museum Teaching Assistant Spring 1999. Riparian ecology

13. MUSEUM ASSOCIATES.

Richard Fagerlund, UNM staff, Environmental Services. NM arthropods, particularly beetle taxonomy.
1. DIVISION HIGHLIGHTS.

Division highlights included publications of four hantavirus papers published in Emerging Infectious Diseases; discovery that the macupo virus reservoir species was not as previously thought; acquisition of NSF funding to allow the division to re-organize samples, re-label samples, complete the electronic data capture (including maintenance and data capture for currently incoming samples as well as samples whose vouchers are held off-site in other natural history collections), complete verification of data captured samples on the database resulting from voucher specimens, and upgrade the database management program to be accessible via the World-Wide Web. The foregoing projects will greatly enhance our ability to serve the community, allow the division to "catch up" on backlog data capture, and facilitate networking activities among this and other MSB databases. This grant allowed us to hire four new people to work in the division for a year. The University has agreed to line-item a graduate assistant position for the division as part of their cost-share for this award. Our eleven cryogenic freezers were connected to a new updated monitoring system (The Micro-4000). This new system also allows us to monitor our eleven freezers in the Division of Biological Materials plus the Biology Departments back-up freezer.

Projects include the Hantavirus research (and other, related emerging viruses projects), the Long-term Ecological Research Project at the Sevilleta, the Mongolian project to establish long-term collaborations, and the global change project. The Very Large Mouse Array (VLMA) continues as the world's largest (40 acre) rodent proof enclosure for a National Institute of Health funded project to study rodent/virus interactions in a closed natural system. A new NSF funded project with the Nuclear and Chemical Engineering was initiated to develop an immune sensor for hantaviruses that will be used in the field.

2. TABLE OF COLLECTION USE.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>12,500</td>
<td>44/6232</td>
<td>38/5,638</td>
<td>20/20</td>
<td>60</td>
<td>8</td>
</tr>
</tbody>
</table>

3. COURSES USING THE COLLECTIONS.

- Biology 400 Senior Honors: specimens, facility, and staff participation
- Biology 402 Special Topics: specimens, facility, and staff participation
- Biology 489 Mammalogy: specimens, facility, and staff participation
- Biology 554 Ad. Mammalogy-Systematics: specimens, facility, and staff participation
- Biology 449 Special Problems: specimens, facility, and staff participation
- Biology 502 Advanced vertebrate biology: specimens, facility, and staff participation
- Biology 502 Topics in Chromosomal Evol.: specimens, facility, and staff participation
- Biology 551 Graduate Research: specimens, facility, and staff participation
- Biology 651 Advanced Field Biology: specimens, facility, and staff participation
- Biology 699 Dissertation: specimens, facility, and staff participation
4. COLLECTION MANAGEMENT.

The Division of Biological Materials, previously thought as ancillary to the Mammal Division has grown strong enough to stand alone. Cheryl Parmenter has become interim collection manager for Biological Materials. Loans, Accessions and Visitors for the division will now be separated from the Mammal Division. Three new -80°C freezers have been purchased and are rapidly being filled with samples. Updated monitoring system on-line. We are currently re-labeling tissue vials with scanner labels and consolidating the first 15,000 samples. Gabor Racz our graduate curatorial assistant has worked on programming the new scanner software, and continues to perfect the Nunc locator program.

5. AWARDS, GRANTS, AND CONTRACTS.

Faculty

TerrL. Yates- PI:


*The Sevilleta LTER, Cycle II*
NSF October 1994- September 2000 $580,000

*Hantavirus Infections: Ecology, Immunity and Treatment*
NIAID/NIH September 1 1996- August 31, 2000 $281,977/year

*Longitudinal Studies of Hantavirus in SW US Rodent Populations*
Indian Health Service September 1996- May 1999 $101,800/year

*Longitudinal Studies of Hantavirus in SW US Rodent Populations*
CDC September 30 1996- August 31, 1999 $191,500/year

*Relocation/Consolidation of the Research and Training Facility of the Department of Biology*
NSF March 1997- May 31 1999 $960,000

*Ecology of Hantavirus Enzootics: Immune Interventions*
NIAID
August 1997- July 2002
$176,365/year

*Hantavirus Ecology and Disease in Chile*
NIH/NIAID
June 1 1999-May 31 2004
$621,840/year

*ICIDR*
Portable flow-through Amperometric Immunosensor Device for Fast Field Immunoanalysis of Rodent Virus
NSF
January 1998-December 2001
$167,500
Response of SW Mammal Communities to Global Climate Change
US Fish/Wildlife Service
September 1998- September 1999
$50,000/year

Knowledge Networking of Biodiversity Information
KDIIKN
NSF
September 1 1998- August 31 2001
$660,000/year

Associates:

Jerry W. Dragoo:

Examine the genetics and speciation questions with foxes (Genus Vulpes) in New Mexico.
Cost-share project with the US Fish and Wildlife Service and the New Mexico Department of Fish and Game. 1997-1999.
$20,000

6. PUBLICATIONS

A. Publications by Museum staff, students and Associates.

Journal articles:


Kirkland, G. L., Jr., G. W. Barrett, M. A. Bogan, J. E. Childs, G. Glass, A. Krevitz, L. R. Heaney, T. H. Horton, T.


Reports:
Yates, T.L., C.A. Parmenter contributed to MMWR - Hantavirus Pulmonary Syndrome Update—1999, CDC.


B. Publications and reports based on museum specimens by researchers excluding Museum staff, students and Associates.

Unable to obtain this information this year.

7. ACTIVITIES IN LEARNED SOCIETIES.
A. Invited or plenary talks.
Terry Yates:
Press Conference/Meeting, Minister of Health, Catholic University, Chile, August 9-13, 1998.


B. Contributed talks or posters.

Talks:

Kelby D. Willoughby and Jerry W. Dragoo. Microsatellite Variation in Swift/Kit Foxes in New Mexico. 46th Annual Meeting of the Southwestern Association of Naturalists.


C. Attendance at professional meetings.

**Salazar-Bravo:**
46th Annual Meeting of the Southwestern Association of Naturalists.

**M. Scott Burt:**
46th Annual Meeting of the Southwestern Association of Naturalists.

**Dragoo:**
46th Annual Meeting of the Southwestern Association of Naturalists.

**Gannon:**

**Euro-American Mammal Congress, Santiago de Compostela, Spain July 19-24,1998.**

**Parmenter:**
National Association of Medical Examiners annual meeting, Albuquerque Convention Center, October 1998.

**Yates:**

**Euro-American Mammal Congress, Santiago de Compostela, Spain July 19-24,1998.**
National Association of Medical Examiners annual meeting, Albuquerque Convention Center, October 1998.

D. Service as editor or on editorial board of a journal.

**Yates:**
Managing Editor, Publications of the Museum of Southwestern Biology.
Review Editor, American Society of Mammalogists, *Journal of Mammalogy*
E. Service as officer of professional society or organization.

Terry Yates:
Board of Directors: The America Society of Mammalogists
The Society of Systematic biology
The Association of Systematic Collections
The Peromyscus Stock Center
The Southwestern Association of naturalists
Chairman of the Board of Trustees for the American Society of Mammalogists
Member of the board of trustees for the SWAN
Chairman of the board of trustees for the pooled income fund of ASM

Cheryl Parmenter: Safety Officer (Room 159)
Member of the UNM Campus Biosafety Committee
Member of the Job Ladder Committee

Jerry Dragoo: Safety Officer (Room 157)

8. OTHER PROFESSIONAL ACTIVITIES
   A. Seminar or colloquium presentations.
   B. Presentations in a scholarly capacity at hearings, workshops, legislative committees, etc.

Yates:

C. Presentation to general audience in a scholarly capacity.

D. Service in a scholarly capacity as a member of a local, state, regional or national committee, panel etc.
   Yates, Terry
   Member, Living Stock Collections Advisory Panel, National Science Foundation, Washington DC, December 17, 1998.
   Annual Research Day Committee Member
   Management Information Systems (EMIS)
   Chair, Department of Biology, UNM
   Chair, Provost search committee
   Member, Arts and Science Development officer search committee
   Co-Chair, EMIS steering committee

E. Journal referee.
9. SERVICE.
   A. Symposia, workshops, conferences, etc. sponsored, organized, held etc.

   Terry Yates:
   - RAMBO annual meeting
   - Statistical workshop on analysis of web data for hantavirus workshop
   - International Workshop on Emerging Threats, Santa Fe NM, October 9, 1998.

   Cheryl Parmenter:
   - Statistical workshop on analysis of web data for hantavirus workshop
   - RAMBO annual meeting

B. Public Service

   Terry Yates:
   - Rotary Club-Hantavirus seminar.
   - Alumni Association- Highlights of Biological Research Benefiting the Public seminar.
   - Visitors:
     - Scott Martens, PBS, May 28-29, 1998
     - Jonathon Bor, Baltimore Sun, June 15-17, 1998
     - Madeline Nash, Time Magazine, June 29-30, 1998
     - Gero Von Boehm, German Television correspondent, August 3-5, 1998
     - Pablo Vial and Roberto Belmar, September 1-3, 1998
     - Greg Glass, John Hopkins University
     - Kris Kristalka, Director of Museum of Natural History, University of Kansas
     - Dr. Alberto Gianella, Director of Cenetro, August 17-31, 1998
     - Michael Mares, Director of Museum of Natural History, University of Oklahoma, September 1998.
     - Kurt Knolte, Director Office of the Medical Investigator

10. ADVANCED STUDY, HONORS, AWARDS, FELLOWSHIPS, ETC.
    Yates:
    - Recognized, Outstanding Administrative Performance, National Science Foundation
    - Recipient, Robert L. Packard Outstanding Educator Award, 1995, Southwestern Association of Naturalists.
    - Elected Trustee, Southwestern Association of Naturalists.
    - Chair, Main Campus Animal Care and Use Committee, UNM
    - Chair, Department of Biology, University of New Mexico - 1 Aug 1995- 31 July 1999.

11. DONATIONS AND GIFTS RECEIVED.

12. CURRENT STAFF. List faculty, staff, students and volunteers.
    Dr. Terry L. Yates, Curator, Division of Biological Materials
Cheryl Parmenter, Interim Collection Manager, Division of Biological Materials, Hantavirus Data Manager and Safety Officer (Room 159)
Gabor Racz - Ph.D. Graduate Curatorial Assistant
Iris Reano - Student Assistant (1998-1999)
Bryan Bolling - Student Assistant (1998-1999)

Phd. Students:
Jorge Salazar-Bravo
M. Scott Burt
Gabor Racz

13. MUSEUM ASSOCIATES.

Research Associates:

J. Scott Altenbach  UNM Department of Biology
Sydney Anderson  American Museum of Natural History, New York
Robert J. Baker  The Museum, Texas Tech University, Lubbock, TX
Mike Bogan  National Biological Survey
Troy L. Best  Department of Biology, Auburn University
Joseph A. Cook  Natural History Museum, University of Alaska, Fairbanks
Jerry Dragoo  UNM Department of Biology
Bill Gannon  UNM Department of Biology
Scott L. Gardner  Dept. Nematology, Curator, University Nebraska.
Sarah B. George  Director, Utah State Museum.
Gary L. Graham  Bat Conservation International
David J. Hafner  New Mexico Museum Nat. History
Bruce J. Hayward  Department of Biology, Western New Mexico University
Edward J. Heske  Illinois Biological Survey
R. Dewitt Ivey  Retired. Active in Botany, mammals
Clyde Jones  The Museum Texas Tech University
Dwight W. Moore  Emporia State University
Cindy Ramotnik  National Biological Survey
Robert Parmenter  Department Biology, LTER coordinator
James L. Patton  Museum of Vertebrate Zoology, University of California
Richard A. Smartt  New Mexico Museum of Natural History.
1. DIVISION HIGHLIGHTS

Salvaged birds from several sources form the bulk of the specimens catalogued into the collection most years, and the largest % of these are from the Albuquerque based group of wildlife rehabilitators Wildlife Rescue Inc. The New Mexico Department of Game and Fish established a policy that birds that could not be released in the wild were to be euthanized as early as possible and that all carcasses should be returned to the Department (or to the MSB as the Department's representative) with full data.

This opportunity to examine so many individuals of even common species is paralleled in few other states; has led to innumerable "discoveries" and has added to the collection birds not obtainable in other ways. To date, since 1988, 725 birds have been cataloged from this single source!

These include such rarities as the first Red-shouldered Hawk for the state; the first and second specimens of the eastern subspecies of the Common Night Hawk, etc. However even more important are the series of common birds such as the Great Horned Owl. We have been able to examine dozens per year, and 126 from New Mexico have been added to the collection since 1988 (from all sources). We now understand the geographic variation within the state, and the extent of both altitudinal and long distance migration. Five currently recognized subspecific names must be used to define populations represented, and one population awaits naming. Almost entirely from salvaged sources, 64 Great Horned Owls from other states have also been added to the collection.

2. TABLE OF COLLECTION USE

<table>
<thead>
<tr>
<th>Year</th>
<th>Use</th>
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</table>

3. COURSES USING THE COLLECTION

Biol. 379 - Conservation Biology, Fall 1998 and Spring 1999
Biol. 386 - General Vertebrate Zoology

4. COLLECTIONS MANAGEMENT

We are current with cataloging and computerization of incoming material. Plans are being made for making most fields of data available on the "web".

5. AWARDS AND GRANTS

Graduate Students:
Timothy H. Parker:
Separating inheritability of male condition from the effects of cryptic female choice in Red Junglefowl. American Ornithologists' Union, Josselyn Vantyne Memorial Research Award. $1,900

Sigma X, Alexander Bache Fund. $900

UNM - Research, Planning, Travel, Office of Graduate Student Studies. $1,000.

Other University sources. $1,035.


6. PUBLICATIONS.

Books:


Journal Articles:


In Press:

Ligon, J.D. (3rd author) Stricklands Woodpecker (Picoides stricklandi). In The Bords of North America (A.Poole and F.Gill, eds.) Philadelphia.


7. ACTIVITIES IN LEARNED SOCIETIES.

Hill, J. A. Attended the annual meeting of the International Society for behavioral Ecology, Monterrey, CA.

8. OTHER PROFESSIONAL ACTIVITIES.

Papers refereed:

Dickerman, R.W.: Ornithologia Neotropical (1)
Ligon, J.D.: Behavioral Ecology (1); Behavioral Ecology and Sociobiology (1).

9. DONATIONS AND GIFTS RECEIVED.

10. CURRENT STAFF.

Dr. J. David Ligon, Curator of Ornithology
Ms. Julie Hagelin, Graduate Student
Ms. Jennifer A. Hill, Graduate Student and Curatorial Associate
Mr. Timothy H. Parker, Graduate Student and Curatorial Associate

11. MUSEUM ASSOCIATES.

Dr. Robert W. Dickerman, Curatorial Associate and Co-Curator
Dr. John P. Hubbard, Curatorial Associate
Dr. Eleonora H. Trotter, Research Associate
Ms. Nancy Cox, Research Associate
Mr. Richard S. Crossin, Research Associate
1. DIVISION HIGHLIGHTS.

The MSB Division of Fishes currently has **42, 925 catalogued lots** of fishes, a total of **2,135,565 specimens**. Adult fishes, eggs and larvae were acquired from the ongoing projects of Associate Curator, Steven P. Platania. These projects are: fish community structure studies of the **Pecos River**, **Hybognathus amarus** or the **Rio Grande** silvery minnow population monitoring, habitat studies of the **Chama River** fishes, and population monitoring and drift studies of the **Ptychocheilus lucius** and **Xyrauchen texanus** of the **San Juan River**.

Thomas F. Turner, Curator, contributed fishes collected by the Ichthyology (Spring 1999) Class in Oklahoma, (the upper drainages of the Red River) and New Mexico, the Jemez and Pecos Rivers. The USFWS Fisheries Research Office contributed a large series of fishes collected in the lower Rio Grande. Paratopotypes of **Cyprinodon fontinalis** and paratypes of **Ictalurus chihuahua MS** were contributed to the Division's secondary type collection by Robert R. Miller, University of Michigan.

A University of New Mexico Teaching Allocation Award to Dr. Turner allowed for the purchase of a collection of 950 color slides of fishes for use in ichthyology and general vertebrate zoology classes. These slides, part of the MSB collection of fishes, are available to other Department faculty via divisional loan.

Finally, the MSB Division of Fishes acquired Room 57, allowing us room to sort and process large numbers of fishes. This lab also serves as a staging area for cumbersome field equipment as well as storage for accessions of fishes. Due to the main fish archives being beyond capacity (120%), cataloged specimens (stored in boxes) are now maintained in this room. A "wet lab" in the form of fish tanks has been established in the rear of the lab so that the curators can continue their work in fish life history. We gratefully acknowledge the support of Dr. J. Scott Altenbach for both allowing us to share this space with him for 10 years and to retain this much needed area when he vacated the lab.

2. TABLE OF COLLECTION USE

<table>
<thead>
<tr>
<th>Collection Growth</th>
<th>Outgoing Loans</th>
<th>Income in Loans</th>
<th>Transactions</th>
<th>Publications citing MSB fish specimens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth (Gifts, Exchanges) LOTS or SPECIMENS</td>
<td>Loans Given</td>
<td>Exchanges</td>
<td>Specimens</td>
<td>Transactions</td>
</tr>
<tr>
<td>2,422 lots 101,515 specimens</td>
<td>26 transactions</td>
<td>5 transactions</td>
<td>14,742 specimens</td>
<td>5</td>
</tr>
</tbody>
</table>

* Numbers based on cataloged specimens only. Backlog: 3,137 lots 59,314 specimens

3. COURSES USING THE COLLECTIONS.

Ichthyology **BIOL 487.** 30 students, research and teaching collection specimens used. Collection Manager assisted in lab set up, acquired field equipment and accompanied faculty and students to Oklahoma as field assistant. Thomas F. Turner, Assistant Professor
General Vertebrate Zoology  BIOL 386.  40 students, teaching collection specimens used; Collection Manager assisted TA in understanding fish phylogenies (all classes of fishes). Acquired salmonid fishes suitable for dissection from Santa Rosa Fish Hatchery. J. Scott Altenbach, Professor

4. COLLECTION MANAGEMENT. The Division of Fishes currently processes an average of 125,650 specimens each year (sorted, identified, recorded, archived). This past year our efforts focused on processing a backlog of San Juan River fish larvae and Pecos River drift study specimens. A new Dell XPS R400 was purchased for the Division by Dr. Turner for cataloging. Dr. Turner (PI), Steven Platania and Alexandra Snyder (CO-PIs) are submitting Phase I of a National Science Foundation grant proposal for the improvement and relocation of the fish collection.

5. AWARDS, GRANTS, AND CONTRACTS.

Thomas F. Turner, Curator of Fishes
1998 (CO-PI) Biological survey of the Rio Pasimoni of Venezuela’s Casiquiare Region. Award $18,000.00 National Geographic Society

1998 (PI/PD) Conservation genetics of Rio Grande silverly minnow. Award $2,940.00 University of New Mexico Research Allocations Award

1998 (PI/PD) Enhancement of BIOL 487 Ichthyology. Award $2,460.00 University of New Mexico Teaching Allocations Award

1999 (CO-PI w/20 researchers) Research training grant for graduate education in ecology, hydrology, and geochemistry Award $2,687,181.00 National Science Foundation (IGERT)

1999 (PI/PD) Reconstructing the historical Rio Grande ecosystem: A stable isotope study of fish communities using museum specimens. Award $6,090.00 University of New Mexico Large Research Allocations Award

1999 (PI/PD) Temporal genetic variation and the effective population size of the Rio Grande silverly minnow. Award $4,000 New Mexico Department of Game and Fish

Pending (PI/PD) Population Biology: A comparative study of life history and demographic effects on the ration of genetic effective population size to census size in Rio Grande fishes. Requesting $353,000.00 National Science Foundation

Pending (PI/PD) Biological Research Collections: Improvements to the Museum of Southwestern Biology, Division of Fishes Phase I: relocation and reorganization. Requesting $150,000.00 National Science Foundation

Pending (CO-PI) Genetic studies of highly migratory fishes of the llanos in Venezuela. Requesting $18,000.00 National Geographic Society

Steven P. Platania, Assoc. Curator and Alexandra M. Snyder, Collection Manager
1999 Cooperative agreement for San Juan River recovery implementation program seven year research plan (No.2-FC-40-12140) supplement to award of $539,527.00 U.S. Bureau of Reclamation

1999 Pecos pupfish life history study (No. 99-516-75) Award $80,000.00 New Mexico Department of Game and Fish, Santa Fe.
Pending (CO-PI w/TFT) Biological Research Collections: Improvements to the Museum of Southwestern Biology, Division of Fishes Phase I: relocation and reorganization. Requesting $170,000.00 National Science Foundation

6. PUBLICATIONS.

A. Publications by Museum staff, students and associates.


Dudley, R.K. and S.P. Platania. in press. Imitating the physical properties of drifting semibuoyant fish(Cyprinidae) eggs with artificial eggs. Journal of Freshwater Ecology


B. Publications and reports based on museum specimens by researchers excluding Museum staff, students and associates.


7. ACTIVITIES IN LEARNED SOCIETIES.

A. Invited or plenary talks

B. Contributed talks or posters.

79th Annual Meeting of the American Society of Ichthyologists and Herpetologists (ASIH) 24-30 June 1999, State College, Pennsylvania


Thomas F. Turner, L.R. Richardson, and J.R. Gold. 1999. Genetic effective population size is much lower than census size in red drum (*Sciaenops ocellatus*) from the northern Gulf of Mexico.

30th Annual Meeting of the Desert Fishes Council (DFC), 12-15 November 1998, Page, Arizona


C. Attendance at professional meetings.

79th Annual Meeting of the American Society of Ichthyologists and Herpetologists (ASIH) 24-30 June 1999 State College, Pennsylvania

Robert K. Dudley
Steven P. Platania
Thomas F. Turner

30th Annual Meeting of the Desert Fishes Council (DFC) 12-15 November 1998 Page, Arizona

Robert K. Dudley
Steven P. Platania
Thomas F. Turner

D. Service as editor or on editorial board of a journal.

E. Service as officer of professional society or organization.

Steven P. Platania Chair. Stoye Student Award in Ecology, American Society of Ichthyologists and Herpetologists (ASIH)
8. OTHER PROFESSIONAL ACTIVITIES.

A. Seminar or colloquium presentations.

University of New Mexico

New Mexico Department of Game and Fish
Steven P. Platania and Robert K. Dudley. 1999. Briefing to the New Mexico Department of Game and Fish: Rio Grande silvery minnow. Presentation to the Director of NMGF. Dr. David L. Propst, NMGF Endangered Species Program.

B. Presentations in a scholarly capacity at hearings, workshops, legislative committees, etc.

1998/99 Army Corps of Engineers, Albuquerque New Mexico
1998/99 U.S. Bureau of Reclamation, Albuquerque New Mexico

C. Presentation to general audience in a scholarly capacity.

Robert K. Dudley Guest lecture for UNM Water Resources WR 573, 6 hours
Steven P. Platania Guest lecture for UNM Water Resources WR 573, 6 hours

D. Service in a scholarly capacity as a member of a local, state, regional or national committee, panel.

Steven P. Platania 1998/99 Rio Grande silvery minnow Recovery Team
Steven P. Platania 1998/99 San Juan River Research Team
Steven P. Platania 1998/99 Pecos River Research Team
Thomas F. Turner 1998/99 Reviewer for National Science Foundation, grant proposal in systematics

E. Journal referee. List journals and number of papers refereed by each division member in alphabetical order.

Steven P. Platania Copeia 2 papers
Southwestern Naturalist 2 papers
Transactions of American Fisheries Society 1 paper

Thomas F. Turner Copeia 3 papers
Journal of Heredity 2 papers
Marine Ecology Progress Series 3 papers

9. SERVICE.

A. Symposia, workshops, conferences, etc. sponsored, organized, held etc.

B. Public Service.
Alexandra M. Snyder 1. Data manager for American Society of Ichthyologists and Herpetologists database on Supplies and Practices
2. Handles all inquiries regarding curatorial practices and supplies for fishes and herps. 19 queries for an average of 20 minutes to respond either by email, fax or mail.
3. Inquiries regarding animal identification, care and behavior. 7 queries for an average of 45 minutes to respond either by phone, fax or mail to 7 questions.

10. ADVANCED STUDY, HONORS, AWARDS, FELLOWSHIPS, ETC.

11. DONATIONS AND GIFTS RECEIVED.

<table>
<thead>
<tr>
<th>Accession No.</th>
<th>Source</th>
<th>Taxa</th>
<th>Number of lots/specimens</th>
</tr>
</thead>
<tbody>
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<td>1998-X:6</td>
<td>Cornell University</td>
<td><em>Prochilodus mariae</em></td>
<td>1/32</td>
</tr>
<tr>
<td>1998-XI:6</td>
<td>University of Michigan</td>
<td><em>Cyprinodon fontinalis</em> paratopotype</td>
<td>1/30</td>
</tr>
<tr>
<td>1999-IV:27</td>
<td>R.W. Dickerman, MSB</td>
<td><em>Histrio histrio</em></td>
<td>1/1</td>
</tr>
<tr>
<td>1999-V:28</td>
<td>B.K. Lang, NMGF</td>
<td><em>Cycleptus &amp; Moxostoma</em></td>
<td>2/6</td>
</tr>
</tbody>
</table>

12. FY98/99 STAFF
Thomas F. Turner, Curator of Fishes
Steven P. Platania, Associate Curator of Fishes
Alexandra M. Snyder, Collection Manager & San Juan River Research Assistant
Robert K. Dudley, Biotatistics and Project Leader
W. Howard Brandenburg, Taxonomic Services and Field Work Coordinator
Stephen R. Davenport, Curatorial Assistant and Field Work Coordinator
Michael A. Farrington, Undergraduate Field Work and Lab
Don E. Gibson, Undergraduate Field Work and Lab
James N. Stuart, Field Work and Lab
Joshua R. Walters, Undergraduate Field Work and Lab
Ashley P. Cramer, Undergraduate Student Curatorial Assistant
Moshe Kiflawi, Graduate Student Curatorial Assistant
W. Scott Knapp, Undergraduate Student Curatorial Assistant
Eric Markham, Undergraduate Lab Assistant
Julie Lucero, Undergraduate Lab Assistant
Keitha Wisdom, Undergraduate Lab Assistant

13. MUSEUM ASSOCIATES.
Brooks M. Burr, Professor of Zoology, Southern Illinois University, Carbondale
Astrid Kodric-Brown, Professor of Biology, University of New Mexico, Albuquerque
David L. Propst, Ph.D. Endangered Species Program, New Mexico Department of Game and Fish, Santa Fe
1. DIVISION HIGHLIGHTS

The vascular plant holdings of the herbarium now exceed 95,600 specimens. Funding from the State Land Office was used to hire students for continuing database computerization. There are now more than 37,600 specimens cataloged in FileMaker Pro 4.0 (~40%).

Several donations are noteworthy. We received more than 300 botanical and ecological books from Loren Potter, Professor Emeritus, UNM, that will complement our current library holdings. The Bandelier National Monument (National Park Service) donated 300 duplicate specimens to the UNM Herbarium from the monument and surrounding area (i.e., Jemez Mountains, Los Alamos and Sandoval counties). These specimens were mounted, data-based and are now part of the permanent collection. Research Associate, R.C. Sivinski, donated more than 300 specimens from the Cibola National Forest Herbarium. Many specimens required re-mounting and are incorporated in the collection.

Jane Mygatt, collection manager, and Tim Lowrey, curator, are working on a Checklist of the Flora of the Sevilleta National Wildlife Refuge. Collecting, identification and processing continue on this project.

Herbarium staff, students, and museum associates are playing an integral role in the New Mexico Rare Plant Technical Council (NMRPTC). The NMRPTC is a diverse group of botanists working on a web manual of rare plants in New Mexico. Herbarium staff and students are creating and editing the reports and have created the web pages for the NMRPTC (http://biology.unm.edu/~herb/nmrptc/home.htm).

Visiting professor Christopher Quinn, University of New South Wales, is spending a portion of his sabbatical at the UNM Herbarium collaborating with Tim Lowrey. They are investigating the molecular phylogeny of Hawaiian and Cook Island Tetramolopium (Asteraceae).

2. TABLE OF COLLECTION USE

<table>
<thead>
<tr>
<th>Specimens</th>
<th>Facilities</th>
<th>Staff Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,072</td>
<td>32/856</td>
<td>35/1269 306/110 95 23</td>
</tr>
</tbody>
</table>

3. COURSES USING THE COLLECTIONS

BIOL 463L Flora of New Mexico (48 students) specimens, facilities and staff participation
BIOL 360L General Botany/Lab (~30 students) specimens from teaching collection are used
BIOL 461 Introduction to Tropical Biology (18 students) facilities, staff participation
BIOL 563L Advanced Plant Taxonomy (6 students) specimens, facilities and staff participation
4. COLLECTION MANAGEMENT

Herbarium staff processed more than 3,000 specimens into the collection. Much of the backlog of previous years was completed and efforts are now concentrating on processing accessions from the latter part of the 1999 calendar year. Work continues in data processing and more than 10,000 records were entered during the past fiscal year. Data from approximately 37,600 specimens are now in the computer database. Efforts continue on updating the nomenclature as specimens are entered in the database.

Several large plant families previously have been entered in the database. Another large family, the Fabaceae is underway. A Hewlett-Packard CD-Writer Plus was purchased for backing-up the specimen-based database, which is done on a daily basis. To insure the long-term preservation of the collections, efforts continue in replacing worn and acidic genus folders for the entire collection.

Three new herbarium cabinets were purchased with funds from the LTER. In addition, silicon sponge stripping for restoring 12 herbarium cabinets was purchased. Full-spectrum lighting was installed to enhance the work environment and quality of light in the herbarium.

Jane Mygatt spent several days at the Sevilleta advising and assisting LTER staff on herbarium collections priorities and preventive insect infestation guidelines. In addition, the LTER collections were brought to UNM for monitoring processing, nomenclature updates, and data-basing.

5. AWARDS, GRANTS, AND CONTRACTS

Students:

Faculty:

Lowrey, T.K.
New Mexico 130 Rare Plant Mitigation Project, Otero Co. T.K. Lowrey, PI.


Relocation and Compactorization of the Museum of Southwestern Biology T.K. Lowrey, PI. National Science Foundation August 1, 1997-present. $313,000


6. PUBLICATIONS

A. Publications by museum staff, students and associates.

Newsletters:

Bleakly, D.L. 1998. A key to the Penstemons of New Mexico. The New Mexico Botanist. No. 9

Keller, C.F. 1999. New Mexico Solidagos: A Preliminary Look at a Difficult Problem, with a Tentative Key. The New Mexico Botanist. No. 11

Books:


Reports:


Sivinski, R.C. 1998. Results of Field Surveys for Rare and Endangered Plants on New Mexico State
Trust Lands. Submitted to NM State Land Office, Santa Fe, and US Fish and Wildlife Service.

Journal Articles:


Web Publications:

Mygatt, J.E.
Status Reports for the New Mexico Rare Plant Technical Council. Reports for: Iliamna grandiflora, Salix arizonica, Primula rusbyi, Stellararia porsildii.

Plant Taxonomists Online (PTO). International e-mail directory of more than 850 plant taxonomists throughout the world, available on the UNM Gopher and the UNM Herbarium homepage (URL: http://biology.unm.edu/~herb/HerbLinks.html#section3

Herbaria Online (HOL). International e-mail directory of more than 100 herbaria throughout the world, available on the UNM Gopher and the UNM Herbarium homepage (URL: http://biology.unm.edu/~herb/HerbLinks.html#section3

Collection Managers Online (CMO). International e-mail directory of more than 230 collection managers throughout the world, available on the UNM Gopher and the UNM Herbarium homepage (URL: http://biology.unm.edu/~herb/HerbLinks.html#section3

New Mexico Rare Plant Technical Council Web-page (web editor)
(http://biology.unm.edu/~herb/nmrptc/home.htm)
B. Publications and reports based on museum specimens by researchers excluding Museum staff, students and Associates.


Hubbard, J.P. 1999. *Penstemon pulchellus* Lindl.: A Specious Member of New Mexico’s Flora. The New Mexico Botanist. No. 11


7. ACTIVITIES IN LEARNED SOCIETIES

A. Invited or plenary talks.

B. Contributed talks or posters.


C. Attendance at professional meetings.

*The New Mexico Rare Plant Technical Council:* Sevilleta Field Station, March 1999.

Barlow-Irick, Patricia, Secretary
Bleakly, David  
Carter, Jack L.  
Lowrey, Timothy K.  
Mygatt, Jane  
Sivinski, Robert C., President


D. Service as editor or on editorial board of a journal.

Lowrey, T.K. Editorial board member for MADRONO, Journal of the California Botanical Society  
Sivinski, R.C. Technical editor for the publication of NM Naturalist's Notes

E. Service as officer of professional society or organization.

Barlow-Irick, P. Secretary. New Mexico Rare Plant Technical Council.  
Mygatt, J.E. Web editor. New Mexico Rare Plant Technical Council. Authored 4 rare plant reports for the NMRPTC.  
Lowrey, Timothy K. President-Elect, International Organization of Plant Biosystematists. Sivinski, R.C. Vice-President of the Native Plant Society of NM; Organized the annual meeting of the NM Rare Plant Technical Council, Jan 30-31, 1999; Authored 40 rare plant reports for the NMRPTC.

8. OTHER PROFESSIONAL ACTIVITIES.

A. Seminar or colloquium presentations.

Lowrey, T.K.  

B. Presentations in a scholarly capacity at hearings, workshops, legislative committees, etc.

Sivinski, R.C.  
Conducted a 2 day plant identification workshop (August 1998) for Timber Management Officers of the NM Forestry Division at the UNM Herbarium

C. Presentation to general audience in a scholarly capacity.

Barlow-Irick, P. 1999 Taxonomy as a Contribution to Science webpage URL  
http://largocanyon.org/biology/taxon.htm
D. Service in a scholarly capacity as a member of a local, state, regional or national committee, panel.

_The New Mexico Rare Plant Technical Council_
- Barlow-Irick, Patricia, Secretary
- Bleakly, David
- Carter, Jack L.
- Lowrey, Timothy K.
- Mygatt, Jane
- Sivinski, Robert C., President

_US Fish & Wildlife Service, Region 2, Plant Recovery Team_
- Lowrey, Timothy K., Member
- Sivinski, Robert C. Member

E. Journal referee. List journals and number of papers refereed by each division member in alphabetical order.
- Mygatt, Jane E. Collection Forum (1)
- Sivinski, Robert C. Technical Editor for New Mexico Naturalist's Notes.
- Lowrey, Timothy K. Systematic Botany (1), Sida (1)

9. SERVICE.

A. Symposia, workshops, conferences, etc. sponsored, organized, held etc.

- Sivinski, Robert C.
  Organized the annual meeting of the NM Rare Plant Technical Council, Jan 30-31, 1999

B. Public Service.

- Barlow-Irick, Patricia
  Photographic monitoring of _Cirsium vinaceum_ populations in the Lincoln National Forest.
  Annotation of the Herbarium holdings of Carlsbad Caverns National Park (Continuing project).

- Lowrey, Timothy K.
  Department Committees: Salary, Staff Advisory, Greenhouse, Associate Chair of Biology, Director, Museum of Southwestern Biology

  Departmental committees: Space, Staff Advisory, Greenhouse, Faculty Search Committee: Ichthyologist/Curator of Fishes, Faculty Search Committee: Systematist/Phylogeneticist, Museum Administration Committee

  University committees: Academic Freedom and Tenure, Investigative sub-committee, Vice-President for Research Committee on Libraries


  Departmental Committees: Greenhouse, Research Day
10. ADVANCED STUDY, HONORS, AWARDS, FELLOWSHIPS, ETC.

11. DONATIONS AND GIFTS RECEIVED.

1998.10 MSB mammals, P. Polechla gift of 12 specimens
1998.11 J. Carter, gift of 42 specimens
1998.12 J. Cutts, gift of 1 specimen
1998.13 C. Saavedra, gift of 1 specimen
1998.14 MSB Mammals, gift of 25 specimens
1998.15 NMNHP, Y. Chauvin, gift of 150 specimens
1998.16 MSB Mammals, L. Ruedas, gift of 2 specimens
1998.17 Michigan State University, exchange of 78 specimens
1999.01 J. Ladyman, gift of 2 specimens
1999.02 R.C. Sivinski, gift of 191 specimens
1999.03 J. Ladyman, gift of 1 specimen
1999.04 Bandelier National Monument, gift of 297 specimens
1999.05 NMNHP, S. Wood, gift of 117 specimens
1999.06 Cibola National Forest (gift from R.C. Sivinski) 240 specimens
1999.07 SJC, K. Heil, exchange of 529 specimens
1999.08 UTEP, R. Worthington, gift of 53 specimens
1999.09 E. Van Arsdel, gift of 25 specimens
1999.10 G. Jercinovic, gift of 2 specimens
1999.11 D. Sax, gift of 66 specimens
1999.12 J. Carter, gift of 1 specimen
1999.13 R.D. Ivey, gift of 185 specimens from Gray Ranch
1999.14 J. McGrath, gift of 118 specimens
1999.15 J. Hubbard, gift of 15 specimens

12. CURRENT STAFF. List faculty, staff, students and volunteers

Faculty and Staff
Timothy K. Lowrey, Curator and MSB Director
Jane Mygatt, Collection manager
Alan Christensen, Herbarium curatorial teaching assistant

Graduate students
Patricia Barlow-Irick
Laura Boykin
Allan Christensen
Christopher Frazier
Jerusha Reynolds
Phil Tonne
Steven Yanoff

Undergraduate student workers
Jennifer Agosta (work-study employee)
Megan Jones (REU student employee)

Temporary student employees
Julie C. Hagelin
Rebecca Keeshen
13. MUSEUM ASSOCIATES

Curatorial Associates
David L. Bleakly, M.S. Botanical Consultant. NM floristics.
William Dunmire, M.S. Nature Conservancy (retired); Author, Ethnobotany of the Southwest.
Robert DeWitt Ivey, M.S. APS (retired); Botanical Author, NM floristics.
Robert C. Sivinski, M.S. Botanist, Forestry & Resources Conservation Division.

Research Associates
Jack L. Carter, Ph.D. Professor Emeritus of Biology, The Colorado College
Daniel J. Crawford, Ph.D. Professor of Plant Biology, Ohio State University
William Hevron, M.S. Botanical Consultant. NM floristics
Denis M. Kearns, Ph.D. Plant ecologist, consultant
Charles Keller, Ph.D. Director, Institute of Astrophysics, Los Alamos Scientific Labs
Paul Knight, M.S. Botanical Consultant for Marron and Associates. NM floristics, T&E species
Juanita Ladyman, Ph.D. Botanical Consultant
Louise Lewis, Ph.D., Department of Biology, UCONN.
Paul O. Lewis, Ph.D., Department of Biology, UCONN.
Esteban Muldavin, Ph.D. Ecologist, New Mexico Natural Heritage Program.
Alan Tye, Ph.D. Head, Dept. of Plant and Invertebrate Sciences, Charles Darwin Research Station
1. DIVISION HIGHLIGHTS.

The duties of the Collection Manager (CM) were re-structured a bit to allow for more direct focus on the division in light of the impending move. An interim CM was appointed for the Division of Biological Materials to assume responsibility over the day to day operation of that division. With the increase in activity in mammalogy, this change was a welcome relief. The Curator played out his final year as Biology Department Chair, and will be returning to normal duties in the division. We have also endured a cramped and declining collection facility. We only hope our ceiling tiles are replaced by winter!

The projects driving this activity included the *Hantavirus* research (and other, related emerging viruses projects), the Long-term Ecological Research Project at the Sevilleta (Mike Friggens managed two 4 person field crews) emerging virus work in Sulawesi, Guinea, Chile, and the New Mexico Bat Project. Several major grants were awarded (see Grants and Awards below), and the number of grant-funded staff increased.

Current and planned research within the Division:

As curator and directing the progress of the division, Dr. Yates' research program is multi-disciplinary in nature but has been focused primarily on systematics and biological diversity. Much of his most recent work has been centered within questions involving the mammalian diversity, in particular centered on systematics and ecology of South American rodents and in emerging viruses globally. As a co-PI with the LTER project, his research group on the Sevilleta is focusing on climate and productivity driven controls on mammalian populations and the degree to which fluctuations in population density affect levels of infection by *Hantavirus*. Additional support for the latter research has been awarded to his program by the CDC, NIH, and NSF. A separate grant from the National Biological Service to examine the effects of climate change on small mammal populations on mountain tops has allowed the addition of an altitudinal component to this research. Other projects include bat surveys (using echolocation detectors), fur-bearer study, and a revised *Mammals of New Mexico* book.

2. TABLE OF COLLECTION USE.

3. UNM COURSES USING THE COLLECTIONS. List the courses including; course number, approximate number of students enrolled, type of use (specimens, facilities, staff participation, etc.).

- Biology 121: Principles of biology
- Biology 122: Principles of biology
- Biology 386: General vertebrate zoology
- Biology 402/502: Adv Vertebrate Biology
- Biology 489: Mammalogy
Biology 554: Advanced Mammalogy
Art 412: Museum management
Anthro 449: Paleontology

The following courses used the collection extensively as part of their course work:
Biology 489: Mammalogy - 23 students (1998)
Biology 502: Advanced vertebrate biology - 20 students
Biology 502: Topics in Chromosomal Evolution - 6 students
Biology 651: Advanced Field Biology - 3 students
Biology 512: Population Biology - 14 students
Biology 554: Mammalian Ecology and Behavior - 14 students

4. COLLECTION MANAGEMENT.
The Division manages its 120,000 specimen records using Microsoft® Access©. After a major re-write of the database management system, we have been testing and collecting comments for improvement of this system. In the next fiscal year (fall, 1999) more programming will be contracted to complete the system and move to the Biological Materials division for updating that program. The Access© program has now set the stage to expand to web site posting or network information transfers between divisions of the MSB or among mammal collections at other institutions.

We have kept the pace of last years’ growth by cataloging 5350 specimens. Although much of this material was generated from work on the Hantavirus project, several other projects contributed. Luis Ruedas (post-Doc) went to Malaysia in May of 1998 and returned with stories and ca. 500 specimens. CDC generated specimens for the division from Argentina, central Africa, and Indonesia. Gabor Racz brought material from Hungary to support his dissertation. This coming year, we have a large backlog of material from the LTER (Sevilleta) project that will be knocked out this winter. In addition, material from Guinea (about 1000 specimens) now has complete data and will be cataloged. It appears that our +5000 specimens rate of entering material into the collection will continue for the next few years to come. Although the division currently ranks 7th in the Western Hemisphere, we may be able to “catch” closely ranked collections of University of Michigan (140,000), University of Kansas (156,000) and the Field Museum (156,400) before the next decade’s collection survey.

Interesting accessions included wolves from the captive-release program on the AZ-NM border. The division is the depository for all wolf mortalities. One such accession was an animal that had been shot, another was apparently hit-by-cars. We have noted to the USFWS that we mortalities occur it is imperative that they provide us with the specimen as quickly as possible and with all possible data. In the past we have received specimens in poor to rotten condition that make them useful only for a skeleton; foregoing all genetic and ecological data. They have responded to our needs.

We continue to accept material from the Rio Grande Zoo and NM Department of Game and Fish. With the NMDGF, Dr. Greg Schmitt has been collecting foxes and mountain lions as part of an on-going management study. Aside from generating specimens, Greg is also working with Dr. Jerry Dragoo in examining genetic relationships. Dr. Paul Polechla’s fur-bearer study generated some interesting diversity of specimens from northern New Mexico. Dr. Bill Gannon’s last (of five) year of surveying bats in New Mexico closed with some new county records among the vouchers. Specimens generated from the mammalogy class (Fall 1998) have been cataloged and installed. We also accepted a final accession of mounted heads and other wildlife exhibits from Gloria Longley. We hope to use some of this bulky material around the new collection space.

In response to a request by the CM, the USFWS awarded $5600 to provide new cases to the division to better house wolf specimens. We are trying to hold off on accepting these cases until we move to the new
building. We did receive 10 new Delta Designs cases (white, with drawers) as part of a supplement we wrote to the LTER grant. Another 5 cases are expected in September 1999.

5. AWARDS, GRANTS, AND CONTRACTS. List grants applied for and received. Include PI(s), grant title, agency, duration, and award amount. List alphabetically by PI. Please categorize under the following headings: Students, Faculty, Post-docs, Associates.

Faculty:
Terry L. Yates- PI:


*The Sevilleta LTER, Cycle II* NSF October 1994- September 2000 $580,000


*Longitudinal Studies of Hantavirus in SW US Rodent Populations* Indian Health Service September 1996-May 1999 $101,800

*Longitudinal Studies of Hantavirus in SW US Rodent Populations* CDC September 30 1996- August 31, 1999 $191,500

*Relocation/Consolidation of the Research and Training Facility of the Department of Biology* NSF March 1997- May 31 1999 $960,000

*Ecology of Hantavirus Enzootics: Immune Interventions* NIAID August 1997- July 2002 $176,365

*Hantavirus Ecology and Disease in Chile* NIH/NIAID June 1 1999-May 31 2004 $621,840

*ICIDR Portable flow-through Amperometric Immunosensor Device for Fast Field Immunoanalysis of Rodent Virus* NSF January 1998-December 2001 $167,500

*Response of SW Mammal Communities to Global Climate Change* US Fish/Wildlife Service September 1998- September 1999 $50,000

*Knowledge Networking of Biodiversity Information* KDI/KN NSF September 1 1998- August 31 2001 $660,000


Biological Diversity of New Mexico State Trust Land. PI. New Mexico Land Office, 16 Dec 1996 - 30 June 1999, $10,000.

Post-Docs:
Jerry W. Dragoo:
Examine the genetics and speciation questions with foxes (Genus Vulpes) in New Mexico. Cost-share project with the US Fish and Wildlife Service and the New Mexico Department of Fish and Game. 1997-1999. $20,000


New Mexico Game and Fish ($20000) to study population genetics of swift and kit foxes in New Mexico, using Microsatellite DNA analysis, 1998.

Luis A. Ruedas

Students:
M. Scott Burt: Graduate research allocations (GRAC) and travel grant, department of Biology, UNM, 1998, $400 Morphological and genetic variation in the subspecies of Thomomys bottae in New Mexico, Student research allocations (SRAC), UNM 1998, $650
GRAC funding, $350.00; SRAC funding, $500.00; VPGRF award, $150.00

New Mexico Department of Game and Fish, Share with Wildlife, Morphological and genetic variation in the subspecies of Thomomys bottae, $4800, 1 June 1999 - 2000

J. Salazar Bravo: Funded research to Ecuador NSF dissertation improvement grant - $20,000

Gabor Racz - Funded research to Hungary, summer 1999

Staff:
William L. Gannon:
--Awarded: 1998. National Geospatial Data Clearinghouse of State Biodiversity Laws and Policies and the Systematics, Ecology, and Life History of Mammals of the Southwest. The purpose of this project is to adapt the existing data collections of CWL and MSB to the draft National Biological Information Infrastructure (NBII) standards for biological data which are in accordance with the Federal Geographic Data Committee (FGDC)-endorsed Content Standards for Digital Geospatial Metadata. $90,000.
--Web-based echolocation call voucher system: US Fish and Wildlife Foundation - $20,000; 1999-2000
Survey of West Point Military Reservation, New York, $22,500 - 1999-2000
Mammals of New Mexico, 2nd Edition. New Mexico Department of Game and Fish, Share Wildlife Program. $2500
Bat Survey 1998: Bat Conservation International; survey of five NM - BLM Lands
Bat Survey 1998: New Mexico Depart of Game and Fish, Share with Wildlife Program,
Bat Survey 1998: US Fish and Wildlife Service (supplement to 3-42063; $11,733),

Paul Polechla:

GRANTS PENDING
Wellcome Trust-Burroughs Wellcome Fund Collaborative Grants to Support Research in Prevention, Treatment, and Control of Infectious Diseases in the Tropical Developing World ($3,923,847)
Emerging Infections: The role of climate change, ecology, long-term processes, and human land use patterns in the development of new surveillance, detection, and prediction methodologies. With Terry L. Yates, Andrew C. Millington, Alberto Gianella Peredo, Jorge Salazar Bravo, Gregory E. Gurri Glass, Brian Hjelle, and Karl M. Johnson

Recommended for funding, May 1999. Not funded, June 1999. Continuing Success For Minority Undergraduates In Environmental Biology through Career Enhancement And Training at the Museum of Southwestern Biology (UMEB; Undergraduate Mentoring in Environmental Biology). With Jerry W. Dragoo, Submitted to the National Science Foundation, $272,879 for 4 years. This grant was written with the intention of providing undergraduate assistance for each division of the MSB in order to assist with the move to the new facility and to learn collection management through museum training and mentoring projects.

PUBLICATIONS.
Categorize under the following headings: Books, Journal articles, Reports. List the entries alphabetically by author with the relevant museum personnel in bold if a multi-authored publication.

NOTE: Publications listed below are only those that used specimens from the collection to prepare the paper. This listing does not represent the total number of papers published by division staff.

Journals:


Technical Reports


7. ACTIVITIES IN LEARNED SOCIETIES.
A. Invited or plenary talks.

J. Dragoo. A skunk by any other name. Presented at the Willi Hennig Society and the American Society of Mammalogists.


J. Dragoo. Can skunks spray while being held by the tail? Presented at the Southwestern Association of Naturalists.

DNA fingerprinting of mountain lions in New Mexico. Presented by Sandra B. Legler at the 7th Annual Research Day UNM Biology Department.


J. Dragoo. Microsatellite Variation in Swift/Kit foxes in New Mexico. Presented at the Southwestern Association of Naturalists Annual Meeting in Monterrey Mexico on 22 April 1999 by Kelby D. Willoughby.


Tinnin, D.S. Temporal fluctuations in habitat utilizations by Peromyscus truei (Rodentia: Muridae). In Prep.


D. Service as editor or on editorial board of a journal.

Gannon: Editorial Committee - Series Editor, Publications of the Museum of Southwestern Biology
Yates: Managing Editor, Publications of the Museum of Southwestern Biology
Review Editor, American Society of Mammalogists, Journal of Mammalogy
E. Activities—service as officer of professional organization

Burt:
Member of Web committee, ASM
Organizing Committee, Southwestern Naturalists, April 1998

Gannon:
Chair, Systematic Collections Committee (American Soc. of Mammalogists), 1996 - present
member, Systematic Collections Committee (American Soc. of Mammalogists), 1992 - 1998
member, International Regulations Committee (Amer Soc. of Mammalogists), 1996 - present
member, Information Retrieval Committee, (American Soc of Mammalogists), 1988 - present
Society for the Preservation of Natural History Collections - member
Member, Main Campus Animal Care and Use Committee, UNM, 1990 - present
Organizing Committee, Southwestern Naturalists, April 1998

Ruedas:
International Relations Committee, American Society of Mammalogists
Committee for the Conservation of Land Mammals, American Society of Mammalogists
Program Committee, American Society of Mammalogists
Ad hoc Web subcommittee of the Information Retrieval Committee (ASM)
Organizing Committee (Co-chairman), Joint American Society of Mammalogists — European Mammal
Organizing Committee, Southwestern Naturalists, April 1998

Yates:
Trustee, Southwestern Association of Naturalists, 1992 - present.
Trustee, American Society of Mammalogists, 1996 - present.
Research Assistant, Department of Wildlife and Fisheries Sciences, Texas A & M University, January 1973-
May 1975.
Global Environmental Facility - World Bank - Biodiversity Subcommittee.
Latin American Biodiversity Committee - Smithsonian Institution.
Bio Task Force on Environmental Biology, The NSF.
Research Needs Committee - Ecological Society of America.
International Relations Committee, Chair, ASM.
Coordinating Committee for Latin American Exchanges Land use Committee
International Policy Committee
Grants Committee Latin American Institute
Academic Freedom and Tenure Committee
Council on the Americas
Main Campus Animal Care and Use Committee, Chair
Organizing Committee, Southwestern Naturalists, April 1998

8. OTHER PROFESSIONAL ACTIVITIES. List alphabetically under each category.
   A. Seminar or colloquium presentations.
   B. Presentations in a scholarly capacity at hearings, workshops, legislative committees, etc.
   C. Presentation to general audience in a scholarly capacity.

Dragoo, Jerry
Jerry Dragoo's Postscript: "The popular media has picked up my research on skunks. I have been
featured in local newspapers, radio stations, and television around the country and Canada. I have been
featured nationally on NPR, ABC's webpage (twice - once a poll was taken to determine if I was Mad or
Rad; 80% voted Rad!), People Weekly, Outside Magazine (twice), Discover Magazine, and Current
Science (a science journal for children). Internationally, I have been featured in Nature Canada and have
appeared on the television program Scientia in Brazil." Everyone's 15 mins of fame.
D. Service in a scholarly capacity as a member of a local, state, regional or national committee, panel etc.

E. Journal referee. List journals and number of papers refereed by each division member in alphabetical order.

Gannon:
Journal of Mammalogy
Bat Research News
Southwestern Naturalist

Ruedas:
× Fieldiana (Zoology), New Series
× Journal of Mammalogy
× Proceedings of the Biological Society of Washington

9. SERVICE.

A. Symposia, workshops, conferences, etc. sponsored, organized, held etc


Gannon - Workshop on the operation of the Anabat bat detector system (with Chris Corben and Mike O’Farrell), Portal, AZ, May 1999


Gannon - Bats of New Mexico, State Working Group. State Meeting organized 20 February, 1999, Sheraton Old Town, Albuquerque, NM.

B. Public Service.

Gannon - President, Near North Valley/Old Indian School Neighborhood Association, elected 1995-1998. 3,000 member neighborhood association in Northwest Albuquerque, NM.


Judge, Regional Science Fair, 1988- present

Yates
Elected Trustee, Southwestern Association of Naturalists.
Chair, Main Campus Animal Care and Use Committee, UNM
Chair, Department of Biology, University of New Mexico - 1 Aug 1995- 31 July 1999.

10. ADVANCED STUDY, HONORS, AWARDS, FELLOWSHIPS, ETC. List alphabetically under each division member.
11. DONATIONS AND GIFTS RECEIVED. List source and type (e.g., specimens, money, equipment, books, etc.)

700 rodent specimens from Dr. Troy Best, Auburn University;
300 head mounts from Gloria Longley, Albuquerque, NM
35 books from

12. CURRENT STAFF. List faculty, staff, students and volunteers.
Terry L. Yates  Students:

Current graduate students:
Burt, M. Scott (for Ph.D.)
Cheng, Yi-Ju (for Masters)
Dunnum, Jon (for Masters)
Friggins, Michael T. (for Masters)
Garcia, Andres (for Ph.D.)
Perry, Travis W. (for Ph.D.)
Racz, Gabor R. (for Ph.D.)
Salazar Bravo, Jorge (for Ph.D.)
Suzan, Gerardo (for Ph.D.)
Thibeaux, Katherine (for Ph.D.)

Current Postdoctoral Associates:
Dragoo, Jerry W.
Ruedas, Luis A.

13. MUSEUM ASSOCIATES AND STAFF.

Curatorial Staff, Division of Mammals

Professional Staff
Terry L. Yates Curator - 1978 - present
Mike Bogan (Curator of Vertebrates, USGS) -
James S. Findley - Curator Emeritus
William L. Gannon - Collections Mgr, 1986 - present
Cindy Ramotnik-(Collection Manager, USGS)

Additional Staff (1999)
Leif Bang - (WS-mammals)
Anne Brown (Garry) - (RGZ volunteer)
Scott Burt, (Graduate Assistant Curator, Mammals)
Polly Campbell - GC Grant -
Peggy Case - (RGZ volunteer)
Roni (Yi-ju) Chen (MS student, Yates)
Jerry W. Dragoo (Res Asst Professor; Mephitologist, Genetics),
Jon Dunnum, (Hanta Crew Chief) -
Brian Frank (Hanta Crew)
Mike Friggens - (LTER field Coordinator)
Andrés Garcia, (Ph.D. student, Yates)
Andrea Gunderson - (WS, mammalogy),
Erin Jackson - (WS - mammalogy)
Marcia Piñeda (WS - mammalogy)
Carrie Pippin - (USGS)
Cheryl Parmenter - (HV Data / intrmCM Biol Mat)
Paul Polechla - (Ph. D.; Hanta Crew),
Gábor Rácz - (PhD student - mammalogy, Yates)
JC Richardson - (Secretary, USGS),
Luis, Ruedas - (Post-Doc, Mammalogy)
Ryan Schwarz - (Hanta Crew)
Gerardo Suzan (Ph. D. student, mammalogy, Yates)
Amaris Swann - (WS - mammalogy),
Jorge Salazar (Phil student, Yates)
Jackie Salazar - (GC Grant -)
Timothy Sanchez-Brown (Web Meister & GIS)
Rick Sherwin (PhD student, Altenbach),
Kate Thibault; (Ph. D. Student, Mammalogy - Yates)
Dave Tinnin - (Hanta crew)
Ernest W. Valdez - (USGS)
Dusty Wells (Hanta Crew)

Curatorial Associates:

James H. Brown
Richard B. Forbes

UNM Department of Biology
Department of Biology, Portland State University,

Research Associates:

J. Scott Altenbach
Sydney Anderson
Robert J. Baker
Troy L. Best
Joseph A. Cook
Scott L. Gardner
Sarah B. George
Gary L. Graham
David J. Hafner
Edward J. Heske
R. Dewitt Ivey
Clyde Jones
Dwight W. Moore
Robert Parmenter
James L. Patton
Richard A. Smartt

UNM Department of Biology
American Museum of Natural History, New York
The Museum, Texas Tech University, Lubbock, TX
Department of Biology, Auburn University
Natural History Museum, University of Alaska, Fairbanks
Dept. Nematology, Curator, University Nebraska
Director, Utah State Museum
Texas Parks and Recreation Division
New Mexico Museum Nat. History
Illinois Biological Survey
Retired, Active in Botany, mammals
The Museum Texas Tech University
Emporia State University
Department Biology, LTER coordinator
Museum of Vertebrate Zoology, University of California
New Mexico Museum of Natural History
1. DIVISION HIGHLIGHTS.

Noteworthy activities by staff of the Arid Lands Field Station of the Midcontinent Ecological Science Center, Museum of Southwestern Biology, occurred in three general areas: field studies, museum collections management, and reporting. Field studies during this period included continuing studies of Arizona water shrews, Mexican long-tongued bat, and food habits analyses of bats; new studies of roosting habits of the big free-tailed bat in southeastern Utah; and baseline surveys for bats at Chaco Canyon and El Malpais. Long-term population monitoring of Sacramento Mountain salamanders was continued. Significant progress was made in the area of Collections Management, especially in eliminating the backlog of USGS specimens awaiting cleaning and numbering, and completing computerized specimen data entry for all USGS collections. The USGS Collection Manager spent considerable time training and assisting work-study students and volunteers in improving their skills in skeletal processing, numbering, and maintenance of the beetle colony. This period also witnessed excellent reporting productivity by staff of the station: 15 original articles were published in books and journals, including a significant report by Bogan et al. on status and trends of southwestern natural resources; 4 reports were issued, including an important report on bat roosts and historic structures (Bogan and Geluso) and a report on the status and reproductive biology of gypsum broomscale (Ladyman et al.). Three websites were updated and maintained. Several staff attended important scientific meetings and some of that number made presentations on their work.

2. TABLE OF COLLECTION USE.

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* plus 18/219 accessioned

3. COURSES USING THE COLLECTIONS.

Conservation Biology 25 students staff participation/lecture

4. COLLECTION MANAGEMENT.

- eliminated backlog in skeletal cleaning and numbering in USGS collections;
- current with specimen data entry for USGS collections;
- Collection Manager trained all work-study students and volunteers (N=14) in Divisions of Mammals and Birds in skeletal processing and numbering, maintenance of dermestid beetle colony; integrated pest management procedures, and replacement of case gaskets;
- modified the two dermestid bugging facilities (indoor and outdoor) to improve the efficiency of the operation;
- developed USGS protocol on Intradepartmental Loans with the MSB.
- continued work with university colleagues in development of guidelines and written protocols for integration of the mammal collections;
5. AWARDS, GRANTS, AND CONTRACTS.

Faculty:


Impacts of global climate change on Chihuahuan Desert vegetation. Laura Huenneke, Principal Investigator, New Mexico State University. USGS Global Climate Change Program, $450K, FY92-99.

Predicted response of southwestern montane mammal communities to global climate change. Terry L. Yates, Principal Investigator, University of New Mexico. USGS Global Climate Change Program, $263K, FY94-99.


Curatorial upgrade of the U. S. Geological Survey biological collections at the University of New Mexico. Cindy A. Ramotnik, Principal Investigator. USGS, Midcontinent Ecological Science Center, Internal competition for redirected funds. $75K, FY98-02.

Post-doctoral Affiliates:

Predicted response of southwestern montane mammal communities to global climate change, Jennifer Frey, Postdoctoral Affiliate, University of New Mexico. USGS Global Climate Change Program, $263K, FY94-99.

6. PUBLICATIONS.

   A. Publications by Museum staff, students and associates.
Book Chapters:


Journals:


Reports:


Websites:


B. Publications and reports based on museum specimens by researchers excluding Museum staff, students and associates.


7. ACTIVITIES IN LEARNED SOCIETIES.

A. Invited or plenary talks.

Bogan. USDA/DOI Joint workshop on declining pollinators, Logan UT. “Status of bat pollinators.”

B. Contributed talks or posters.

Geluso and Bogan: American Society of Mammalogists Annual Meeting, Seattle, WA. “Selection of maternity roosts by little brown bats (*Myotis lucifugus*) in human-made structures.”


C. Attendance at professional meetings.

Bogan: American Society of Mammalogists.

Cryan: Arizona Sonoran Desert Museum, Workshop on declining pollinators.

Geluso: American Society of Mammalogists.

Ramotnik: Society for the Preservation of Natural History Collections.

Valdez: American Society of Mammalogists.

D. Service as editor or on editorial board of a journal.

Bogan: Editorial Board, Occasional Publications and Special Publications, Museum of Southwestern Biology, University of New Mexico.

Ramotnik: Associate Editor, Collection Forum (Society for the Preservation of Natural History Collections).

E. Service as officer of professional society or organization.

Bogan: Colorado Bat Society: Regional representative; American Society of Mammalogists: Scientific Collections Committee.

Ramotnik: Society for the Preservation of Natural History Collections: Conservation Committee (Chair, Resources Subcommittee); Membership Committee; and Publication Committee.

8. OTHER PROFESSIONAL ACTIVITIES.

A. Seminar or colloquium presentations.

Bogan: Biological research in the US Geological Survey. UNM Conservation Biology Class, D. Ligon.

B. Presentations in a scholarly capacity at hearings, workshops, legislative committees.

Bogan: Natural history of bats in New Mexico. Bats and abandoned mines workshop, Bat Conservation International and Bureau of Land Management, Socorro.

Valdez: Jemez Mountains Symposium on Biological Research, Santa Fe. "Continued studies of bats at Los Alamos National Laboratory and Bandelier National Monument: FY98 report (with Bogan).

C. Presentation to general audience in a scholarly capacity. N/A

D. Service as a member of a local, state, regional or national committee, panel etc. N/A
E. Journal referee.

Bogan: Great Basin Naturalist (2); Southwestern Naturalist (4); Journal of Mammalogy (3)

Ramotnik: Collection Forum (1).

9. SERVICE.

A. Symposia, workshops, conferences, etc. sponsored, organized, held etc. N/A
B. Public Service. N/A

10. ADVANCED STUDY, HONORS, AWARDS, FELLOWSHIPS, ETC. N/A
Keith Geluso’s talk on historic structures and bat roosts was selected as one of the top 10 student presentations at the 1999 meeting of the American Society of Mammalogists in Seattle, WA.

11. DONATIONS AND GIFTS RECEIVED.

U.S Forest Service: mammal and bird specimens
Navajo Natural Heritage Program: mammal specimens
New Mexico Department of Game & Fish: mammal specimens

12. CURRENT STAFF (98-99).

Michael A. Bogan -- Project Leader
Polly Campbell -- Biological Science Technician
Gerald Joe Candelaria -- Museum Technician
Cristina Chavez -- Museum and Biological Science Technician
Catherine Crossier -- Museum Technician
Paul M. Cryan -- Wildlife Biologist
Tanya Dewey -- Biological Science Technician
Keith Geluso -- Wildlife Biologist
Shauna Haymond -- Wildlife Biologist
W. Scott Knapp -- Biological Science Technician
Terry Koontz -- Biological Science Technician
Carrie Pippin -- Museum Technician
Cindy A. Ramotnik -- Collections Manager
J.C. Richardson -- Office Manager
Ernest W. Valdez -- Wildlife Biologist

13. MUSEUM ASSOCIATES.

Robert B. Finley, Ph.D., Boulder, CO.
APPENDIX D

ANNUAL REPORT:
LONG-TERM
ECOLOGICAL
RESEARCH
PROGRAM
I. The Sevilleta LTER Program

Overview. The Sevilleta Long Term Ecological Research Program (LTER) was initiated in October, 1988, and has focused on a suite of ecological hypotheses concerning climate dynamics and the responses of organisms in a biome transition zone in central New Mexico. The Sevilleta LTER research region straddles several major biomes of the Southwest, and the large geographic scale of the Sevilleta region is important for studies that range from genetics and physiology at the organismal level, to the dynamics of biome transition zones. The region is strongly influenced by the El Niño Southern Oscillation (ENSO), with major fluctuations in precipitation on semi-decadal time scales. During the 1998-99 reporting year, 46 LTER research papers have been published or are in press.

Program Organization. In the fall of 1997, Dr. James Gosz returned as the P.I. of the Sevilleta LTER Program, and the 1998-99 period has been one of synthesizing many of the ongoing Sevilleta research data sets. The LTER program still has a major emphasis on the use of the energy/water balance landscape models as an integrating framework for the numerous ongoing studies. Two additional post-doctoral associates were hired in the fall of 1998, one to work on watershed-level evapotranspiration models, and the other to link plant NPP and physiological patterns with remotely-sensed imagery. A major group emphasis on improved integration of the various LTER studies has been accomplished, and this September we will have completed the first year of direct field measures of NPP in each of our major ecosystems: Chihuahuan Desert, Short-Grass Steppe, Juniper-Oak Savanna, and Piñon-Juniper Woodland. Data management efforts have continued to upgrade the Sevilleta Information Management System and make it Y2K compliant. In addition, the updated Internet home page has continued to grow with more of the long-term databases coming on line. All Sevilleta LTER program descriptions and data sets can be viewed at: http://sevilleta.unm.edu/

II. Research Activities

The overall research scheme of the Sevilleta LTER is organized around the relationship of energy and water as limiting factors for ecological processes in the various ecosystems of central New Mexico. The dynamics of energy and moisture inputs at various spatial and temporal scales serve as drivers (both direct and indirect) for the observed patterns and dynamics of Sevilleta’s ecosystems, communities, and populations. We have been developing a series of models that can simulate biological responses to moisture and energy inputs on various scales (from sub-hectare plots to the 100,000 ha Sevilleta National Wildlife Refuge). Once parameterized and calibrated through field measurements and experiments, these models will permit the development of predictive scenarios in which future ecological responses to climate dynamics can be evaluated. The models will rely on inputs from our meteoro-
logical and hydrological studies, vegetation studies, GIS data layers (soils, vegetation map), remote sensing and ground-based NPP measurements, nutrient cycling dynamics, and the interaction studies of important populations of herbivores, predators, and detritivores. The following sections report the most recent progress in each of these areas.

Contents:

A. Meteorology Studies
B. Landscape Modeling Studies
C. Vegetation Studies
D. Nutrient Cycling Studies
E. Animal Studies
F. Disturbance Studies
G. Data Management
H. GIS/Remote Sensing
I. Cross-Site Studies
J. Public Outreach
K. Student Programs
L. Network-level Activities
M. Additional Grant Support
N. Publications

A. METEOROLOGY STUDIES

Climate Data from Sevilleta Meteorological Stations (Doug Moore)

Climate/meteorological efforts during the past year have primarily centered on maintaining the network of seven weather stations on the Sevilleta Wildlife Refuge. Aging of the systems has necessitated increased maintenance and calibration time. In addition, the decision to consolidate all flora and fauna studies on the east side of the Sevilleta refuge, with emphasis being exerted to study the transition zones between the desert shrublands and grasslands, and the juniper-oak savanna and piñon-juniper woodland, required that new stations be established to better monitor the micro-meteorological differences across these transitions. To that end two new station were established, the first at the lower Goat Draw/Blue Springs area and the second at the Five Points desert shrubland to grassland transition area. These stations have been equipped with the basic array of meteorological sensors that exist on the other stations.

Soil moisture monitoring equipment for these new sites is still in the process of being purchased and installed or transferred from other sites.

With 10 full years of meteorological monitoring database management continues to be a major part of the meteorological effort. Efforts continue to increase meteorological/climatological information available on the Network. This includes both raw data and daily, monthly and annual summaries. This information can be accessed via the Sevilleta–Climate Meteorology Home page at the following URL: http://sevilleta.unm.edu/research/local/climate. Work also continues to get all of the data from all of our weather stations incorporated into the LTER network’s centralized database—climDB.
Precipitation Chemistry (Doug Moore)

With the refocusing of work on the Sevilleta transition zones, it was decided that increased monitoring of precipitation chemistry across these zones would also be useful. Collecting funnels were installed in conjunction with each of the new meteorological stations. This increases the number of sites being monitored for precipitation chemistry to eight; there are still 21 sites at which funnel gauges are still being used to measure precipitation inputs.

Estimation of Evapotranspiration Rates (James Cleverly, Doug Moore, Cliff Dahm and James Gosz)

Two projects on the Sevilleta NWR are ongoing which address evapotranspiration (ET), mesoscale transport of energy, and the interactivity of terrestrial ecosystems and the atmosphere. First, a Bowen Ratio Energy Balance System has been deployed in the Short-Grass Steppe site at Deep Well on McKenzie Flats. Evapotranspiration is estimated from the solution of the energy balance equation, where incoming net radiation is equal to the sum of latent heat flux, sensible heat flux and ground heat flux. The tower has been under operation during the growing seasons of 1997, 1998 and 1999, and the data from 1998 have been thoroughly analyzed. ET rate peaked at 200 W m\(^{-2}\) during the July monsoons, during which time the closest relationship between rainfall and precipitation occurred. A manuscript detailing these results is in preparation: Cleverly, J.R., D. Moore and J.R. Gosz. Seasonal patterns of wind structure and Bowen Ratio derived evapotranspiration in a Chihuahuan Desert grassland, Sevilleta LTER, New Mexico.

Connected to McKenzie Flats through the atmosphere is the Rio Grande Bosque (riparian) ecosystem. Evaluation of the landscape-level relationships between the atmosphere and these closely-connected ecosystems was performed by comparing the three-dimensional eddy covariance derived ET rate from the *Tamarix ramosissima* dominated riparian forest to the grassland site, both on the Sevilleta NWR. In this NASA-funded research project, it was found that the western half of the Sevilleta NWR is a source of energy (to be used in ET or heat flux) during the spring, and the eastern half of the Sevilleta NWR (where the Bowen Ratio tower is located) was a source of heat energy during the summer. Unlike ET in the grasslands to the east of the Bosque, ET in the riparian forest is unresponsive to precipitation. ET in the Bosque is dominated by flooding, with maximal ET rates of 400 W m\(^{-2}\) occurring during the spring flooding of early June. A manuscript detailing the preliminary estimates of Middle Rio Grande ET is in preparation: Cleverly, J.R., D. Gilroy, J. Thibault, P. Unnikrishna and C.N. Dahm. A preliminary estimate of actual evapotranspiration from *Populus deltoides* ssp. *wislizenii* and *Tamarix ramosissima* stands with implications for the Middle Rio Grande water budget.

B. LANDSCAPE MODELING

Water Balance Model and Parameterization (Bruce Milne and Scott Martens)

We have continued our efforts to implement a daily time step water balance model for the 1.08 million 30-m cells that compose the Sevilleta has continued. In 1998, we completed a detailed vegetation map for the 100,000 ha site. Map products include estimates of plant community types (both using a site-specific classification and the IGBP method of Steven Running), plant height, plant cover, and leaf area index. The maps were constructed using 12 Landsat TM images and over 200 field plots collected jointly with the New Mexico Heritage Office from 1994-96. Ongoing development of the model, SPLASH (see below), by Dr. Scott Martens uses the vegetation maps as inputs. A preliminary
version of the model uses spatially distributed precipitation estimates, vegetation, soils, temperature, and solar radiation to model potential evapotranspiration, actual evapotranspiration, and water deficit. In the near term, these variables will be used to estimate net primary productivity. Analyses of the vegetation and LAI maps have provided evidence for non-equilibrium processes in the Sevilleta (Milne 1998) and for explorations of scaling issues related to forthcoming sensors such as MODIS (Milne and Cohen, in press).

**SPLASH Model Description (Bruce Milne and Scott Martens)**

The spatially explicit hydrologic model SPLASH (Simulator for Processes on Landscapes: Surface/subsurface Hydrology) has been implemented for the Sevilleta. SPLASH was extensively modified from its original form to take advantage of existing Sevilleta data sets, better simulate arid land hydrology, and run at a daily time step. This new version is called SPLASH-DAY to distinguish it from the original SPLASH, and to highlight the daily time step that it uses. SPLASH-DAY does not explicitly calculate lateral surface and subsurface flows like the original SPLASH.

Simulations of soil moisture from SPLASH-DAY compare favorably with data from time-domain reflectometry. Summer soil moisture is highly dynamic and SPLASH-DAY simulations track this variation well. However, SPLASH-DAY simulated soil moisture slightly lags the measured values during periods of soil drying. Preliminary comparisons of SPLASH-DAY simulated evapotranspiration (ET) with that from Bowen station measurements (prepared by James Cleverly) indicate that SPLASH-DAY underpredicts ET at the high extreme. These high ET values (from Bowen ratio) appear to occur on days with precipitation or the day after. The discrepancy between simulated and measured ET is being investigated. Currently, it is thought that the Bowen ratio data for high ET days may reflect short duration (hours), high water vapor fluxes ("spikes" in ET). SPLASH-DAY misses these spikes because its fundamental time step is one day. Thus, it uses time-averaged meteorological data to drive ET calculations, and time-averaged soil moisture to calculate soil resistance to evaporation. Both of these conditions could lead to underestimates of ET during, or shortly after, precipitation events. If this is shown to be true, it may also account for the lag in simulated soil moisture during soil dry-down.

The model testing described has used site-specific soil characterizations (physical parameters derived from soil depth, soil texture, stoniness) when running SPLASH-DAY. However, soil physical parameters for the Sevilleta LTER region are derived from the maps and data in the Socorro area soil survey and have inherently coarse spatial resolution. For specific sites where the soil survey data poorly characterize the actual soil SPLASH-DAY simulation results may be unacceptable for some purposes.

SPLASH simulates lateral flows of water across the landscape, unlike SPLASH-DAY. Lateral surface flow—overland flow—is an important water redistribution mechanism during periods of heavy rainfall. SPLASH simulations are being conducted on the nested watersheds in the Sierra Ladrones studied by Crocker. First efforts have focused on a single rainfall event in July 1991 for which precipitation was measured at the site, and for which overland channel flows have been quantified. Simulations of overland flow are sensitive to soil infiltration rate and to the surface roughness used in the calculation of flow velocities. SPLASH uses Manning's equation which predicts flow velocities as a function of water depth, slope of surface head, and surface roughness (Manning's n). Manning's n is difficult to parameterize for natural terrain. Thus, SPLASH simulations for one July event are being calibrated by adjusting Manning's n for the watershed. The derived Manning's n value will be tested in similar
watersheds. If successful, SPLASH can then be used to investigate the role of lateral surface water redistribution in ecosystem functioning at the Sevilleta LTER.

C. VEGETATION STUDIES

Primary Production Studies (David Lightfoot and James Gosz)

Plant net primary production (NPP) measurements were begun in February 1999. The purpose of NPP measurements are to provide data on seasonal and annual plant productivity at each of the four core study sites; creosote bush shrubland, grassland, juniper/oak savanna, and pinyon/juniper woodland. We are using the same volumetric techniques that were developed by, and are currently used at the Jornada LTER site. NPP measurements are collected from an array of permanent quadrats located in association with each of the five rodent trapping webs at each of the four sites. Data are collected for each plant species found on the quadrats. 1999 baseline standing live plant biomass data were collected in February. Standing live biomass was again measured in May 1999 to provide data on spring plant production, and biomass measurements will again be taken in September/October 1999 at the end of the growing season to provide us with summer production and overall annual production. A special project to measure NPP of juniper berries, oak acorns, and pinyon nuts will be continued by Dr. Roman Zlatin at the two core sites with those species. These data will relate to major food resources to birds and mammals, which are also being measured at those sites.

The NPP data provide us with measures of plant biomass production which we will relate to variation in precipitation over time, and across environments. The NPP data will provide us with crucial links between precipitation, plant production, and animal populations. We also will be able to assess the importance of variation in precipitation, soil moisture, and plant production across time and space.

Nitrogen Deposition and Effects on NPP of Grassland Communities (James R. Gosz)

Studies of nutrient deposition on the Sevilleta over time have demonstrated that there are spatial patterns of precipitation and nitrogen deposition. Convective storms in the summer monsoon season result in generally higher amounts on the eastern side of the Sevilleta associated with the Los Pinos Mountains. The chemistry of the precipitation also shows higher concentrations on the eastern side of the Sevilleta as a result of air pollution moving from north to south along the chain of mountains. This combination of higher precipitation containing a higher concentration of nitrogen results in increased nitrogen deposition rates on the east side of the refuge. These values are for wet deposition amounts; total nitrogen deposition from wet, dry and gaseous absorption are likely to be two to three times the values of wet deposition. These results lead to the question of the role of increased nitrogen levels on the dynamics of species in this biome transition zone. Some of our results demonstrate that successive years of above normal moisture can lead to nitrogen limitation on plant growth; a decreased rate of growth per unit of precipitation. We performed two nitrogen fertilization experiments in the summer of 1998 to be able to test the species specific influence of increased nitrogen deposition at levels that can be expected in this region in the next 20 years.

The first experiment was a randomized complete block design with the following treatments replicated four times (i.e., four blocks): control, 10 kg/ha N addition, 20 kg/ha N addition, 10 kg/ha N addition with legumes removed, and control with legumes removed. The individual plots were 200 m² and were measured (harvested) with a riding lawnmower. The plots were mowed in February 1998
to removed standing dead material from the previous year and removed in September to harvest the current season's biomass production. Legumes were removed as they senesced in May and June. The randomized complete block design was established both in a black grama (*Bouteloua eropodia*) dominated grassland and a blue grama (*Bouteloua gracilis*) dominated grassland. The data are grams per m$^2$ based on 200 m$^2$ plots. Only 20 kg/ha treatments were significantly different from controls and the legume removal plots were pooled with the non-removal plots for this analysis. While both species types showed a significant response to 20 kg/ha nitrogen, the blue grama response was much greater than that of black grama.

A second experiment was performed using a different production measurement technique. Individual plants with a range of sizes were harvested to yield a green biomass to plant volume relationship. That relationship was used with measurements on individual plant volumes in 1 m$^2$ quadrats for each of the two species. Nitrogen was applied to a 30 m x 45 m plot at a rate of 20 kg/ha N for a black grama dominated plot and a similar sized blue grama dominated plot. Similar plots were set up as controls. In each of these plots, 1 m$^2$ quadrats were used to develop plant volumes of each species per quadrat and the biomass/volume relationship used to estimate the biomass produced during the 1998 growing season. The results showed that only blue grama demonstrated a significant effect due to increased nitrogen availability. While the two different experiments used very different techniques for measuring production, it is clear that nitrogen can promote an effect that is species specific. Since blue grama represents a dominant species from the Great Plains biome and black grama represents a dominant species from the Chihuahuan Desert biome, the role of increased nitrogen deposition due to increasing human activity in the region may play a role in the interaction of these species in this transition zone.

**Ecotone Dynamics and Vegetation Transects (Bruce Milne, Larry Li)**

During the last year, we focused on understanding ecotonal dynamics via analysis of the long-term vegetation transect data, using conventional and newly developed methods. The data have been cleaned for cross-scale analyses of the Deep Well and Five Points sites. We have accomplished the following projects:

1. We used the Jarque-Bera test, Shapiro-Wilk test, and Kolmogrov-Smirnov test to calculate the normality of species-abundance distributions for the two sites. The results show that more than 60% of the distributions are log-normal, which is consistent with many species-abundance distributions reported in the ecological literature. Log-normal distributions are considered to indicate dynamics that are a function of multiple variables.

2. Using species relative abundance-rank distributions (dominance-diversity curves), we studied relationships among dominant, subordinate and transient (rare) species between the Deep Well and Five Points sites. Fractal dimensions and Hurst exponents of species distributions indicate increasing fluctuations, and suggest that species interactions are stronger at the grass dominated Deep Well transect, compared to Five Points. As expected, transient species are more variable than other species at both sites.

3. We used binary coefficients (Jaccard, Sorensen, simple matching coefficient, Baroni-Urbani, and Buser coefficient) and distance coefficients (Euclidean distance, average distance, Bray-Curtis
measure, and Canberra metric) to study similarity in community structure between two locations and seasons for each site. These conventional indices revealed some trends of ecotonal dynamics; but further analyses are needed for understanding the relationships.

4. Using species richness, Shannon-Wiener measure (based on total vegetation cover, mean patch sizes and their variations for each species), Simpson’s index and Gini index, we calculated changes in species diversity and evenness over time. We also defined a new set of diversity indices for characterizing spatio-temporal fluctuations of the two communities along spatial gradients. Results from Deep Well and Five Points are very promising. An examination of the link between NPP, species-area relationships, and cross-scale diversity are in progress.

5. We used fractal and multifractal analyses for studying scale invariance and covariance properties of the two vegetation transect data sets. Our results show that separate scaling processes govern small and large scale vegetation dynamics at both sites. For Deep Well, there is a broken scale at about 0.8 meters; below this scale, vegetation change follows a simple fractal, but above the scale the system is multifractal. For Five Points, the broken scale is at about one meter. Again, below the scale is a simple fractal and above the scale it is multifractal. This is a very interesting discovery because such scale breaking suggests that complex processes underlie changes in the community patterns. We need to consider scaling separation in future, spatially-explicit, dynamic modeling. Wavelet analysis further supports large scale dynamics and scale shifts of the two sites for seasonal and annual changes.

The above combination of methods greatly improves our ability to elucidate the mechanisms of natural patterns and the biodiversity of the two Sevilleta transects. Results can be observed at: http://sevilleta.unm.edu/data/archive/plant/

Vegetation Change Following Removal of Keystone Mammalian Herbivores: A Multi-scale Analysis of Desert Grasslands in New Mexico (Daniel Ryerson and Robert Parmenter)

Responses of plant communities to mammalian herbivores vary widely, due to variation in plant species composition, herbivore densities and forage preferences, soils, and climate. However, synthetic generalizations from the scientific literature concerning plant community responses to herbivory over large landscapes remain enigmatic, due to many confounding and uncontrolled environmental factors operating simultaneously during different experiments in different places at different times (e.g., precipitation dynamics, varying mixes of plant species and herbivores). In this study, we evaluated simultaneous vegetation community changes in six dominant vegetation types on the 100,000 ha Sevilleta National Wildlife Refuge (SNWR) in central New Mexico, USA, over a 20-yr period following removal of the major mammalian herbivores (livestock and prairie dogs) in 1972-75. Thirty study sites were established in 1976 within and outside of the SNWR, and these sites were resampled in 1986 and 1996 using line transect methods. At the landscape scale, repeated measures ANOVA of percentage cover measurements showed no significant overall net changes in total perennial plant basal cover, either inside or outside the refuge; however, there was an overall increase in annual forbs and plant litter during 1976-96. At the community (site) scale, significant changes in species composition and dominance were observed; each community exhibited varying degrees of change, with black grama grass (Bouteloua eriopoda) communities being the most dynamic and burro grass (Scleropogon brevifolius)
communities being the most persistent. At the population (individual) scale, species-specific changes were observed; snakeweed shrubs (*Gutierrezia sarothrae*) greatly decreased while black grama grass increased. The non-uniform, multi-directional changes at the population and community levels acted to prevent detection of overall changes in perennial vegetation at the landscape level. Areas outside the SNWR, that were subjected to continuous herbivory, showed community-specific responses, but some species displayed changes associated with precipitation rather than herbivory; thus, the observed responses cannot be attributed solely to removal of mammalian herbivores, and in many cases can be explained by short- and long-term fluctuations in climate regimes. These results emphasize the unique, community-specific responses of vegetation types to mammalian herbivores under otherwise similar climatic conditions, and illustrate the value of multi-scale approaches to understanding the impacts of plant-herbivore interactions.

*Plants Living on the Edge: Climate, Disturbance, and Shifts in Ecotonal Boundaries (Debra Coffin Peters)*

The overall objective of this work is to evaluate the processes and environmental factors that are important in determining patterns in coexistence and dominance for species from different ecosystem types that meet at the Sevilleta. The overall hypothesis is that plant-level processes (recruitment, growth, and mortality) interacting with climate, disturbance, and soils result in patterns of vegetation at multiple spatial and temporal scales. The approach is to use a combination of experiments and simulation model analyses to address specific questions related to two major parts: (A) the effects of environmental factors on plant population and community dynamics, and (B) the response of dominant plant populations to environmental factors. A third part (C) includes cross-site studies.

1. **The Role of Environmental Factors in Generating and Maintaining Patterns in Vegetation.** Both long- and short-term field studies as well as simulation models are being used to evaluate the effects of climate, small animal disturbances, and soils on plant community dynamics.

   **Plant removal study (ongoing):** In 1995, a long-term experiment was initiated to evaluate the effects of removing the dominant species only from plant communities. The objectives were two-fold: (1) to evaluate plant recovery and identify new dominant species and assemblages after the current dominant is removed and kept off the plots through time; and (2) to evaluate if dominant species with different life history traits have different legacy effects on recovery of other species through time. Within each community, the dominant species, either blue grama, black grama or creosotebush, was removed from within 5 3m x 4m plots with minimal soil disturbance. This size is comparable to kangaroo rat mounds and adjacent vegetation. Five control plots were also located at each site. In addition, five blue grama and five black grama removal plots were conducted in a mixed stand of these two species, and five black grama and five creosotebush removal plots were conducted in a mixed black grama–creosotebush stand. Plots have been maintained through time by removing new individuals of the appropriate dominant species. Cover and density by species have been estimated annually (1996, 1997, 1998) for all plots at peak standing crop (mid-September). An additional set of plots was started in March (1998) at the foothills site, an area with different climate, vegetation, and soils than McKenzie Flats.

   **Vegetation and kangaroo rat mounds (REU project):** In 1997, cover of vegetation was sampled on 10 active bannertail kangaroo rat mounds located either in patches dominated by blue grama or black grama. We hypothesized that kangaroo rat mounds may promote the growth and domi-
nance by faster growing, stoloniferous black grama plants compared to long-lived, slow growing blue grama plants. We found that black grama cover in blue grama-dominated patches was higher around kangaroo rat mounds compared to undisturbed areas away from mounds. Similar black grama cover was found around mounds located in patches of black grama as in patches located in blue grama. By contrast, blue grama cover was lower around mounds compared to undisturbed areas. These results provide an explanation for species dominance patterns of blue grama and black grama at intermediate spatial scales. Results have been published in Fields et al. (1999).

2. Studies of Plant Populations in Response to Environmental Factors

Because of the importance of black grama and creosotebush in Chihuahuan desert ecosystems, and of blue grama in shortgrass steppe grasslands, the plant population studies are focusing on these three species.

Recruitment: A multilayer, daily time step soil water simulation model (SOILWAT) was used to evaluate the probability of seedling establishment for black grama and blue grama. We evaluated the effects of climatic variation across multiple temporal scales (seasonal, interdecadal, and long-term directional) to the probabilities of establishment of each species at the SNWR. We found that the two species have different regeneration strategies. Blue grama has a broad pattern of establishment that occurs from May through September, and includes periods with high year-to-year variation in precipitation. By contrast, black grama has a narrow distribution of establishment events that occur primarily in July when precipitation amounts are most reliable. We also found that climatic conditions from 1949-1968 were more favorable for B. eriopoda establishment compared to the cooler, wetter period from 1969-1988 that favored B. gracilis establishment. Dr. Coffin has a manuscript submitted on this project: Coffin, D.P. Climatic variation and patterns in seedling establishment of two dominant grasses at an ecotonal boundary. Submitted to Journal of Vegetation Science.

A growth chamber study using blue grama seeds from the Sevilleta and SGS-LTER, and black grama seeds from the Sevilleta was recently completed to determine experimentally the relationship between soil texture, water availability, and seedling establishment. These results are in a submitted paper: Minnick, T.J., and D.P. Coffin. Soil texture and precipitation effects on the germination and growth of Bouteloua gracilis seedlings. Submitted to American Journal of Botany.

Seed production and storage in the soil: In 1995 and 1996, a study of seed production of blue grama and black grama was conducted at four of the plant removal sites. Soil samples (0-5, 5-10 cm) were collected from these sites in November (1995), November (1996) and April (1997) to determine the availability of germinable seeds to these communities, and to relate seed production with seed storage to determine effectiveness of storage. We found that the key process limiting recruitment differed for the two Bouteloua species. High seed production, yet low viability by B. eriopoda was accompanied by few seeds (< 15%) stored in the soil. By contrast, B. gracilis produced fewer seeds with higher viability than B. eriopoda, and 10-25% of the seeds produced were found stored in the soil. Combining these results with the analyses (above) of seedling establishment, we found that recruitment of B. eriopoda is more limited by the availability of viable seeds and B. gracilis is more limited by seedling establishment. These results are in a submitted paper: Peters, D.P.C. Key processes limiting recruitment for two dominant grasses at a semiarid-arid grassland ecotone. Submitted to Ecology in 1999.
Grass-shrub interactions: We are also investigating interactions between individual black grama and creosotebush plants in order to determine their influence on patterns in species diversity from small to large-scales. We recently conducted simulation analyses on the controls on seedling establishment of creosotebush. Results are being presented by Hochstrasser, T., and D.P. Coffin Peters. 1999. The influence of dominant plants on water dynamics at a semi-arid grassland-shrubland ecotone: implications for the recruitment of Larrea tridentata. [Annual Meeting of the Ecological Society of America, Spokane, WA, August 7-12, 1999], and by Hochstrasser, T., and D.P. Coffin Peters. 1999. Decomposing the complexity of species coexistence patterns: An example from a semi-arid grassland-shrubland transition zone. [World Congress for Landscape Ecology, Snowmass, CO, July 30-Aug. 3, 1999].

Synthesis using simulation modeling: Simulation modeling is being used to evaluate long-term effects of climate, small disturbances, and soil texture on species dominance and plant community composition. The ECOTONE individual plant-based model simulates the size and age of each plant on a small plot through time at an annual time step. ECOTONE was modified for grass-shrub transition zones at the Sevilleta from the STEPPE model developed for semiarid grasslands at the SGS-LTER. Two sets of simulations were conducted. One set evaluated the importance of initial vegetation and soil conditions and seed dispersal constraints to perennial grass response to climate change. Five patch types were simulated at the SNWR at varying distances from black grama seed sources. Seed availability was found to be most important to patches with small amounts of black grama at the start of the simulation. The second simulation was a regional analysis to determine if shifts in grass vs shrub dominance will vary depending on initial vegetation-soil conditions as well as current climatic conditions. The model was parameterized for four sites in the Chihuahuan desert (Albuquerque, SNWR-LTER, Elephant Butte, and JER-LTER). We found that sites in the north with high available water are predicted to shift from shrub to black grama-dominated as a result of climate change. Sites low in available water are predicted to shift from shrubs to other perennial grasses and forbs that are less drought-tolerant than black grama. By contrast, sites in the south are predicted to shift to other perennial grasses and forbs regardless of the initial vegetation-soil conditions. Two talks will be presented: (1) Peters, D.P.C., and J.E. Herrick. 1999. Vegetation-soil feedbacks and sensitivity of Chihuahuan desert ecosystem boundaries to climate change. Annual Meeting of the Ecological Society of America, Spokane, WA, August 7-12, 1999; and (2) Peters, D.P.C., and J.E. Herrick. 1999. Landscape-scale processes and sensitivity of Chihuahuan desert ecosystems to climate change. World Congress for Landscape Ecology, Snowmass, CO, July 30-Aug. 3, 1999.

Soil and Climatic Control of Plant Growth and Landscape Pattern Across a Desert-Grassland Ecotone (Charles Buxbaum and James Gosz)
1. Landform Geomorphology, Soil Heterogeneity, and the distribution of Blue Grama, Black Grama, and Creosote on the Llano de Manzano Landform. This study constitutes an examination of the soil underlying the mosaic of plant communities dominated by either blue grama (Bouteloua gracilis), black grama (Bouteloua eriopoda), or creosote bush (Larrea tridentata) on a virtually flat (less than 0.5% grade) section of the Llano de Manzano Landform known as the McKenzie Flats. Nine soil pits were dug in sites dominated by one of three species or sites transitional from blue to
black grama, or black grama to creosote. These local transitions, on a regional scale, represent the shift from shortgrass prairie to desert grassland to desert shrubland.

Soils were characterized in each of these nine sites for variables such as texture, development and thickness of an argillic (clay-rich) horizon, depth to Holocene calcium deposition, and depth to Pleistocene petrocalcic (caliche) layers. Multivariate tests of the data show that depth to neogenic (Holocene) calcium carbonate deposition, thickness and development of the clay rich horizon, and depth of the entire soil profile are highly variable on this seemingly homogeneous land surface; and that the distribution of plant communities in this ecotonal zone reflects the pattern of soil heterogeneity.

The soil heterogeneity is due to the fact the current aeolian-deposited Holocene soil overlies a Pleistocene surface that was dissected by numerous streams running from the Los Pinos Mountains to the Rio Grande when the climate was much more mesic than present. The soil over the buried paleostreams is deeper and has had longer time to develop than the shallower interstream soils. Due to uplift in two areas (Black Butte and Five-Points) the ancient petrocalcic horizon is exposed at the surface. These areas are dominated by creosote. Black grama dominates the shallow soils that have buried the interchannels; and blue grama (the least xeric species) dominates the soils that overly the buried channels, with transitional communities in between. The differences in soil development clearly govern differences in microclimate that are great enough, at the ecotone, to regulate plant species distributions. This study, furthermore, shows that small spatial scale phenomena may be influenced by very large temporal scale phenomena. In this case the spatial scale is only 100 to 300 meter patches, while the temporal scale between deposits of the current soil and the buried soil is 500,000 to 1,000,000 years. This study is complete and is being revised for publication.

2. Desert and Prairie Grassland Species Responses to Changes in Moisture Regime at the Chihuahuan Desert–Shortgrass Prairie Ecotone. In this moisture manipulation study, responses of blue grama and black grama to seasonal (i.e., winter and summer) and all-year precipitation exclusion were compared with plants treated with precipitation doubling. These, in turn, were compared with untreated controls. The treatments were maintained for two full years. Plant cover was measured in 1995 (pre-treatment), 1996, 1997 (end of treatment), and again in 1999 (after two years of recovery from either rain exclusion or rain doubling). In addition to percent cover, above-ground biomass (estimated using allometric equations) was examined. Repeated measures analyses of the results of this experiment are presently being interpreted, but there are notable treatment effects as well as significant species differences. The curves generated by this study may be useful predictors of rates of species change in the event of periodic drought or increased moisture regime. The study should be complete by the summer of 2000.

D. NUTRIENT CYCLING AND SOIL ECOLOGY

Decomposition Studies (Carl White and John Craig)

For 1998-99, our efforts were maintained with some alteration on our long-term projects. Primary inputs to ecosystems are determined from chemical analyses of bulk precipitation and the wet/dry collectors (see meteorological section). Replicate litter bags of last year's production of black grama,
juniper, Indian rice grass, and creosote were placed at four sites, two sites (one in grassland and one in píñon-juniper) that have had decomposition studies since 1990 and two new sites creosote and juniper savannah areas. The past sites at Rio Salado and Red Tank were not continued in an effort to consolidate the research effort and lengthen the vegetation gradient on the east side of the Refuge. Collections are made seasonally through the first year and after two years. A fifth species, blue grama, is placed at the Deep Well site (grassland), which represents the most extensive mixture of blue and black grama. The Deep Well site also has the LIDET inter-site decomposition study. The decomposition study has been completed on the Sevilleta web site and current efforts are underway to complete N and C analyses on the beginning and one year samples.

Nitrogen Dynamics (Carl White, John Craig, and James Gosz)

Soil N availability and potentially mineralizable N has been measured in the east-side grasslands over nearly a ten-year period. This study began as part of a study on controls of net primary production in the grassland with soil N considered a limiting factor during periods of greater-than-average precipitation. This study has been completed and is available on the web site. A manuscript has been started detailing the results of experiments on the effects of moisture and temperature on N mineralization potentials. Both factors have non-linear effects on N mineralization, which is best fit by hyperbolic functions.

In addition to these studies, fertilization experiments have been conducted as described above in the Vegetation Section.

Soil Erosion Studies (Carl White and John Craig)

Soil erosion bridges were maintained at the four core sites. The soil surface is very dynamic in some locations, with changes of 3 cm common. Associated with the bridge measurements are data on soil texture, water holding capacity, organic matter, N mineralization potentials, total N and P, and soil conductivity. Coupled with the net gain or loss of the soil surface, changes in nutrient resources can be calculated.

Information about all nutrient cycling studies at the Sevilleta are available on the web at: http://sevilleta.unm.edu/research/local/nutrient/

Plant Regulation of Soil Nutrient Distribution in the Northern Chihuahuan Desert (Anne Cross and William Schlesinger)

Vegetation throughout the southwestern United States has changed from perennial grassland to woody shrubland over the past century. Previous studies on the development of “islands of fertility” focused primarily on only the most limiting, plant-essential element, soil nitrogen (N). The research, conducted between 1989 and 1994, addressed the question of whether other plant-essential elements, namely phosphorus (P) and potassium (K), showed similar concentration gradients under the desert shrub Larrea tridentata, creosote bush. It also examined whether the spatial distribution of N, P, and K differed from that of essential, but non-limiting nutrients, namely calcium (Ca), magnesium (Mg), and sulfur (S) and non-essential elements, namely sodium (Na), chloride (Cl), and fluoride (F). Within adjacent grassland and shrubland plots, surface soils were collected under and between vegetation and analyzed for a suite of soil nutrients. Soil nutrient distribution followed a uniform pattern that mirrored the spatial homogeneity of bunchgrasses in the grassland, but followed a patchy distribution that
mirrored the spatial heterogeneity of individual shrubs in the shrubland. The main differences were that in the grassland, all elements were uniformly distributed, but in the shrubland the plant-essential elements, nitrogen, phosphorus, and potassium, were concentrated under the shrub canopy, and the non-limiting and non-essential elements were either concentrated in the intershrub spaces or were equally concentrated under shrubs and in the interspaces. Our results show how vegetation shifts from grassland to shrubland contribute to long-term, widespread change in the structure and function of desert ecosystems.

We tested the hypotheses that (1) biological processes regulate the distribution and availability of limiting plant nutrients (e.g., N, phosphorus (P), and potassium (K)), in soils; therefore, the greatest concentrations of N, P, and K should be under vegetation and the spatial distribution of these elements should mirror the spatial arrangement of vegetation in grassland and shrubland sites; (2) geochemical processes regulate the abundant, but non-essential elements (e.g., sodium (Na), chloride (Cl), and fluoride (F)) in desert soils; therefore, the greatest concentrations of these elements should be in the interspaces between vegetation; and (3) both biological and geochemical processes regulate essential, but non-limiting elements (e.g., calcium (Ca), magnesium (Mg), and sulfur (S)); therefore, the concentration of these elements will be equivalent under vegetation and in the interspaces. Our study determines whether the present-day spatial distribution of soil nutrients reflects prior shifts in vegetation that are associated with desertification in the southwestern United States.

At the Sevilleta NWR, grassland sites showed greater plant cover, plant biomass, and a more uniform distribution of vegetation per unit area, than the shrubland sites. Where L. tridentata shrubs dominate the landscape, a reduction in vegetation cover and plant biomass creates a heterogeneous, or spatially patchy, distribution. These data support the hypothesis posited by Schlesinger et al. (1990) that increases in the spatial heterogeneity of vegetation accompany desertification in the Chihuahuan Desert. Contagion analyses, which are similar to Simpson's Index with an additional term to estimate the spatial component, show a homogeneous, or spatially uniform, distribution of individual bunchgrasses that contrasts with spatially heterogeneous vegetation cover in the L. tridentata shrubland. Plant-essential (N, P, and K), non-limiting (Ca, Mg, and SO4-S) and non-essential (F, Cl, and Na) elements were found to be equally distributed under and between vegetation in the grassland.

The shrubland differs markedly from the grassland in its spatial distribution of vegetation and soil nutrients. As shrubland vegetation is more spatially patchy than grassland vegetation, we expected to find an increase in particulate deposition under the shrubs compared to bare ground areas between shrubs. Abiological and geochemical forces appear to regulate the cycling under and between shrubs, or more highly concentrated in the inter-shrub spaces. Vegetation appears to maintain a tight control over the cycles of biologically limiting nutrients—N, P, and K—we found them to be more highly concentrated under shrubs. Studies showing greater microbial biomass and activity under shrubs suggest that microbes capitalize on the greater carbon and moisture stores under shrubs. Typically the non-essential and non-limiting elements are deposited under shrubs through wind and water transport. Plant-essential elements, once acquired from the soil solution through root uptake, remain under the plant through recycling via litterfall, microbial litter decomposition, and microbial immobilization.
Biological and Geochemical Controls on Soil Phosphorus Availability in Semi-arid Soils (Anne Cross and William Schlesinger)

This study examined the concentration of organic and inorganic phosphorus in surface soils of a *Bouteloua gracilis-Bouteloua eriopoda* grassland, and a *Larrea tridentata* shrubland, in the northern Chihuahuan Desert, New Mexico, USA. In this desert, the grassland vegetation creates a uniform spatial distribution, and individual shrubs create a patchy spatial distribution across the landscape. Most soil inorganic P is found in the HCl- and cHCl-extractable forms in grassland and shrubland soils, indicating CaCO₃ control over phosphorus availability in these soils. In contrast, most soil organic P is bound to Aland Fe minerals. Labile, plant-available P fractions sum to 9.5% of total P in the grassland and 6.1% in the shrubland. Organic P totals less than 15% of the total phosphorus pool in soils at the Sevilleta, comprising 13.4% in the grassland and 12.2% in the shrubland. The organic P pool may represent an important, yet often overlooked, source of P in semiarid ecosystems.

Organic P (P₀) contributes to P availability by controlling the labile inorganic P pool, which is important to net primary production in many ecosystems. In addition, organic P fractions may be important pools of biologically available P in grasslands, because P₀ is more mobile than inorganic P, which is readily fixed by mineral surfaces. The purpose of our research was to examine the nature of the labile phosphorus fractions and to quantify the organic phosphorus content of soils in a semi-arid ecosystem. We tested two hypotheses. First, we expected that concentrations of labile and organic P would be greatest in grassland soils, and localized under individual plants in the shrubland. And, second, we expected that other soil attributes—texture and the concentrations of various soil elements (C, N, Ca, Mg, K, Na, S, and Cl)—would affect levels of organic P in the surface soils.

The percentages of phosphorus that reside in the inorganic fractions in the Sevilleta soils are similar to those in other Mollisols and Aridisols. Surface soils contain small pools of labile P (resin- and bicarbonate-extractable) and non-occluded P (NaOH-extractable), and large pools of occluded and carbonate-bound P (cHCl- and HCl-extractable and residual). In both vegetation types, the largest pool of P is the CaCO₃-bound, acid-extractable P. This fraction reflects the geochemical influence on P cycling that is dominated by high concentrations of calcium carbonate minerals in the surface soils. Comparisons of P pools in the grassland and shrubland, show greater concentrations of NaOH-extractable forms in the grassland, and higher levels of the acid-extractable forms in the shrubland. This largely reflects the abundance of Al- and Fe-rich minerals in the argillic horizon of the grassland, and the abundance of calcite in the surface soils of the shrubland.

Overall, desert soils of the Sevilleta have extremely low contents of organic phosphorus. In other Mollisols and Aridisols, bicarbonate-extractable P₀ concentrations average 2.9% of total P, but this fraction accounts for 0.7% of total P in grassland soils at the Sevilleta and 1.0% of total P in the shrubland. Bicarbonate-extractable P₀ represents phosphorus that is held in the soil by adsorption to soil particles or soil organic matter. A more striking difference is seen in the NaOH-extractable fraction, which averages 15.4% of total P in many soils, whereas in Sevilleta soils this fraction is 2.0% of total P in the grassland and 1.2% in the shrubland. NaOH-extractable P₀ is bound to Al or Fe minerals. It is found in the surface horizons of the grassland, and is likely transported by wind to the shrubland where it accumulates under individual shrubs. The cHCl-extractable organic P averages 10% of total P at the Sevilleta, but can comprise up to nearly 50% in other similar soils. The P₀ extracted with cHCl is thought to be tightly bound to Fe and Al minerals, and perhaps is unavailable to plants. Traditionally
the Hedley fractionation has not analyzed the 1M HCl extract for $P_0$. Future work should evaluate this fraction to determine whether $P_0$ is bound to CaCO$_3$ minerals in arid soils.

E. ANIMAL STUDIES

Vertebrates Studies (Robert Parmenter, Terry Yates, James Brown, Michael Friggens, and David Lightfoot)

Small mammal population studies continue for the eleventh year on the Sevilleta. This research measures mammal densities and population parameters at four localities representing the major biomes studied on the SWNR. There are some changes in this study from previous years; the changes are concurrent with restructuring and consolidation of field study sites and programs. The Parasite Study and the collection of voucher specimens from designated localities ended in 1998 with a decade of data. The results of this work are currently being summarized for publication (see below). The results of a decade of rodent population changes at six localities on the SNWR are also being analyzed. We reduced the number of sites from six to four this year, which allowed us to focus field technician time on the collection of NPP data as well as the establishment and monitoring of the new juniper-oak savanna site.

While last year we saw a marked increase in rodent densities at all of our sites due to El Niño precipitation and vegetation growth following a two year drought, this year's preliminary data showed a decrease likely due extremely low La Niña precipitation conditions during the past winter and spring. A recent analysis of rodent populations, vegetation growth, and precipitation amounts (Ernest et al., Oikos, in press) identified significant relationships in moisture and subsequent vegetation (food resources) as driving variables in small mammal population dynamics at all the Sevilleta ecosystems. Comparisons with the Sevilleta data and those of Jim Brown's long-term site at Portal, AZ, showed less concordance, indicating substantial regional differences in climatic controls on community processes.

The collaboration of the Sevilleta LTER and the CDC's long-term hantavirus studies at the Sevilleta NWR continues. Data from the Sevilleta contributed to the prediction in early 1998 of an El Niño-related hantavirus outbreak, due to predicted increases in *Peromyscus* densities. The increases actually occurred as predicted in 1998-99, and the public health warnings were issued to prevent hantavirus infections in people. While the Southwest has experienced an increase in human cases of hantavirus, the increase is less than what was predicted, and thus the public health warning may have had a positive effect. We are currently collaborating with a graduate student (Ms. Marjorie Hudson) in UNM’s Sociology Department to evaluate the effectiveness of health warnings of hantavirus risk (based on our Sevilleta/CDC data) to change the cleaning habits of residents in New Mexico and the Four Corners area.

Finally, we have been collaborating with Dr. Lucina Hernandez, Director of the Mapimi Field Station, Instituto del Ecologia, Durango, Mexico, on a synthesis study of ecological factors influencing diet selection of coyotes on the Sevilleta. We have combined a number of data sets, including precipitation, NDVI from Sevilleta AVHRR coverages, percentage plant cover from ground measurements, and densities of antelope, rabbits, rodents, birds, and arthropods, to address several hypotheses on the coyote's prey selectivity, reproductive success, spatial distributions, and seasonal dietary dynamics. Initial results are being presented by Dr. Hernandez at the 1999 ESA meeting in Spokane.

Additional ongoing mammal studies include population density estimates of rabbits, coyotes, antelope and birds. Data on vertebrates are at: http://sevilleta.unm.edu/data/archive/animal/
Parasites in Rodent Populations (Don Duszynski, Kimberly Decker)

Between 1989 and 1998, more than 3,000 rodents from *Dipodomys* species and *Perognathus* species were collected and identified from the four major core field sites. All collected animals were killed and examined for endo-parasites (acanthocephala, nematodes, cestodes and coccidia). This research focuses on three endoparasite groups: coccidia, nematodes and cestodes. Specific analyses address (1) how prevalence of each parasite in each host species may differ due to host age, sex, reproductive status, mass, density, parasite-parasite interactions and/or host specificity; and (2) how this prevalence changes due to abiotic factors such as habitat, season, or precipitation. A logistic regression was used to determine which host characters and which abiotic factors (if any) indicate a parasite infection. The most prevalent parasites over the ten years were *Pterygodermatites dipodomis* (42%), *Eimeria chobotari* (35%), *Mastophorus dipodomis* (19%) and *Heteromyoxytus deserti* (16%). Over the ten years, 49% of the hosts were infected with one or more parasites. *Dipodomys spectabilis* was the most infected host population (80%), followed by *D. merriami* (71%), *D. ordii* (55%), *Perognathus flavus* (16%) and *P. flavescens* (15%). The most significant variables predicting parasite prevalences for specific parasites include habitat/site, season, winter precipitation and host species. However, no parasite prevalences were correlated with any other, indicating that each parasite species varied independently and that no generalizations about predictor variables can be drawn. Overall, the parasite prevalences in these rodents at the SNWR vary in independent and complex ways.

Arthropods (David Lightfoot, Robert Parmenter)

We are monitoring select groups of ground-dwelling arthropods at each of our four core-study sites to determine how variation in seasonal and annual precipitation and plant production influence populations of predator and detritivore arthropods. These data will allow us to relate variation in precipitation, plant production, arthropods, and rodents. Additionally, we are comparing the stability/resilience of ground-dwelling arthropod assemblages across the four different vegetation zones and among different arthropod trophic groups. Since 1998 we have focused our sampling on the four core sites only. The Sevilleta ground-dwelling arthropod study is also part of a cross-site study which includes the same sampling protocols at the Jornada LTER, and Bandelier National Monument in northern New Mexico. This array of sites allows us to examine the effects of El Niño/La Niña events on plants and arthropods across the transition from the northern Chihuahuan Desert to the Rocky Mountains, incorporating local variation due to elevation and edaphic differences.

We have continued to collect and process pitfall trap samples over the past year. All samples through December 1998 have been sorted, tabulated, and the data entered into our long-term database. We are currently collecting and processing the 1999 samples and analyzing the long-term data. Data can be found at: http://sevilleta.unm.edu/data/archive/animal/arthropod/

In addition to the surface-active arthropods being collected via pitfall traps, we are now sampling foliage-dwelling species of arthropods at our main core field sites (Chihuahuan Desert, Short-Grass Steppe, Juniper–Oak Savanna, and Píñon–Juniper Woodland. These studies are part of the collaboration with our REU program, which is investigating the relationships between NPP and biodiversity in the various Sevilleta ecosystems.
Small Mammal Exclosure Study (David Lightfoot)

The Chihuahuan Desert Small Mammal Exclosure Study was initiated in 1995 to determine the effects of, and feedbacks among rodents and rabbits, and other animals, plants, and soils in Chihuahuan Desert grassland and creosotebush (Larrea tridentata) shrubland communities. This is a cross-site LTER project, with identical experimental designs and sampling protocols at the Sevilleta and Jornada LTER sites, and at the Mapimi Biosphere Reserve, Mexico. Findings from this study will allow us to determine how small mammals influence the species composition and structure of plant communities. We also will be able to assess interactions between important consumer animal groups including rodents, rabbits, termites, grasshoppers, and ants. We will relate variation in seasonal and annual precipitation to variation in rodent and rabbit populations, and to their effects on plants and other animals. The cross-site aspect of the study provides us with an ideal comparison of locations across a latitudinal gradient across the entire Chihuahuan Desert. The intensity and effects of El Niño/La Niña events vary across this latitudinal gradient, allowing us to assess the regional impacts of these climatic fluctuations on Chihuahuan Desert biotic communities.

We have continued field measurements on vegetation, soil surface disturbance, ants, grasshoppers, and termites during autumn 1998 and spring 1999. We are utilizing data from the Sevilleta rodent trapping webs and the rabbit road surveys to provide measures of rodent and rabbit population densities, and climate data from nearby meteorological stations to provide precipitation and temperature data.

F. DISTURBANCE STUDIES

The Human History of the Sevilleta LTER Research Region, and Implications for Modern Vegetation Communities (Joslyn Garcia, Robert Parmenter)

To comprehend the whole picture of an ecosystem, it is vital to understand the role of prehistoric people. Current exotic plant species are a result of human impact within the last several centuries. Humans were and still are major dispersal agents of exotic species. Currently, an assessment of the human carrying capacity of the Sevilleta is being determined through modeling of the current vegetation and the pre/historic vegetation potential. It is important to understand how people respond to changes in the past. We need to understand how quickly humans can change their land use in response to the changing environments. Some terrestrial changes may enhance productivity while others deplete it. Human caused changes in the landscape such as wood extraction, irrigation, input of pastures, burning and livestock are key because they change the net carbon, water, energy and gas exchange of that ecosystem. Land use literally changes the plant communities of the landscape by removing the indigenous species and increasing exotic species. Exotic species change the nutrients and water pathways of the whole system. The flora of the Sevilleta reflects the subsistence diet of prehistoric inhabitants. The purpose of these studies is to learn how prehistoric people survived the extreme environment of the Southwest.

Studies of the Sevilleta give the opportunity to conduct vegetation and archaeological research. GIS is the tool that makes it all come together. Vegetation change has been driven throughout the ages by human impact as well as climate change. By using GIS it was determined which vegetation is at each archaeological site on the Sevilleta. From there, an interpretation was made of the vegetation coverage. For this study, the information from the state archaeological records was used. The archaeological data
were plotted, mapped and were overlaid with the current Sevilleta vegetation map. It was determined which species are present at the archaeological sites. The two most dominant classes were of the Great Basin Shrublands (dominated by *Atriplex canescense*) and the Rio Grande Woodlands (dominated by *Populus deltoides* and *Tamarix ramosissima*). The inhabitance of the sites on the Sevilleta have been determined to be Anasazi, Mogollon, Pueblo, Hispanic, and Anglo, and some are still of unknown origin. Salt cedar and fourwing saltbush are the current dominant species at half of the archaeological sites, demonstrating recent human disturbance and exotic plant invasion. Future studies in 1999 and 2000 will provide more detailed data on the composition of pre-historical plant communities and historical sequences of plant invasions onto the Sevilleta NWR.

**Wildfires (Robert Parmenter, James Gosz, David Lightfoot, Debra Coffin Peters)**

As part of previous LTER fire studies using controlled experimental burns, post-fire measurements of vegetation re-growth have been analyzed for experimental and natural fire sites on the Sevilleta. Results to date show differences in survivorship and species-specific regrowth rates. These have been determined for all common species of perennial plants in the Sevilleta grasslands (Parmenter et al., in preparation). Animal responses to fires are negligible, with most species avoiding the fire and surviving normally in the post-fire environment. One paper has been published showing the details of harvester ant foraging behavior after the fires (Zimmer and Parmenter 1998); eight more manuscripts on plants, rodents (2), pronghorn, beetles, grasshoppers, spiders, and homopterans are in preparation.

Previous studies of natural, lightning-caused fires on the grassland area of McKensie Flats demonstrated that black grama patch size was reduced by the fire for at least five years after the burn. Line intercept studies of burned and unburned areas were performed in 1995 on two areas that had natural fires in 1990 and 1991. The following figure shows that the patch size distributions for black grama measured in 1995 were significantly different between burned and unburned areas (Harris and Gosz, unpubl.). Patch size reflects the sizes of individual plants and distances between plants. Decreased patch size of black grama is accompanied by increased areas of exposed soil. This has significance in a number of the habitat characteristics for the burned area; e.g., surface reflectance properties, soil loss, surface redistribution of precipitation. Patch size distributions of blue grama were not significant between these burned and unburned areas in 1995 inferring that they recovered rapidly or were not influenced markedly by fire.

A lightning-caused fire occurred in June 1995 providing another opportunity to quantify effects on patch dynamics of blue and black grama. Four, 100 m permanent transects were placed along one edge of the burn with each transect having 50 m inside and 50 m outside of the burn. The following analyses were made in August 1995 and August 1998 to evaluate changes in patch sizes of blue grama, black grama, and exposed soil.

Patch sizes of black grama generally increased from 1995 to 1998 as well as a filling in (increased number of patches) reflecting the increased cover of black grama following the burn. The data represent the total of frequencies for the 4 transects (i.e., 200 m burn transect, 200 m unburned transect). The 1996 and 1997 growing seasons were above average in moisture and plant growth that resulted in a general increase in percent plant cover for the region. However, comparison of the burn data with the unburned data shows that patch sizes for the burned area still have not recovered to the status of the unburned area. Blue grama cover also increased during the same interval; however, there was little
difference between burn and unburned areas over time reflecting the reduced influence that fire has on this species.

The pattern of patch sizes of the vegetation also was reflected in the patterns of exposed soil. The distribution of soil patch sizes changed from larger patches of exposed soil in 1995 (e.g., 2 m) to an increase in the number of small patches of exposed soil in 1998. Increased plant growth generally was responsible as well as the influence of blue grama that recovered in the three years following the fire. The dominance of either blue or black grama in this biome transition zone can play a major role in the properties of the habitat after fire. It is not known if fire will control the dominance of either of these species since studies have only been made following single fires. The frequency of fires for an area may be the most important factor since there are significant differences in the rate of recovery of the two species.

**Prairie Dog Studies (Ana Davidson, David Lightfoot, James Goss, Robert Parmenter)**

We have initiated a new project this year to assess the effects of Gunnison’s prairie dogs on Sevilleta grassland communities. In particular, we are interested in how prairie dogs alter plant composition and vegetation structure as a result of soil disturbance and herbivory. Additionally, prairie dogs probably influence other animal species as a result of habitat alteration and competition for food resources.

Gunnison’s prairie dogs were once abundant on the Sevilleta grasslands, and were undoubtedly important components of the grassland ecosystems. These animals were eliminated through poisoning efforts from the early 1900s, and continued as late as the 1970s. The extirpation of prairie dogs coincided with over-grazing and desertification of the grasslands by domestic livestock. Since the establishment of the Sevilleta National Wildlife Refuge in 1972, livestock grazing has been eliminated on the Sevilleta, and the grasslands have recovered. However, prairie dogs are still absent from Sevilleta grassland ecosystems. Recently, we have re-established a colony of Gunnison’s prairie dogs near the south boundary of the Sevilleta (Davidson et al., in press), and another colony has moved onto the Sevilleta across the north boundary. This project is designed to monitor the expansion of that colony onto the Sevilleta grasslands, and to determine how those prairie dogs interact with other animals and plants as this expected expansion occurs.

Banner-tailed kangaroo rats are currently the dominant rodents that disturb soils and modify vegetation. We have observed the prairie dogs occupying and perhaps replacing the banner-tail kangaroo rats as they colonize the grassland. A principal goal of this project is to determine how these two keystone species interact with each other, and other animals and plants. Ultimately, we hope to determine whether or not prairie dogs are significant keystone species in these grasslands, modifying soils, vegetation, and animal communities.

To date, we have determined the extent of this colony, and we are now mapping the colony by use of low-level aerial photographs and GPS coordinates. We will begin vegetation measurements and monitoring of other rodents, lizards, and arthropods later this summer. Measurements will focus on soil disturbance gradients surrounding prairie dog and banner-tailed kangaroo rat mounds, and landscape/plot analyses of vegetation patterns. This will be a long-term study designed to follow expansion of the colony over time, documenting vegetation and animal community changes as colonization of the grasslands occurs.
Eight sites were established along the riparian gallery forest of the Rio Grande during the summer and fall of 1998 to study evapotranspiration from these ecosystems. Sites include areas dominated by native cottonwoods and exotic saltcedars. Four sites are in areas that receive regular flooding and four sites are in areas decoupled from the river. The project is funded through a NASA ecosystem restoration program, and one site in an unflooded saltcedar stand is located at the Sevilleta. Evapotranspiration from the sites will be measured with ground water mass balance, modified Penman Monteith, Bowen ratio, 3-D sonic anemometry, and satellite remote sensing. The objectives of the project are to (1) determine annual evapotranspiration rates for native and non-native riparian plant communities using multiple techniques, (2) assess the effect of regular flooding relative to long inter-flood intervals on annual evapotranspiration rates, (3) compare remote sensing, water balance, and micrometeorological techniques for estimating evapotranspiration, and (4) scale up plot measurements of ET to provide an annual reach estimate of riparian ecosystem water use. Field measurements to accomplish these goals are currently underway.

G. DATA MANAGEMENT

The Sevilleta LTER program took advantage of an NSF special supplement opportunity to upgrade network connections to the Sevilleta Field Research Station which serves as the focus for our research. The WAN equipment and connection between UNM and the field station is in the process of being upgraded, and will bring that connection up to full T-1 speed (1.54 Mb/s) with a T-3 (45 Mb/s) capability. The LAN backbone and connections have been upgraded to 100 Mb/s to the desktop and 384 Mb/s between buildings - these connections allow Sevilleta researchers to take full advantage of the new capability. Part of the upgrade process that will be complete this year is the repositioning of the termination point of the connection to the router that is connected to the vBNS connection at UNM. This upgrade will also allow the Sevilleta Schoolyard LTER Program (see below) to take full advantage of vBNS access and the data services at Sevilleta. The Sevilleta LTER homepage continues to be expanded through the efforts of Richard Mott. Additional databases and metadata have been coming on line, making more of the Sevilleta’s data available to the general public. Sevilleta web page use by the public continues to be exceedingly high.

The Sevilleta LTER Program lost its data manager, Gregg MacKeigan, for family reasons in May. James Brunt, LTER Network Office Associate Director and former Sevilleta data manager, has stepped in on available time to direct the Sevilleta’s data management group until the position is refilled.

H. GIS/REMOTE SENSING

The major goals of the remote sensing studies continue to be (1) the refinement of the Sevilleta Vegetation Map (GIS data layer) that will form the basis for the landscape modeling simulations (hydrology and NPP), and (2) the development of additional GIS data layers of the Sevilleta at various scales derived from a number of remote-sensing platforms.
Development of the Sevilleta Vegetation Map (Esteban Muldavin, Greg Shore, Kimberly Taugher, Bruce Milne)

The Sevilleta National Wildlife Refuge in central New Mexico is an important site for the maintenance of biodiversity in the Southwest, and a center for the study of the effects of global change on aridland ecosystems. To support management of these important biological resources, and effective design and implementation of scientific research, a vegetation classification and 1:70,000 scale map of actual vegetation was developed (Version 1.0). The map is based on an unsupervised classification of multi-temporal LANDSAT Thematic Mapper (TM) satellite imagery using a Normalized Difference Vegetation Index (NDVI) computed from 12 TM images that variously cover the April-to-October growing seasons from 1987 to 1993. Thirty-two spectral classes were derived from unsupervised classification and grouped into 13 map units based on similar vegetation composition and spatial relationships. A preliminary vegetation classification following the US National Vegetation Classification system was developed from extensive ground survey work (251 plots), and serves as a basis for defining map units. Eighty-seven plant associations were recognized among 27 Cover Types (Alliances). The targets for the mapping effort were 15 major Cover Types: Black Grama, Blue Grama, Galleta Grass, Indian Ricegrass, Alkali Sacaton, Giant Sacaton, Fourwing Saltbush, Broom Dalea, Creosotebush, Honey Mesquite, One-seed Juniper, Piñon Pine, Salt Cedar, and Rio Grande Cottonwood. Map units can reflect single cover types, or transitions that combine two or more. An annotated map legend provides details on species composition and structure along with known major inclusions of other types. This is the highest resolution and most accurate map yet developed for the Sevilleta, and is appropriate for use at 1:50,000 or greater scales. To meet future needs for even higher resolution maps in management and research, new approaches will be needed that take advantage of new technologies. For example, a technique is suggested that builds directly upon this map to increase accuracy and precision in a cost-effective manner by combining the TM imagery with aerial photography or high-resolution sensor data (the next generation — Version 2.0). The Sevilleta Vegetation Map (Version 1.0) and this report will be made available in digital form on the web page of the Sevilleta Long Term Research Program at the University of New Mexico.

Shrub Demography Study (Joyce Francis, Jim Gosz)

We are examining creosote and yucca distributions since 1989 using high resolution, remotely sensed data. The data includes aerial photography of McKenzie Flats collected in 1989 and 1993. These photographs have been digitized at approximately a 20 cm resolution. They will be compared to 5500 ADAR (1 m resolution) imagery collected in 1998. Preliminary examination of the imagery suggests that both creosote and yucca have increased in cover value since 1989. Increased creosote cover appears to be due to growth of existing individuals rather than establishment of new plants. Yucca appears to be increasing in cover due to growth of individuals as well as an increase in plant density.

Grazing Exclusion Project (Nancy Golubiewski, Carol Wessman)

This is a collaborative project with the University of Colorado evaluating vegetation response to grazing. We are using multi-sensor and multi-resolution remotely sensed data to compare ungrazed plots to grazed plots outside the refuge boundary and to plots within the boundary. This approach allows us to evaluate the usefulness of different sensors and data resolutions for detecting change in
semi-arid grasslands while simultaneously investigating the structural and functional changes associated with recovery from grazing.

I. CROSS-SITE ACTIVITIES

**Chihuahuan Desert Small Mammal Exclusion Study with Jornada LTER and Mapimi, Mexico (David Lightfoot and James Brown)**

We continue to make routine measurements on the small mammal exclusion study plots at the Sevilleta. Vegetation quadrat measurements, including plant canopy cover, plant species composition, and soil surface disturbance were measured on all quadrats in the autumn of 1997, and early summer of 1998. Grasshopper species composition and abundance, ant nests, and termite foraging activity were measured on all plots at the same time. All data have been entered into computer database files. Image processing analysis of aerial photographs of all study plots is complete for the Sevilleta and Jornada. We continue to have excellent collaboration and interaction with researchers from the Jornada and Mapimi. We are planning a workshop at the Mapimi Biosphere Reserve, Mexico, to compare the results of our research at the Sevilleta, Jornada, and Mapimi, over the past four years, and to plan future collaborative cross-site research. Four students have completed research projects that were funded by our NSF LTER cross-site grant. One masters level student completed a project on rodent consumption rates, three REU students completed projects, including one on seed harvesting ant nest locations relative to soils and vegetation, one on microhabitat effects of rodent foraging, and one on aerial photograph interpretation of vegetation and soil patterns. We are currently preparing publication manuscripts to for all of these projects. One Ph.D. level student is currently conducting field research at Sevilleta, Jornada, and Mapimi for a study of diversity patterns of succulent plants.

**Ground-dwelling Arthropods: Bandelier/Sevilleta/Jornada (David Lightfoot)**

We have implemented the same sampling design and protocols for monitoring ground-dwelling arthropods at the Jornada LTER site (NSF funding to the Jornada LTER program) in southern New Mexico, and at Bandelier National Monument (USGS-BRD funding) in northern New Mexico. This extends the Sevilleta ground-dwelling arthropod studies to a regional level, encompassing an environmental gradient from the southern Rocky Mountains to the northern Chihuahuan Desert. All three study areas include a variety of major habitat types, and elevation gradients. We are coordinating sampling times, target arthropod groups, and data formatting at all three sites. We will continue these efforts through 1999. We have acquired additional funds from DOE to add another site in the Jemez Mountains near Bandelier, to focus on the effects of El Niño events on arthropods across an elevation gradient.

**Fire Ecology: Comparisons of Vegetation Responses to Fires among Desert Grasslands Sites in New Mexico (Deb Coffin Peters, David Lightfoot)**

We are conducting cross-site studies of the role of fire in Chihuahuan desert ecosystems. We conducted a multi-scale sampling of blue and black grama patches at the SNWR in July 1999. Our hypothesis was that different patch types would respond differently to fire. We also sampled unburned patches within the larger, burned matrix and expected that these patches would be areas of nutrient and soil accumulation through time that would positively affect the vegetation response. A similar sampling
scheme was used before and after a controlled burn of 1000 acres at the Jornada Experimental Range in June 1999. At the JER-LTER, we focused on the response of black grama and honey mesquite after fire.

**Cross-site Activities of Plant Populations and Communities (Debra Coffin Peters)**

Many of the plant population and small disturbance studies have comparable studies at the SGS LTER. For example, the seed production and storage studies of blue grama and black grama conducted in 1996 at the Sevilleta have similar methods and analyses as a seed production study in place since 1989 at the SGS and a seed storage study conducted in 1985-86. The plant removal plots started in 1995 at the Sevilleta are similar to small-scale disturbance plots at the SGS. We are also conducting cross-site simulation analyses using both the SOILWAT and ECOTONE models. A number of our studies have also been conducted at the JER LTER site, and we expect that an increasing number of SEV-JER studies will be initiated in the near future.

**Cross-site Energy Balance Study (Al Rango, Jerry Ritchie, Tom Schmugge, Carol Wessman)**

The USDA Agricultural Research Service is collaborating with the Jornada, Sevilleta and Shortgrass Steppe-LTER's to compare semi-arid grassland dynamics across these site. Specifically, they are using ground, aircraft and satellite remote sensing platforms for the multi-scale detection of landscape patterns. Data from different sensors will be used to quantify the hydrologic budget and investigate vegetation response to changes in water and energy balances across sites.

**US-Hungarian Cross-site Research (Debra Coffin Peters and James Gosz)**

As part of our US-Hungary project (Coffm and Gosz; INT95-13261), we are conducting cross-site comparisons of vegetation pattern and dynamics at three LTER sites (Sevilleta, SGS, JER) and three dry grassland sites in Hungary. Hungarian students and scientists have visited the New Mexico since 1997 in order to sample vegetation at the Sevilleta and Jornada. Our major findings are that species diversity decreases as the aridity of the site increases, in that the diversity was highest at the SGS, and similarly low at the Sevilleta and Jornada. We also sampled species composition in patches dominated by either blue grama or black grama, and found that species richness and identity are very similar in both patch types. Our results indicate that subdominant species from the two biomes (Chihuahuan desert, shortgrass steppe) are not strongly associated with their respective dominant species.

**Cross-site Mycorrhizal Study (Edith Allen and Nancy Johnson)**

This research examines arbuscular mycorrhizal (AM) responses to N enrichment at five grasslands within the Long Term Ecological Research (LTER) network (Kellogg Biological Station in Michigan, Cedar Creek Natural History Area in Minnesota, Konza Prairie in Kansas, Shortgrass Steppe in Colorado, and Sevilleta National Wildlife Refuge in New Mexico). The principle objectives of this research are to: (1) characterize grassland mycorrhizae and their sensitivity to N eutrophication along a natural moisture and soil fertility gradient; (2) assess species composition changes of AM fungal communities due to N enrichment using microscopy and immunofluorescence; (3) assess responses of arbuscule-vesicule ratios to N enrichment; (4) conduct bioassays to test the hypothesis that fertilization may select for AM fungi that are inferior mutualists.
At all of the study sites except for Sevilleta, replicated experimental plots receiving 100 to 300 kg N/ha/yr (as NH₄NO₃) have previously been established by site personnel. In December 1995, we established twenty 5 x 10 m plots at Sevilleta, with half of the plots randomly selected and fertilized with 100 Kg N/ha/yr (half applied in June and half in December). At Shortgrass Steppe the N enrichment treatment was maintained only between 1971 and 1975, but at Kellogg, Cedar Creek, Konza, and Sevilleta, N is currently applied to the experimental plots once or twice a year. Early and late during the growing season, root and rhizosphere soil samples are collected from two dominant grass species (one that increases with N-enrichment and one that decreases with N-enrichment) in N enriched and control plots at each of the sites.

Data collection and analysis is nearly complete. Results indicate:

1) Arbuscular mycorrhizae are sensitive to N enrichment, arbuscular colonization is impacted at all 5 sites, but total colonization (including arbuscules, vesicles, coils and hyphae) is significantly impacted at four of the five sites. Total AM colonization at Sevilleta has not yet shown a significant response to the N treatment, but we expect a lag period between N enrichment and mycorrhizal responses. At the other extreme, there appears to be a lag period between the cessation of N enrichment and mycorrhizal responses. Although experimental N enrichment at Shortgrass Steppe ended 22 years ago, grasses in N-enriched plots still show significantly lower AM colonization than those in the control plots! Similarly, AM colonization at Kellogg and Cedar Creek was significantly reduced by N-enrichment.

2) Nitrogen enrichment impacts the species composition of spore communities of AM fungi. At Kellogg and Cedar Creek, N-enrichment significantly reduced spore populations of Gigasporaceae, indicating a shift in the species composition of AM fungal communities. Compared to the other grasslands, responses of mycorrhizae at Konza was reversed, N consistently increased AM colonization and spore populations of Gigasporaceae. We hypothesize that this result is due to an interaction between soil N and P. Konza soils strongly fix P and N:P ratios are much higher there than at the other sites. We hypothesize that adding N to Konza soils makes that system more P-limited and thus stimulates mycorrhizal colonization.

3) Arbuscule:vesicle data have not yet been completely analyzed, but so far, no consistent patterns have been observed in arbuscule:vesicle ratios.

4) Mycorrhizae are generally assumed to be mutualisms, however, there are many cases in which they function as parasites. We hypothesized that, in undisturbed grassland systems, plants and AM fungi should be adapted to each other and to the local soil in order to maximize the mutualistic effects of the symbiosis, however anthropogenic enrichment of limiting soil nutrients may perturb their mutualistic functioning. We tested the generality of this hypothesis for each of the five study sites by inoculating the two study grasses (one that increases with enrichment and one that decreases with it) with AM fungi from either fertilized or unfertilized plots. Results of these experiments strongly support the hypothesis that fertilization generates inferior AM mutualisms for plants that typically depend upon mycorrhizae. These N-induced changes have no effect on plants that are non-mycotrophic.
J. PUBLIC OUTREACH

Newspaper Articles/Television Broadcasts

The Sevilleta LTER Program has been featured on public television several times in the past year, and is participating in three productions for PBS/Educational TV. Numerous newspaper articles have quoted results produced by Sevilleta LTER researchers, including major stories in USA Today, U.S. News and World Report, The Scientist, Associated Press, and the local New Mexico papers (Albuquerque Journal, Albuquerque Tribune, the Socorro El Defensor-Chieftain, and the Farmington Sun-Times).

In 1998-99, the Sevilleta LTER was featured on the CBS, NBC, ABC, and CNN News in regard to possible Hantavirus problems associated with the 1998 El Niño. As a number of our predictions have come true, Sevilleta researchers Terry Yates and Robert Parmenter have been on national (CBS, ABC, NBC, CNN) and local news presentations discussing the relationships between climate, ecosystem productivity, animal populations and diseases. In addition, Parmenter also appeared on the CBS local news in June, 1998, explaining climate dynamics (droughts) and impacts on water availability and ecosystem responses in New Mexico based on the LTER studies. With respect to transferring LTER concepts and Sevilleta LTER results (as examples) in the international community, James Gosz has appeared on several television broadcasts in a number of foreign countries. This list includes appearances in Ireland, Spain, Taiwan (China-Taipai), Mongolia, and Israel.

The three PBS productions deal with (1) teaching the use of mathematics in solving problems using ecological experiments (the NSF-funded series, “Math in the Middle of Nature”), (2) a program on biodiversity and the future of Man on the planet (another NSF-funded production, entitled “Can We Survive?”), and based on Sevilleta LTER data integrated with a National Academy of Sciences symposium on global biodiversity), and (3) a series produced by UNM and the New Mexico Museum of Natural History entitled, “Ecosystems of New Mexico” that was broadcast to public school science classes throughout the state.

Public access to GPS CBS, Greg Shore (Sevilleta LTER GIS Specialist) designed and implemented a system for WWW and anonymous FTP public access to the Sevilleta LTER GPS Community Base Station (CBS) system. This provides C/A code and L1 phase code GPS base data access for all Internet-connected GPS users within a 300 km radius of the Sevilleta NWR. GPS-CBS information and WWW/FTP access is available at: http://sevilleta.unm.edu/data/archive/gps/

K. STUDENT PROGRAMS

UMEB/REU Program

The Undergraduate Mentorships in Environmental Biology (UMEB) Program (P.I. Robert Parmenter, plus many faculty mentors), a collaborative program with the Sevilleta LTER, finished its final year in spring 1999. In addition, in the summer of 1999, we started our renewed REU Site Program (P.I.’s Robert Parmenter and James Gosz) at the Sevilleta; the major emphasis of this program is to related biodiversity to ecosystem NPP in various ecosystem types across the Sevilleta NWR. As in prior years, the goals of these programs are to (1) instruct undergraduates in the principles of scientific research, (2) expose the students to a wide variety of ecological research techniques and career opportunities, (3) facilitate individual student research projects, and (4) encourage students to continue their scientific education in upper-division courses and graduate school. To accomplish these goals, the programs
include (1) orientation meetings and a seminar series devoted to the variety of scientific opportunities in ecological research at the Sevilleta, (2) faculty-student one-on-one instruction of hypothesis development and research protocols in ongoing Sevilleta LTER projects, (3) field and laboratory experiences in sampling and data collection, (4) implementation of individual student research projects, carried out under the guidance of student-selected faculty members, and (5) preparation and submission of project manuscripts to scientific journals. These activities integrate all theoretical and technical aspects of the LTER and promote a holistic approach to large-scale ecological studies. Information on the new REU Site Program can be found at: http://sevilleta/research/outreach/reu/

Sevilleta Schoolyard LTER Activities

The Sevilleta’s Schoolyard LTER Program is directed by Dr. Clifford S. Crawford, who has established our educational outreach program known locally as the “Bosque Ecosystem Monitoring Program” (BEMP). The major focus of this educational program is on the Rio Grande riparian cottonwood-forest (“bosque”) corridor through central New Mexico (including the Sevilleta National Wildlife Refuge). The Sevilleta LTER Program has conducted a number of research studies in the Rio Grande bosque at Sevilleta NWR and other local sites, and due to its popularity with, and importance to, New Mexican populations (particularly schoolteachers and K-12 students), we have chosen this particular ecosystem in which to develop the Schoolyard LTER. The BEMP has four main educational goals. These are to (1) involve students and citizen volunteers of all ages in the coordinated monitoring of key processes and populations of the endangered Middle Rio Grande riparian forest ecosystem; (2) enable these participants to “learn by doing” about the natural history and ecology of the bosque near their communities; (3) use these students and volunteers to convey to their communities an appreciation of the scientific and social significance of long-term environmental research; and (4) give the students and informed citizens an opportunity to become involved in the management of a critical environmental resource.

The BEMP uses mainly secondary school teachers and their students to collect data relevant to the long-term management of bosque functioning. Data collection occurs synchronously and according to a predetermined schedule. Thus, a given set of variables is sampled on the same date at all four current BEMP sites. The sites are identical in layout and located between northern Albuquerque and the smaller city of Belen, NM, near the Sevilleta NWR. Site specific, abiotic data collected include soil and air temperature, precipitation and groundwater depth. Biotic data include litter production, plant diversity and indicator arthropod activity. Years of restoration related research on the bosque by UNM biologists have demonstrated the value of such data types and the relative ease of collecting them in the field.

In addition to the Director and Professor Cliff Crawford, the program is staffed by two coordinators and a data manager. The coordinators are biologists and educators associated with Bosque Preparatory School in Albuquerque, which pays the release time salary of one of them. Program interns have recently become an essential part of the BEMP. The 1998 Schoolyard supplement made it possible to award stipends to two of the most experienced interns. Another intern has an Undergraduate Mentorship Experience in Environmental Biology stipend awarded through the Sevilleta LTER. Each BEMP intern is assigned to work with site representatives (usually secondary school teachers) and individuals (usually their students) who collect the monitoring data following a brief period of training. Interns are responsible for supervising data sampling and for bringing sample material and field data records to UNM, where some additional sample treatment is performed by specially trained interns. The data
manager then enters the data in a UNIX system operated by the Sevilleta LTER. Following data
analysis, the data manager, in consultation with the director, will disseminate pertinent results to school
classes, as well as government agencies that have managerial responsibility for the bosque and the Rio
Grande; hence, the data from the Schoolyard LTER program actually is applied to real-world manage-
ment issues.

The main activity in FY99/00 is to continue the operation of the existing program. This will
include continued field sampling trips, sample analyses, and data management by the teachers, students,
and interns. Another goal for the coming year is to finish the development of the databases and Internet
homepage, so that the public (especially the teachers and students) can have easy access to the data sets
as they develop. The BEMP data sets are currently being entered and archived on the Sevilleta LTER
homepage, and should be completed during the proposed funding cycle (1999-2000). Homepage
information on the Schoolyard LTER will include the Program Description (designed to recruit
additional schools into the program), Goals and Hypotheses, Field Sampling Procedures, and the Data
Sets: Weather, groundwater depths, vegetation composition, cottonwood tree demographic data,
litterfall rates, and arthropod abundances. In addition, a major goal is to strengthen BEMP’s commu-
nity outreach and intersite communication. This will be accomplished through regular meetings, now
underway, of staff and interns on the second and fourth Tuesdays of each month. The first meeting of
the month is held at UNM and emphasizes intern reporting and intersite comparisons. The second
monthly meeting is held at the Rio Grande Nature Center in Albuquerque and focuses on community
outreach.

L. NETWORK-LEVEL ACTIVITIES

1. **NASA/MODIS MODLERS Project.** Bruce Milne has a subaward from Oregon State University to
participate in the NASA/MODIS MODLERS Project. This project brings together 14 Long-Term
Ecological Research (LTER) Network sites and NASA’s MODIS Land (MODLAND) Science
Team for the purpose of locally validating Earth Observation System-era global data sets. For more
information, see: http://atlantic.evsc.virginia.edu/~jhp7e/modlers/

2. **LIDET Experiment.** Sevilleta continues to participate in the LTER Network, and has included the
Sevilleta data in the project analyses.

3. **NASA Sun Photometer Calibration Study.** Sevilleta continues to maintain and service a Sun Photom-
eter for NASA which is important for atmospheric corrections of satellite images.

4. **USDA/ARS Project.** Sevilleta is actively involved in supplying meteorological and evapotranspiration
data to a USDA-ARS Global Change project that was integrating remotely sensed data with
ground measurements of energy budgets and water fluxes.

M. ADDITIONAL GRANT SUPPORT (21 Grants, Funding = $13,545,119)

- Sevilleta LTER 1999 Supplement Proposal: REU Students, Research Equipment Upgrades,
  Museum Equipment Additions, and Schoolyard LTER Program Development, Intellectual
  Connectivity, and Mongolia International LTER Project. NSF, $401,000.
- The Sevilleta Research Experiences for Undergraduates Site Program: The Relationship Between
  Biodiversity and Ecosystem Productivity. 1999-2002. NSF, $120,000.
Knowledge in Distributed Environments: Knowledge Networks of Biodiversity Information. James Beach and Leonard Krishtalka (P.I.s); subcontract to UNM, Terry Yates (Co-P.I.) NSF, Total Award of $2,000,000; subcontract to UNM = $393,883.


Longitudinal Studies of Rodent Reservoirs of Hantavirus in the Southwestern United States. Terry L. Yates. Centers for Disease Control and Prevention, 1994-2000. $1,000,000. Indian Health Services portion of same study adds $500,000.


International Collaboration in Infectious Disease Research: Environment, Ecology and Human Health in Chile: From Reaction to Proaction. NIH, 1998-2003, $4,000,000. Establishes long-term ecological research sites in Chile to study ecological aspects of hantavirus diseases; program modeled after the Sevilleta LTER Program, with training of Chilean scientists and technicians at the Sevilleta Field Research Station using LTER database management techniques.

Development and Testing of an Immunological Sensor. NSF Engineering Grant, Terry Yates Co-P.I. NSF $285,000. Hantavirus field sensor is being built by UNM School of Engineering, and will be tested on Sevilleta LTER sites during rodent population sampling exercises.

Infectious Disease Training for Medical Students. NIH Grant to UNM School of Medicine, Collaborator Terry Yates. $400,000. This grant trains students on proper field and laboratory procedures for handling vector animals carrying infectious diseases.


Replacement and consolidation of research training facilities of the Department of Biology, University of New Mexico. Terry L. Yates, Robert R. Parmenter, and Howard Snell. National Science Foundation, 1997-1999, $960,000 + $2,300,000 matching funds from UNM. NOTE: This project will fund the renovation of a UNM campus building which will house the new offices, laboratories and museum collections of the Sevilleta LTER Program and the LTER Network Office.

Ecosystem and Soil Studies of Native American Runoff Agriculture. NSF, $476,713. P.I.: Jonathan A Sandor, Iowa State University (ISU); Co-P.I.s: Mark Ankeny, Daniel Stephens, Carleton S. White, Stephen E. Williams, and Deborah A. Muenchrath.

Water Quality Study in the Santa Fe Watershed. USDA Forest Service. $20,000. PI: Carleton S. White.


USGS Paleoeccological Research at the Sevilleta LTER. DOI, U.S. Geological Survey, Global Change Program: The paleoeccological work at the Sevilleta LTER has been done through cooperative agreements where at least half of the resources have been contributed by USGS.

28


> Mycorrhizal Responses to Nitrogen Eutrophication at Five Mesic to Semiarid Sites. (1/96-12/31/98) DEB-9796168 (initially to Univ. of New Mexico as DEB-9527317): $98,519 , P.I. N.C. Johnson, E.B. Allen is a collaborator with grant DEB-9526564.

**N. 1998-PRESENT SEVILLETA LTER PUBLICATIONS (Total = 46)**

[Note: Publication numbers refer to the Sevilleta LTER Bibliographic Listing.]

**Journal Publications: (Total = 33)**


**Book Chapters (Total = 10)**


**Reports/Proceedings (Total = 3)**


SUMMARY

The Sevilleta Field Research Station continued to support an increasing variety and scope of research projects, educational activities, and conference/workshop events in 1999. Research studies on the Sevilleta research now total 53 projects with 203 researchers, and total funding in excess of $10 million. Educational activities continued, with the station supporting class field trips and research training programs, including the three-year renewal of the NSF-sponsored Research Experiences for Undergraduates Program. The station also provided housing and meeting facilities for 31 conference/workshop events. Finally, as part of a multi-organizational expansion of the main Sevilleta refuge headquarters facilities, the U.S. Fish and Wildlife Service, The Nature Conservancy, and UNM Department of Biology have successfully acquired funding from Congress and NSF for the building and equipping of a new conference facility, research training laboratory, and administrative offices at the Sevilleta. This will enhance and expand the research and educational activities being conducted at the field station, and should greatly increase the breadth of potential future projects that could be supported by the field station.

Introduction and Background Information

For many decades the Rio Grande Basin has been an important research area for geology, hydrology, anthropology, atmospheric science, biology and ecology. The recent, large increase in research activities in the Sevilleta region provided the impetus for the development of the Sevilleta Field Research Station. The Sevilleta Field Research Station in central New Mexico serves a research area of approximately 3,600 sq. km that ranges in elevation from Rio Grande riparian forests (1,350 m) and Chihuahuan Desert up to sub-alpine forests and meadows (3,450 m). More importantly, the area represents a “transition region” among many major biomes in the American Southwest. This multi-biome contact zone exhibits a very high species diversity, numerous novel species assemblages, and unique conditions of many similar sympatric species. Four dedicated research areas comprise the core sites for the field station research: the Sevilleta National Wildlife Refuge (NWR) (100,000 ha); the Bosque del Apache National Wildlife Refuge (25,300 ha); the Sierra Ladrones Wilderness Study Area (28,390 ha); and the Magdalena Mountains Research Area (15,000 ha) in Cibola National Forest.

The major research area supported by the field station is the Sevilleta National Wildlife Refuge (NWR), which is located in central New Mexico and covers two mountain ranges and the Rio Grande valley in between. A large expanse of terrain (100,000 ha), the Sevilleta NWR resides at the junction of several major biomes, including the Colorado Plateau Shrub-steppe, Great Plains Grassland, and Chihuahuan Desert, and is at the epicenter of the mid-elevation Mogollon Conifer Woodland Flora. The Los Pinos Mountains on the east and the Sierra Ladrones on the west provide extensive stands of piñon-juniper woodlands that grade into juniper savannas at lower elevations. These, in turn, transform into vast areas of pure grasslands, composed of a mix of Great Plains species and desert grassland species. Further to the south on the Sevilleta NWR, the grassland merges with the northern boundary of the Chihuahuan Desert, characterized by large expanses of creosote bush and mesquite. This mosaic...
of biome types leads to an incredibly rich fauna and flora, with more than 1,200 species of plants, 89 species of mammals, 353 species of birds, 58 species of reptiles, 15 species of amphibians, and thousands of species of arthropods.

The region of the current Sevilleta NWR is rich in archaeological sites, testifying to both the prehistoric and historic occupations by humans. Archeo-Indian sites, representing hunting camps of Clovis-point and Folsum-point Man, are found along the Rio Grande, as are ruins of the later villages of the Piro Pueblo peoples. Apache artifacts are common in the mountainous regions bordering the Rio Grande valley. The "Sevilleta" per se began as a Spanish land grant in 1819, and was later purchased by General Thomas Campbell in 1937. The Campbell family operated the Sevilleta as a cattle ranch until 1973, at which time the Campbell's donated the entire land grant to The Nature Conservancy, which then facilitated the transfer of the property to the U.S. Fish and Wildlife Service; thus, the creation of the Sevilleta National Wildlife Refuge. The Campbell family, TNC, and FWS agreed that the Sevilleta NWR would be used exclusively as a biological reserve and for environmental research and education. Hence, in 1974, the refuge was fenced off and locked up, all livestock removed, and public access terminated except for permitted researchers and educational field trips.

Because the Sevilleta NWR straddles several major biomes of the Southwest, the large geographic scale of the Sevilleta region is important for studies that range from genetics and physiology at the organismal level, to the dynamics of biome transition zones. The region is strongly influenced by the El Niño Southern Oscillation (ENSO), with major fluctuations in precipitation on semi-decadal time scales. Some of the major emphases of the many research programs are to examine aspects related to the hydrologic patterns in arid ecosystems, nutrient cycles, primary production, ecosystem disturbances (both natural and anthropogenic), and the population dynamics of important species.

Facilities at the UNM Sevilleta Field Research Station

Located near the U.S. Fish and Wildlife Service's Headquarters in the center of the Sevilleta NWR, the field station's facilities include housing and laboratory space, computer center and library, conference center, plant lath house, shop/storage facility, and a fleet of 12 field vehicles (10 of which are four-wheel drive). Housing at the station consists of eight three-bedroom residences, each with a capacity of six persons. Houses are completely furnished, including complete kitchen and laundry facilities. A ninth house is assigned to the station caretaker, who lives on site year-round.

The computer center contains 23 independent carrels for visiting researchers, each equipped with either a UNIX, IBM-PC, or Macintosh computer—this allows visiting researchers the freedom to choose their favorite computer system and begin working without having to learn a new system. All computers are interconnected at the station, and are linked to the Internet via a T-1 line to the UNM campus. The laboratory facility includes two general labs for sample processing and storage, an entomology laboratory, a vertebrate museum prep-lab, an herbarium, office, and a main computer/data processing room that houses the station's computer server, router, and other hardware. The 1,200 square-foot conference room is large enough for station meetings and seminars. The plant lath house is used for growing plants in partial shade for use in field experiments and common garden studies. The shop is well-equipped with a wide variety of power-tools and construction equipment to support various field studies, and the storage section of the shop building houses research equipment and
supplies. In addition to the UNM facilities, the current headquarters complex also has a Fish and Wildlife Service office, equipment storage sheds and garages.

The field study sites on the Sevilleta NWR are accessible by road or jeep trails. As a safety measure, all vehicles and the Sevilleta research base station are equipped with radios capable of transmitting on both UNM and U.S. Fish and Wildlife Service frequencies; most of the 4WD vehicles also have cellular telephones. In addition, personal safety of researchers is enhanced by a cooperative agreement with the UNM Medical Center radio-dispatched Lifeguard Rescue Helicopter, which can fly to any regional research site in less than 30 minutes.

The UNM campus in Albuquerque (a 55-minute drive from the field station) functions as a supporting resource to the field station, providing additional support through the LTER’s computer and laboratory facilities. The campus building with the Center for Long-Term Ecological Research is home to the Sevilleta LTER’s research personnel and the data management team, the computerized databases and Geographic Information System, and a fully-equipped laboratory for analyses of soils, plant biomass and precipitation chemistry. The main Biology Building (Castetter Hall) contains several fully-equipped genetics laboratories, and a section of the Museum of Southwestern Biology devoted to storage of Sevilleta flora and fauna voucher specimens and frozen tissues for genetic analyses and parasites.

The Sevilleta LTER databases contain a wealth of information on climate, flora, fauna, and other biotic/abiotic parameters of the region in tabular and geographically referenced formats. These data are accessible over the network via the Sevilleta Information Management System (SIMS) located on the UNM campus (http://sevilleta.unm.edu/). SIMS is the data management system of the Sevilleta LTER program and is available to researchers at the field station through user accounts and gopher and World-Wide-Web (WWW) network information servers. SIMS consists of a networked group of 12 Sun machines on the UNM campus network. The primary machine (called Sevilleta) is the file and network information server for these computers; the other 11 are client machines with moderate disks. Users have the option of logging into any of these machines. The peripherals attached to Sevilleta include 4mm DAT tape drives for backups and PostScript laser printers. A digitizing tablet, plotter, and Seiko thermal-wax color PostScript printer are attached to other machines. The SIMS computers are accessible from field station computer terminals to provide researchers access to local, regional and national databases available through the Sevilleta LTER.

The station’s computer systems are connected by a reliable, high-speed communication system. This system provides investigators at the station with (1) direct access to the Sevilleta LTER information management system, and (2) access to their home computers nationally and internationally via Internet. This permits essentially worldwide transparent communications among research computers; station researchers need never be out of touch with databases or email. Data from eight micro-meteorological stations in the region are incorporated into Sevilleta databases at near real-time via an RF repeater network established in 1993. This system is controlled by a 386 computer at the station data processing lab that automatically integrates the new data into the working area of SIMS. These data are summarized and made available on the gopher and WWW servers.

The field station also has considerable GIS capabilities. SIMS ARC/INFO, ARCVIEW, and IMAGINE licenses are accessible through a SUN UltraSPARC 1 at the field station. All the accessory modules have been added to provide surface modeling capabilities.
In addition, the station has a highly accurate Global Positioning System (GPS). The Sevilleta has access to GPS through the LTER program. This allows mapping of new areas and study sites, and data can be post-processed and integrated into ARC/INFO. The GPS can be used for relocation of specific positions in the field with great accuracy (less than 1 m) using the real-time differential base correction station operating at the field station.

**Research/Educational Summary of Accomplishments**

The following paragraphs briefly abstract a number of selected projects being conducted in the Sevilleta’s research area. These projects illustrate the variety of projects supported by the Sevilleta field station.

**The Sevilleta LTER Program.** Virtually all of the visiting researchers to the field station benefit from the databases of the Sevilleta Long-Term Ecological Research Program (LTER), a multi-disciplinary program involving many of UNM’s Biology faculty, staff and students. The Sevilleta LTER Program is part of a coordinated network of 21 LTER sites that span North America (including two sites in Antarctica). The Sevilleta LTER Program concentrates its research efforts on the Rio Grande Basin in central New Mexico, specifically on the Sevilleta NWR.

The research theme of the Sevilleta LTER is the study of ecological responses to climate fluctuation along environmental gradients. The Sevilleta LTER Program includes biophysical and mechanistic models of system responses to water availability. As one of the ecological variables of interest, the Sevilleta LTER research addresses a variety of species-specific responses to environmental changes and gradients (e.g., abundances, movements, morphological and genetic traits, and parasites/diseases). The Sevilleta NWR contains a high species richness in numerous taxa from a range of biome types. The site resides at the junction of several major biomes; thus, species capable of living in extremely different climatic regimes are juxtaposed and provide a pool of respondents. As a result, the Sevilleta NWR is well suited to investigations of species-level and community-level ecological responses to climate fluctuation. Detection of ecological responses to climate change in the Sevilleta is accomplished by studies conducted in the context of multiple biomes, a large area, edaphic and biologically controlled gradients, a variable climate system, and multiple scales.

**Biome Transition and Ecotone Research.** Edge studies have received extensive research efforts because of the nature of the Sevilleta location in the transition zone of multiple biomes. These edge studies are concerned with the role of these features in understanding ecosystem interactions and landscape mosaics. These edges can also be identified as ecotones and may constitute special, sometimes extensive, areas that have important management values for the sustainability of biodiversity, productivity of natural products and provision of natural services such as pollution control, erosion control, flood control, microclimate control and aesthetics. Researchers have used photographic and satellite digital imagery to demonstrate the multiscale nature of ecotones and patch geometries. Edges or ecotones occur at many scales and all are important in the functions that occur in such landscapes. The principal outcome of the field research is that observations purposefully made at multiple scales reveal critical scales at which changes in dynamics are governed by a change in a constraint, such as when the time scales of observation span minute-to-minute movements to week-to-week home range movement of
a species. In a simulation study of herbivory in heterogeneous landscapes represented by Sevilleta satellite imagery, UNM ecologist Dr. Bruce Milne investigated the implications of inter-specific variation in herbivory as controlled by allometric patterns of home range size, movement rates, ingestion rates and metabolism. Thus, these studies justify a general research strategy practiced at Sevilleta involving the search for constraints, whether meteorological, biotic, or edaphic in nature, that operate over a finite range of scales.

Hantavirus Research and Collaboration with CDC and NIH. The long-term studies of rodent populations by the Sevilleta LTER program have proved valuable in unraveling elements of the outbreak of Hantavirus initially identified in the southwestern U.S. In spring 1993, scientists at the Federal Centers for Disease Control and Prevention (CDC) enlisted the aid of Sevilleta LTER scientists in identifying ecological aspects of the recent epidemic of Hantavirus Pulmonary Syndrome, which resulted in 45 deaths in the U.S. CDC scientists suspected that, as with other Hantaviruses, the likely vector for the disease would be a rodent. Serological tests of rodents in the epidemic region revealed the virus in several rodent species. Residents of the afflicted areas observed exceptionally abundant rodent populations in the winter of 1992-93, which may have resulted in high numbers of rodent-human contacts, contributing to disease transmission and the sudden epidemic.

Biologists at the Sevilleta were conducting the only long-term observations of rodent communities in the region. The Sevilleta data showed large population increases in the critical rodent species (Peromyscus spp.) during 1992 and early 1993. Comparison of the rodent data to regional climate data indicated that the rodent population dynamics were positively associated with the above-average precipitation during the 1992 El Niño and the mild winter of 1992-93. These data provided a causal mechanism for the epidemic's timing and spatial distribution in the Southwest. Furthermore, blood samples from routinely collected museum specimens of rodents were analyzed to determine that the virus was indeed present, though undetected, before the epidemic in the region's rodent populations. Recent work by our department's Dr. Terry Yates and UNM Medical School researchers have identified a new species of Hantavirus in a different Sevilleta rodent species, the harvest mouse, Reithrodontomys megalotis. Results of the Sevilleta analyses are being used to develop rodent/virus sampling strategies, models to predict potential disease outbreaks, and disease prevention plans for human populations. Additional studies have advanced techniques for measuring long-term changes in rodent populations. In addition, Dr. Yates has developed a collaborative research program with the CDC to expand rodent population studies in New Mexico, and one of the CDC monitoring sites lie adjacent to the Sevilleta Field Station. Finally, with NIH funding, the Sevilleta NWR has become the site of two major Hantavirus programs utilizing large rodent enclosures to examine the ecology of Hantavirus transmission in wild rodent populations.

Lightning as a Predictor of Precipitation. Typically, 50-70% of the total annual precipitation in New Mexico is produced by convective lightning/thunderstorms between June and September. These summer storms produce intense, spatially variable rainfall, which is a critical factor influencing plant productivity, nutrient cycling, and herbivore activity. Knowledge of the timing, location and amounts of precipitation are important in planning or monitoring research activities and spatial modeling of the dynamics in this semi-arid region. Technology exists for locating cloud-to-ground lightning strikes that has the potential to locate these intense precipitation events, quantify the volume of water associated
with them and document the spatial and temporal variability of this phenomena over large areas. Near real-time analysis capability can identify areas receiving precipitation that will experience rapid vegetation growth in this semi-arid region. This study, conducted by UNM scientists James Gosz, Douglas Moore and Greg Shore, developed algorithms between lightning and precipitation quantity and used lightning location to determine rainfall depth and distribution for areas in New Mexico. There was a significant correlation between rain-gauge measured precipitation and lightning within a 3-km radius of the gauge location, with best predictions occurring from regressions that included lightning strikes and relative humidity (Gosz et al. 1995). Average precipitation volume per cloud-to-ground lightning strike averaged 36,190 cubic meters of rain for the 3-km radius circle, resulting in an average rainfall depth of 1.3 mm per lightning strike. Lightning location technology, combined with a GIS, defined the spatial and temporal resolution of these intense, summer precipitation patterns and provided a more detailed estimate of total precipitation and precipitation distribution than was provided by the sparse network of precipitation gauges. Combining this information with satellite sensing of vegetation growth (e.g., greenness index) can identify causal mechanisms for temporal and spatial patterns in short-term vegetation processes (e.g., primary production) and long-term vegetation dynamics for this area.

USGS Collaboration. Historical Climate Development. Sevilleta LTER scientists have collaborated with Dr. Julio Betancourt (USGS, Tucson, AZ) and Dr. Tom Swetnam (University of Arizona) on the development of historical climate, fire, and floristic records for the Sevilleta region based on tree ring analyses and pack-rat middens. As the project continues, understanding the impact of severe drought will help us to simulate how climatic fluctuations may affect ecosystem structure and functioning.

Effectiveness of “Artificial” Marshes for Waste-water Treatment. The Sevilleta Field Station utilizes a constructed wetland to clean its wastewater before its return to the Rio Grande aquifer. The station’s wetland has become part of a state-wide study on the efficiency and effectiveness of such “artificial” marshes, and the results of the study will lead to implementation of larger-scale uses of such wetlands. To date, the station’s wetland has out-performed all other constructed marshes in terms of nutrient removal and BOD reduction. The station’s wetland design will likely be copied widely as water conservation in New Mexico continues to receive greater attention at State and Federal levels.

Sevilleta Undergraduate Research Programs: Research Experiences for Undergraduates (REU) and Undergraduate Mentorship Experiences in Environmental Biology (UMEEB). The Sevilleta supports two programs that train undergraduate students to perform ecological research. The Sevilleta REU Site Program and the UMEEB Program both involve ten students each per year in ecological research. The goals of the REU and UMEEB Programs are to (1) instruct undergraduates in the principles of scientific research, (2) expose the students to a wide variety of ecological research techniques and career opportunities, (3) facilitate individual student research projects, and (4) encourage students to continue their scientific education in upper-division courses and graduate school. To accomplish these goals, the programs include (1) orientation meetings and a seminar series devoted to the variety of scientific opportunities in ecological research at the Sevilleta, (2) faculty–student one-on-one instruction of hypothesis development and research protocols in ongoing Sevilleta LTER projects, (3) field and laboratory experiences in sampling and data collection, (4) implementation of individual
student research projects, carried out under the guidance of student-selected faculty members, (5) a Sevilleta REU Symposium for project presentations by the students, (6) attendance at scientific meetings, and (7) preparation and submission of project manuscripts to scientific journals. These activities integrate all theoretical and technical aspects of the LTER and promote a holistic approach to Large-scale ecological studies.

Description of Research and Training Use

Research Activities. While research activities in this region have been underway for decades, recent research efforts in ecology, biology, geology and anthropology have been on the increase. As shown in Table 1, total research dollars currently involved in Sevilleta research exceeds $10 million. Field use of the Sevilleta NWR by researchers exhibited a major increase with the advent of the LTER Program in 1988, and has continued to increase since then. In 1998, there were nearly 1,500 “person days” of research use of the Sevilleta NWR. In the last five years, total research funding for Sevilleta-related projects has increased by 65% and the number of researchers has increased by 25%. We anticipate additional researcher increases in the future, due in part to an increasing emphasis of inter-site collaborations with other ecologists from the United States and around the world (particularly Mexico, Central/South America, China, Japan, and Eastern Europe).

Table 1. Summary of Sevilleta research projects (1994-98), numbers of researchers, and funding levels. Data from USFWS Permit records. Funding levels represent total awards of projects active during each fiscal year.

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Number of Projects</td>
<td>54</td>
<td>46</td>
<td>38</td>
<td>40</td>
<td>52</td>
</tr>
<tr>
<td>Number of Researchers</td>
<td>162</td>
<td>164</td>
<td>148</td>
<td>133</td>
<td>203</td>
</tr>
<tr>
<td>Funding Level</td>
<td>$6,049,994</td>
<td>$4,660,381</td>
<td>$6,212,919</td>
<td>$8,783,700</td>
<td>$10,003,415</td>
</tr>
</tbody>
</table>

As detailed in Table 1, the Sevilleta region benefits a wide variety of scientists from numerous institutions and disciplines. While biologists from UNM form a substantial proportion (32%) of the researcher population, the Sevilleta scientific community enjoys an extremely cosmopolitan composition of visiting scientists and graduate students. As a result, the whole research community benefits from the diversity of background experiences, perspectives and intellectual philosophies brought by visiting scientists. This “critical mass” of investigators invariably leads to the exchange of ideas and constructive discussions of research priorities, techniques, new ideas, hypotheses, and experiments. At present, visiting researchers comprise 62% of the Sevilleta region’s active scientists. While some criticism has been leveled at large-scale research programs (such as the LTER Network) for being inaccessible to unaffiliated individual scientists, our Sevilleta experiences suggest that the presence of an organized, multi-disciplinary project such as ours is very much an asset to visiting scientists. It is our strong intention to continue soliciting involvement and collaboration with all researchers interested in field studies of the Sevilleta region. The presence of an expanded, well-equipped facility will obviously increase our capability to achieve this goal.
Educational Use. Educational use by class field trips continues to be a major part of the activities at the Sevilleta NWR (Table 2). While university and college class activities are prominent in the following table, we anticipate that a major increase in K-12 activities will result from the expansion of the research training and educational facilities contained in this proposal.

Table 2. List of education activities at the Sevilleta Field Research Station, 1994-98.

Institution/Activity/Number of Persons:

<table>
<thead>
<tr>
<th>Institution/Activity</th>
<th>Number of Persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>The University of New Mexico</td>
<td></td>
</tr>
<tr>
<td>Research Experiences for Undergraduates</td>
<td>8+/year</td>
</tr>
<tr>
<td>Desert Field Biology class</td>
<td>16/year</td>
</tr>
<tr>
<td>Mammalogy class</td>
<td>25/alternate years</td>
</tr>
<tr>
<td>Natural History of New Mexico class</td>
<td>30/year</td>
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<tr>
<td>Flora of New Mexico class</td>
<td>30/year</td>
</tr>
<tr>
<td>New Mexico Geology class</td>
<td>25/year</td>
</tr>
<tr>
<td>Ecosystem Research Techniques</td>
<td>12/year</td>
</tr>
<tr>
<td>Environmental Laws and Conservation</td>
<td>8/year</td>
</tr>
<tr>
<td>New Mexico Tech</td>
<td></td>
</tr>
<tr>
<td>Surficial Geology class</td>
<td>25/year</td>
</tr>
<tr>
<td>General Ecology class</td>
<td>25/year</td>
</tr>
<tr>
<td>Hydrology class</td>
<td>25/year</td>
</tr>
<tr>
<td>Sedimentology class</td>
<td>25/year</td>
</tr>
<tr>
<td>Conference of SW University Biology Clubs</td>
<td>60</td>
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<tr>
<td>Harvard University</td>
<td></td>
</tr>
<tr>
<td>Landscape Ecology class</td>
<td>10/year</td>
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<tr>
<td>Kansas State University</td>
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<tr>
<td>Field Ecology class</td>
<td>15</td>
</tr>
<tr>
<td>Iowa State University</td>
<td></td>
</tr>
<tr>
<td>Field Ecology class</td>
<td>16</td>
</tr>
<tr>
<td>St. Louis University</td>
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<tr>
<td>Field Biology class</td>
<td>15</td>
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<tr>
<td>University of Colorado</td>
<td></td>
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<tr>
<td>Ecosystems of the Western U.S. class</td>
<td>15</td>
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<tr>
<td>University of Texas</td>
<td></td>
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<tr>
<td>Biogeography class</td>
<td>15</td>
</tr>
<tr>
<td>Augustana College, Illinois</td>
<td></td>
</tr>
<tr>
<td>Field Geology</td>
<td>18</td>
</tr>
<tr>
<td>NM Museum of Natural History</td>
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<tr>
<td>Ecological Research Demonstration</td>
<td>25/year</td>
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<tr>
<td>Museum Staff and Volunteers</td>
<td></td>
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<tr>
<td>NM Public School System</td>
<td></td>
</tr>
<tr>
<td>Natural History and Ecology of New Mexico</td>
<td>75/year</td>
</tr>
</tbody>
</table>

40
Tours for High-School biology classes
NM Continuing Education
Ecosystems of New Mexico class 60/semester

Workshops/Conferences. The Sevilleta Field Research Station continues to enjoy an increasing popularity as a site for workshops and conferences (Table 3). The additional space and equipment requested in this proposal will permit greater numbers of such activities in the future. Note that most workshops and conferences take place in fall, winter and spring, as much of the station is full during the summer months.

Table 3. List of Workshops/Conferences Conducted at the Sevilleta Field Research Station, 1994-98.

<table>
<thead>
<tr>
<th>Date</th>
<th>Sponsor</th>
<th>Project Description</th>
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<tbody>
<tr>
<td>Spring 1994</td>
<td>UNM</td>
<td>Sevilleta LTER Data Management Workshop</td>
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<tr>
<td></td>
<td>USDA</td>
<td>USFS/LTER/DOE/USGS Collaboration workshop</td>
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<tr>
<td></td>
<td>NASA</td>
<td>NASA/LTER Sun Photometer Training Workshop</td>
</tr>
<tr>
<td>Summer 1994</td>
<td>USFWS</td>
<td>Fish and Wildlife Service Ecosystem Management Workshop</td>
</tr>
<tr>
<td></td>
<td>NSF/UNM</td>
<td>Sevilleta REU program data management training courses</td>
</tr>
<tr>
<td>Fall 1994</td>
<td>NSF/CSU</td>
<td>Hungarian Academy of Sciences/LTER collaboration workshop</td>
</tr>
<tr>
<td></td>
<td>NASA</td>
<td>NASA/LTER Sun Photometer collaboration calibration activity</td>
</tr>
<tr>
<td></td>
<td>CDC/IHS</td>
<td>Hantavirus infected rodent handling procedures workshop</td>
</tr>
<tr>
<td>Winter 1995</td>
<td>NSF/CSU</td>
<td>Grassland Biome cross-site experiment development workshop</td>
</tr>
<tr>
<td></td>
<td>NSF/UNM</td>
<td>Sevilleta LTER interagency water-balance modeling working group</td>
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<tr>
<td></td>
<td>UNM</td>
<td>Sevilleta All Taxa Biological Survey development workshop</td>
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<tr>
<td></td>
<td>SFI</td>
<td>Echo Ecosystem modeling workshop</td>
</tr>
<tr>
<td>Spring 1996</td>
<td>UNM</td>
<td>Sevilleta Research Symposium (All Scientists)</td>
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<td>APS</td>
<td>Albuquerque Public Schools/Academic Decathlon Competition</td>
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<td></td>
<td>NMNPS</td>
<td>New Mexico Native Plant Society Annual Meeting</td>
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<tr>
<td></td>
<td>LTER</td>
<td>LIDET Workshop, LTER Network</td>
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<tr>
<td></td>
<td>LTER</td>
<td>Soils Group Workshop, LTER Network</td>
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<tr>
<td></td>
<td>RAMBO</td>
<td>Research Association of Medical and Biological Organizations, Meeting</td>
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<td></td>
<td>UNM</td>
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<td>LTERNet</td>
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<td>NMGFD</td>
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<td>Game &amp; Fish Department Citizens Review Commission Meeting</td>
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New Activities in 1999: Facility Expansion!

We have obtained $150,000 in NSF funding and a cost-share grant of $125,000 from The Nature Conservancy to support taking the Sevilleta Field Research Station to a new level in research and education—a level involving a major expansion of research activities, research training opportunities, and educational programs unprecedented in the 25-year history of the Sevilleta National Wildlife Refuge. This opportunity to increase the station's scope and mission has come about through the fusion of goals by three large organizations—the University of New Mexico, The Nature Conservancy, and the U.S. Fish and Wildlife Service.

For the past quarter of a century, the Sevilleta NWR’s research and educational programs have been somewhat limited by budgetary constraints in FWS and TNC. The research community, strongly supported by NSF and other funding agencies, has taken the lead in developing the research databases and projects in the Sevilleta region. FWS has only had sufficient resources to maintain the “reserve” status of the refuge (security, fences, road maintenance), and TNC has had no funds to sponsor formal research or educational programs. In the past six months, however, both organizations have developed resources to increase their roles in research and education, and these developments have led to the initiative described herein.

The Sevilleta NWR currently hosts more than 200 researchers conducting 52 research projects supported by more than $10 million in grants and programs. These research efforts have yielded high-profile results of public importance, including information on Hantavirus disease, drought predictions, wildfire ecology, biodiversity trends, and the role of El Niño and La Niña in the Southwest. The FWS has increased its support for the Sevilleta NWR, elevating it to one of its premier refuges in the Southwest Region, and has allocated nearly $1 million in their 1999 budget to build a new Headquarters Complex that will house not only refuge offices and a public visitor center, but also field station offices, a new research laboratory, and a new conference facility. The Nature Conservancy enthusiastically promotes the Sevilleta NWR and field station as an ideal place to conduct both research and public educational programs, and has dedicated a cost-share contribution of $125,000 cash toward this proposal to ensure the successful development of these programs. The Sevilleta researchers and administration at the University of New Mexico have welcomed and embraced these collaborations, and are dedicated to working together to form an expanded, comprehensive research and educational program that integrates the research activities and databases of Sevilleta ecologists, geologists and anthropologists with K-12 schoolchildren, university/college students, Elderhostel groups, and the
general public. The new funding from NSF to UNM and TNC will support the purchase of laboratory and field equipment to permit the expansion of research laboratory facilities at the Sevilleta, and to develop a research-training and public-education program utilizing, and contributing to, the Sevilleta research databases. The new building being constructed by FWS will include nearly 800 square feet of additional laboratory space, which will be available to the station's research community. However, the FWS construction funds are stretched to the maximum in trying to create as much research space as possible, and as such this room is only being "shelled in" without laboratory benches, sinks, cabinets, etc. In order to make this a functional laboratory, NSF/TNC are funding the necessary laboratory equipment to adequately outfit the laboratory (benches, tables, cabinets, sinks, refrigerator, freezer). Much of the research activities on the Sevilleta NWR simply require bench/table space, and include such things as specimen preparation and identifications, drying plants for herbarium specimens or measuring NPP, or basic soils analyses ("wet chemistry" work is conducted in the laboratories on the UNM campus, where adequate waste-disposal/ventilation facilities exist). Therefore, basic sample processing equipment such as top-loading balances, a drying oven, museum specimen preparation equipment/storage (microscopes, cabinets), and soil sieves/shaker are being purchased to allow the typical activities conducted on the Sevilleta. Finally, computer terminal access in the laboratory is planned, to allow researchers to efficiently enter their data and measurements at the time that they are conducting their research in the room. The addition of the new laboratory space will increase existing lab space by nearly 40%, and greatly alleviate the pressure on available bench/table space.

**Research Training/Educational Programs.** With the advent of public access to the FWS Visitor Contact area of the new building, we in the research community have an excellent opportunity to disseminate our ecological research data to the general public. We plan on accomplishing this in two ways: (1) For the general public visitor, we will provide computer terminals, displays, and Internet Access interface programs via a T-1 Line that will access the Sevilleta's databases (weather, GIS layers, plant/animal population trend data, satellite images, etc.) in a user-friendly fashion; (2) Develop formal public education programs (K-12, and Elderhostel) that will bring in supervised groups of up to 24 individuals to perform field exercises on the Sevilleta, and process their samples, enter their data, and analyze their results on the Sevilleta Information Management System (SIMS). This will allow hands-on training of "students" (young and old) in ecological, geological, and anthropological studies. We already have a prototype program operational—the Sevilleta Schoolyard LTER Program, funded by NSF and directed by Prof. Clifford Crawford—and it has enjoyed remarkable success in the past year. In order to expand this program to more fully involve the Sevilleta Field Research Station, the laboratory space described above will be used in support of these group activities; hence, we are providing basic support equipment (computer terminals, microscopes and dissecting scopes, glassware) to provide a total of 12 work-stations in the laboratory. We anticipate that two persons can work together at each station, bringing our group capacity to 24 people. Finally, in order to transport these groups to and from the field sites across the Sevilleta, we are purchasing two 15-passenger vans.

**Workshops/Conferences.** Increasingly over the years, the Sevilleta has become a very popular place in which to hold workshops and conferences (see below). The main conference room at the existing station serves as a site for multiple functions, including evening seminars, weekend meetings and retreats, work area, and social hall for the station's residents (it houses the only TV, VCR and stereo
system, and is next to the station’s community patio area. While this room functions for many events, we have run into scheduling conflicts when the station is hosting more than one group at a time, or when station residents would like to use it when another group meeting is in progress; i.e., when a workshop is being conducted, visiting station residents can’t use the facility. The new FWS building will include a conference facility, including a small kitchen and outdoor BBQ area, that will take considerable pressure off of the station’s conference room, and allow a greater number of groups to use the facilities. As with the laboratory, we are providing computer T-1 links into the conference room, and provide terminals, computer projector, and basic presentation equipment (slide, overhead projectors, TV and VCR).

Field Station Administration Offices. Finally, the new FWS building will have two offices dedicated to station administration. This arrangement will allow even greater communication and collaboration between UNM and FWS, and free up the old office space in the existing laboratory building. We are providing funds for computer connections and terminals in these new offices.
APPENDIX E

ANNUAL REPORT:
MOLECULAR BIOLOGY FACILITY
The Molecular Biology Facility (MBF) at the UNM Department of Biology provides three principal areas of support. First, it is a common equipment facility for faculty and students who routinely use the tools of molecular biology in their research. Second, it is a common area for faculty and students who do not have laboratory space of their own suitable for conducting research which uses the techniques of molecular biology. Third, the MBF provides support for several classes with teaching equipment, student training, and outreach. All three roles are equally important and interdependent. Based on the data contained in this report, the MBF is arguably the single most heavily utilized unit within the department outside of the main office.

With the recent hiring of Dr. Anne Stone, a molecular anthropologist, by the Dept. of Anthropology and the increasing collaborations between Biology faculty (Dahm and Turner) and faculty in Earth & Planetary Sciences on projects which use the MBF, the role which the facility serves as a critical support facility has moved from the departmental level to the college level.

Fiscal year 1998-99 was an important year for the MBF with the hiring of a full time Research Scientist to take on the duties of a facility manager. This is the first Department supported staff line for the MBF and was timely given the steady increase in use of the facility. Currently 18 full time faculty and 7 adjunct or part-time faculty within the Dept. of Biology use the facility for their research programs. These research programs involved 8 postdoctoral fellows, 27 graduate and 36 undergraduate students over the past year. In addition there were four visiting scientists, two international, using the facility.

Highlights for the 1998-99 fiscal year include:

- 26 active grants at UNM with over $8 million in total awards depend on the MBF.
- 17 manuscripts were published or accepted for publication which contained data generated using the MBF.
- 56 papers were presented at local, national and international meetings by users of the MBF, primarily students.

The MBF's role in education and training in the Department and the community also continues to grow. Four courses taught within Biology (Biol. 220, 439, 446, and 478) and one course taught by the General Honors program (Gen. Hon. 301) regularly use the facility. The MBF also hosted visits from Albuquerque area high school science classes and teachers and MBF personnel visited local high schools. The most critical role in training which the MBF plays however remains the direct, hands-on research experience for graduate students and undergraduates working on independent projects with faculty mentors.

**Issues and future goals:** The MBF was established and, until last year, funded primarily by external grants. These included two RIMI grants from NSF and a lot of direct and indirect support from the Hughes grant. These grants have terminated and the facility is dependent upon the Department and user fees for support. Most of the pieces of equipment purchased on these
grants are reaching the end of their serviceable lifespan. As an example, during the past year the laser in the automated DNA sequencer went down and needed to be replaced. In the absence of a service contract this would have cost over $6000 in parts alone. All current Assistant Professors in the Department are users of the facility, indicating that the trend will be for increased demands on the MBF and underscores the importance the facility plays in faculty recruitment. In conclusion, the demands on the MBF will continue to grow and the facility needs a new infusion of funding for capital equipment purchases, service contracts, space renovation, etc.

Recognizing this fact, the Director needs to be investigating new sources of external funding and going out and getting it. Also, and equally important, the Director needs to be communicating with the users and keeping them informed of the need for user fees. It is currently the policy of this Director that complete use of the resources of the MBF is NOT dependent on ability to pay the user fees, and the goal will be to keep the fees to a minimum. There must be increased communication between the MBF Director, the users, and the Department administrator who signs grant proposals before they are submitted. The users need to know what the use of the facility is going to cost them when they prepare their budgets and the Dept. Chair should not allow proposals to be sent out which use the MBF without sufficient funding to pay or that use.
STAFF
Director: Robert D. Miller
Research Scientist/Manager: George H. Rosenberg

Teaching Assistants:
Hyojeong Kim (Summer 1998 half time, Fall 1998)
Randy DeJong (Spring 1999)
Kate Miska (Summer 1999, half time)

Other:
Richard Plunket (Work Study, Spring 1999)
Megan Armstrong (Research Assistant, Summer and Fall 1998, funded by Miller, Natvig and Yates)

MAJOR EQUIPMENT ACQUISITIONS
Macintosh G3 Computer (purchased by R. Miller and Dept. 50/50)
Jouan Tabletop Centrifuge (purchased by funds from University Equipment Bond Fund)
Digipix Digital Gel Documentation System (purchased by funds from University Equipment Bond Fund)

USERS:
Faculty (18):

Adjunct or Part-time Faculty (7):
Coen Adema, Wendy Fuge, Bruce Hofkin, Gary Miller, Vickie Peck, Ana Perez, Peter Stacey

Postdoctoral Fellows (8):
Jerry Dragoo, Scott Synder, Greg Saenz, Anne Hall, Ana Perez, Anna Colina, Michelle Baker, Ed Braun.

Graduate Students (27):
Andi Hunter, Dianna Northup, Claire Carpenter, Ken Barber, Pascale Leonard, Randy DeJong, Jerusha Reynolds, Laura Boykin, Kate Miska, Michelle Pricer, Sergio Flores, Amy Powell, Bill Dvorachek, Suzanne Shoup, Harriet Plater, Hyojeong Kim, Kelly Howe, Pat Dolan, Dominque Alo, Megan McPhee, Gavin Conant, Allison Errett-Gold, Matt Crawford, Pam Padilla, Jorge Salazar-Bravo, Xiaomin Zhao, Rebecca Kimball

Undergraduates (36):
**Visiting Scientists Using the Facility (4)**
Gerald Mkoji (Kenya Medical Research Institute, Nairobi)
Kate Wilson (Australia Institute for Marine Science, Townseville)
Jim Gayle (UNM School of Medicine, Dept. of Cell Biology and Physiology)
Mary E. Shaw (NM Highlands University)

**Research Staff (10)**
Richard Plunkett, Tyanna Lovato, Laura Bean, Ali Whitmer, Sean Place, Ali Whitmer, Lynn Hertel, Laura Bean, Tara Armijo-Prewitt, Julie Hagelin

**INSTRUCTION AND TRAINING**
**Formal Courses Supported**
Biol 220, Cell Biology Problems
Gn Hon 301, Seminar/Hello Dolly! (Ursula Shepherd)
Biol 478, Plant Physiology (Gordon Johnson)
Biol 439, Molecular Cell Biology (Amy Marion)

**Outreach:**
**Visitors:**
Dr. Mary E. Shaw and Sandra Diaz DeLeon NM Highlands University, Summer 1999
Advanced Placement Institute, -20 AP High School Science Teachers from throughout New Mexico, Summer 1999

**Public Education**
Demonstration for Highland High School, Teacher Oni Leach and 16 students, at MBF on 4/27/99.
K. Miska and G. Rosenberg visited Highland High School, arranged by Oni Leach, 5/12/99

**Other Training Programs**
NASA PURSUE Program (Gordon Johnson)
NGP at UNM (Mary Anne Nelson)

**SPONSORED PROJECTS WHICH USE MBF**

Principal Investigator: Larry Barton
Sponsor: Dept. of Energy
Title: Determination of Long Term Stability of Metals Immobilized by In Situ Remediation
Dates: 09/15/98-09/14/99
Total Award: $250,000

Principal Investigator: Richard Cripps
Sponsor: Muscular Dystrophy
Title: Genetic Analysis of Muscle Remodeling in *Drosophila melanogasner*
Dates: 01/01/99-12/31/99
Total Award: $64,370
Principal Investigator: Clifford Dahm  
Sponsor: National Science Foundation  
Title: Geomicrobiological Interactions in Cave Deep Subsurface Environments: A Novel Extreme Environment  
Dates: 10/01/98-09/30/01  
Total Award: $292,134

Principal Investigator: Jerry Dragoo  
Sponsor: NM Game and Fish Department  
Title: Taxonomy and Conservation of Swift Foxes and Kit Foxes in New Mexico  
Dates: 05/28/98-03/31/99  
Total Award: $20,000

Principal Investigator: Donald Duszynski  
Sponsor: National Science Foundation  
Title: The Coccidia of the World  
Dates: 08/01/95-08/31/99  
Total Award: $548,358

Principal Investigator: Gretchen Hofmann  
Sponsor: National Science Foundation  
Title: Ecological significance of heat shock proteins as molecular chaperones: temperature-dependence of hsp function in marine fish.  
Dates: 08/15/97-07/31/99  
Total Award: $129,273

Principal Investigator: Gretchen Hofmann  
Sponsor: National Science Foundation  
Title: REU supplement to NSF Grant IBN 9723063  
Dates: 04/01/98-07/31/99  
Total Award: $5,000

Principal Investigator: Astrid Kodric-Brown  
Sponsor: National Science Foundation  
Title: Introgression in Pubfish: Role of Sexual & Natural Selection  
Dates: 08/15/98-07/31/01  
Award: $167,985

Principal Investigator: Eric Loker  
Sponsor: Fogarty International Center  
Title: Molecular Studies of Kenyan Schistosomes  
Dates: 08/28/97-01/07/99  
Total Award: $39,652

Principal Investigator: Eric Loker  
Sponsor: National Inst. of Allergy & Infectious Diseases
Title: Biology of Trematode-Snail Associations  
Dates: 12/01/86-11/30/99  
Total Award: $993,213

Principal Investigator: Eric Loker  
Sponsor: National Institute of Health  
Title: Evolution of Schistosoma mansoni and its snail hosts  
Dates: 04/01/99-03/31/04  
Total Award: $1,009,989

Principal Investigator: Eric S. Loker  
Sponsor: NSF-Sloan Foundation  
Title: Evolution of host-parasite association among Schistosomatidae  
Dates: 09/1/96-8/30/98  
Total Award: $8000

Principal Investigator: Gary Miller  
Sponsor: NASA  
Title: Molecular Analyses subcontract for: High trophic level ecosystem response to climate change  
Dates: 04/01/99-12/31/99  
Total Award: $44,400

Principal Investigator: Robert Miller  
Sponsor: National Science Foundation  
Title: Immunological Development in a Marsupial-Faculty Early Career Development (CAREER) Program  
Dates: 10/01/96-09/30/00  
Total Award: $322,585

Principal Investigator: Donald Natvig (Co-PI)  
Sponsor: Ford Foundation  
Title: Reproductive & population genetics of Neurospora tetrasperma  
Dates: 06/01/98-05/31/99 Total Award: $27,000  
Direct: $27,000

Principal Investigator: Donald Natvig  
Sponsor: National Science Foundation  
Title: Reproductive Genetics of Neurospora tetrasperma  
Dates: 06/01/97-05/31/00  
Total Award: $158,701

Principal Investigator: Donald O. Natvig, Mary Anne Nelson, Margaret Werner Washburne and Robert D. Miller  
Sponsor: National Science Foundation
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<td>The Neurospora Genome Project at UNM: Expressed Sequence Analyses</td>
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<td>The Scent of Symmetry</td>
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<td>Kathryn Vogel</td>
<td>Hughes (Howard) Medical Institute</td>
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<td>Undergraduate Curriculum Education Initiative</td>
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<td>Proteoglycan Structure, Metabolism and Role in Tendon</td>
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<td>Characterization of a Novel, Stationary-phase Gene in the Yeast Saccharomyces cerevisiae</td>
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<td>Developmental Regulation of Signal Transduction: Bcy1p in Stationary-Phase Yeast</td>
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<td>The Role of Snz and Sno Proteins in the Yeast Saccharomyces cerevisiae</td>
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Total Award: $110,000

Principal Investigator: Terry Yates
Sponsor: National Inst. of Allergy & Infectious Diseases
Title: Hantavirus Infections: Ecology, Immunity and Treatment
Dates: 08/15/96-07/31/99
Total Award: $1,098,649

Principal Investigator: Robert Parmenter
Sponsor: National Science Foundation
Title: Scientific Research Experiences for Minority Undergraduates in the Sevilleta LTER Program: Career Enhancement and Training in Environmental Biology
Dates: 10/01/93-03/31/99
Total Award: $245,000

PUBLICATION
Published or Accepted for publication


Belov, K., G.A. Harrison, G.H. Rosenberg, R.D. Miller, and D.W. Cooper. Isolation and comparison of the IgM heavy chain constant region from Australian (Trichosurus vulpecula) and American (Monodelphis domestica) marsupials. Developmental and Comparative Immunology: in press.


Goodrich-Tanrikulu, M., K. Howe, A. Stafford, and M.A. Nelson 1998 Changes in fatty acid composition of Neurospora crassa accompany sexual development and ascospore germination. Microbiology, 144, 1713-1720


Manuscripts in review
Adema, C.M., P.A. Doucette, K.K. Sapp, W.P.W. van der Knaap and E.S. Loker. Expression of a cecropin-like molecule in the mollusc *Biomphalaria glabrata*. Submitted to Developmental and Comparative Immunology, in revision.

Barber, K.E., G.M. Mkoji and E.S. Loker. PCR-RFLP Analysis of the ITS2 Region to Identify *Schistosoma haematobium* and *S. bovis* from Kenya. American Journal of Tropical Medicine and Hygiene, submitted.


Papers presented at conferences:


Hanelt, B., W.M. El Mazny, M.H. Mansour and E.S. Loker. Using nested PCR to investigate the fate of *Schistosoma mansoni* in susceptible and resistant laboratory populations of *Biomphalaria glabrata*. Presented at the SRP International Conference on Schistosomiasis. Cairo, Egypt, 15-19 March 1998.


Legler, S.B. DNA fingerprinting of mountain lions in New Mexico. Presented at the State Fair in Socorro and as an alternate at the International Fair in Pennsylvania.

Leonard, P.M., C.M. Adema, D. Quintana and E.S. Loker. Snail fibrinogen-related proteins (FREPs) comprise the first invertebrate defense-related gene family with a V-type Ig domain. Presented at the annual meeting of the American Society of Parasitologists, Kona, Hawaii, 16-20 August, 1998.


Meyer, K. and E.S. Loker. Identification of a T1/ST2 homolog from the colonial tunicate Botryllus schlosseri, and possible implications for defense from intraspecific parasitism. Presented at the annual meeting of


Natvig, D.O. and M.A. Nelson. The Neurospora Genome Project at the University of New Mexico. Invited talk at the Annual Meeting of the American Society of Biological Resource Facilities, Durham, NC, March


Plunkett, R. R.D.Miller. Isolation and characterization of the constant region genes for the alpha and beta chains of the T Cell Receptor from the opossum Monodelphis domestica. Marsupial Immunobiology Conference, University of Western Sydney Nepean, Sydney, Australia. Oct. 2-5, 1998


Pricer, M. Y. R.D.Miller. Germline and non-germline contributions to the Ig heavy chain repertoire in the opossum


APPENDIX F

FACULTY

SCHOLARLY &

PROFESSIONAL

ACTIVITIES,

CY 1998
I. TEACHING.

A. Graduate Education.

1. Masters degrees awarded.

BROWN, J.H.

DAHM, C.N.

Summer: Douglas L. Moyer, "Influence of Livestock Grazing and Geologic Setting on Morphology, Hydrology, and Nutrient Retention in Four Southwestern Riparian-Stream Ecosystems." (Doug is now a research scientist with the U.S. Geological Survey in Richmond VA.)

DUSZYNSKI, D.W.

Spring: Wade D. Wilson, "Systematic Analysis of the Rodent and Rabbit Bot Flies (Cuterebra)."


LOKER, E.S.


MILLER, R.D.

Fall: Michelle Y. Pricer, "Germline and Non-germline Contributions to the Igh Repertoire in a Marsupial."

MOLLES, M.C.

Summer: Carolyn A. Finnance, "Predicted Regional Impacts of Climate Change on the Geographic Distribution and Diversity of Tropical Forests in Costa Rica."

Mary Jane Meyerson-Mund, "Arthropod Abundance and Composition on Native and Exotic Trees in the Middle Rio Grande Riparian Forest as Related to Avian Foraging."
VOGEL, K.G.
Spring: Thomas Ehlers, “Proteoglycan Synthesis by Tendon Fibroblasts and Chondrocytes Suspended in Alginate Beads.”

2. Doctors degrees awarded.

BROWN, J.H.
Fall: Dawn Kaufman, “The Structure of Mammalian Faunas in the New World: From Continents to Communities.”
Laura Gonzales-Guzman, “Consequences of Migratory Behavior in the Ecology and Biogeographical Distribution of Birds.”

DAHM, C.N.
Summer: Michelle A. Baker, “Organic Carbon Retention and Metabolism in Near-Stream Groundwater.” (Michelle is presently on a NSF/NATO post-doctoral fellowship working with Dr. Philippe Vervier in Toulouse, France.)

DUSZYNski, D.W.
Fall: John A. Hnida, “Molecular Methods and Cross-transmission Experiments to Study the Taxonomy and Systematics of Cryptic Species of Eimeria.”

GOSZ, J.R.
Spring: Timothy Haarman, “Honey Bees to Assess Radionuclide Contamination of the Environment.”

JOHNSON, G.V.
Fall: Diane Rowland, “Variation in Physiological, Morphological and Demographic Traits Among Cottonwood Populations in New Mexico: Evidence for an Environmental and Genetic Basis of Variation.” (Co-chair with Dr. C.S. Crawford)

KODRiC-BROWN, A.
Fall: Daniel Albrecht, “Parental Manipulation of Offspring Sex Between and Within Broods of House Wrens (Troglodytes aedon).”

MARSHALL, D.L.
NATVIG, D.O.
Summer: Edwin Weeber, "Characterization of Rat Brain Phosphatidylinositol-Specific Phospholipase C-β1: A Role in Learning and Memory."

NELSON, M.A.
Fall: David B. Bates, "Analysis of the Replication Origin in Escherichia coli, OriC" (awarded with distinction)

WERNER-WASHBURN, M.
Fall: Pamela Padilla, "Characterization of the SNZ and SNO gene families in Saccharomyces cerevisiae."

3. Bona fide graduate courses and number of students enrolled. Indicate new courses (for you) with an asterisk.

BARTON, L.L.
Fall: Biol. 502, ST/Environmental Biotechnology, 1 student

BROWN, J.H.
Spring: Biol. 515F, Field Research in Biology, 8 students
        Biol. 502, ST/Ecological Complexity Seminar, 12 students.
Fall: 1998 UNM Faculty Research Semester

DAHM, C.N.
Spring: Biol. 495, Limnology, 10 students (2 graduate students)
        Biol. 514, Ecosystem Studies, 12 graduate students
Fall: Biol. 451, Microbial Ecology, 8 students (3 graduate students)

Public Administration 573, capstone course for the Master of Water Resource Program, co-taught with Dr. Mike Campana and Dr. Paul Matthews, 12 graduate students

DUSZYNSKI, D.W.
Spring: Biol. 599, Masters Thesis, 1 student
        Biol. 699, Dissertation, 1 student
Summer: Biol. 599, Masters Thesis, 1 student
        Biol. 699, Dissertation, 1 student
Fall: Biol. 551, Problems, 1 student
        Biol. 599, Masters Thesis, 1 student
        Biol. 699, Dissertation, 1 student

GOSZ, J.R.
Fall: Biol. 514, Ecosystem Studies, 12 students
HOFMANN, G.E.
Fall: * Biol. 502, ST/Environmental Physiology, 6 students

JOHNSON, G.V.
Fall: * Biol. 502, Plant Mineral Nutrition, 1 student

KODRIC-BROWN, A.
Fall: Biol. 521, Behavioral Ecology, 11 students
     Biol. 402/502, ST/Ecology seminar, 8 students (3 undergrads, 5 grads)
     Biol. 515, Research in Field Biology, 8 students

LI, B.-L.
Spring: * Biol. 502, ST/Mathematical Biology, 8 students
       * Biol. 551, Problems, 3 students
Fall: * Biol. 500, New Graduate Student Seminar, 22 students
     * Biol. 502, ST/Ecological Modeling, 10 students
     Biol. 551, Problems, 2 students

LIGON, J.D.
Fall: Biol. 502, ST/Avian Social Systems, 8 students

LOKER, E.S.
Spring: Biol. 502, ST/Parasites and Hosts, 5 students
Fall: Biol. 502, ST/Parasites and Hosts, 5 students

MARSHALL, D.L.
Spring: * Biol. 502, ST/ Women in Science, 2 students
Fall: * Biol. 502, ST/Topics in Plant Ecology, 2 students

MILNE, B.T.
Spring: Biol. 576, Landscape Ecology & Macscopic Dynamics, 4 students
       Biol. 402/502, ST/Seminar in Complexity, about 15 students (Dr. Jim Brown is the instructor of record, but I attend, participate, and help organize the course as much.)
Fall: Biol. 402/502, ST/Seminar in Complexity, about 15 students (with Dr. Jim Brown)

MOLLES, M.C. JR.
Fall: Biol. 507, Bosque Biology, 7 students

NATVIG, D.O.
Spring: Biol. 522, ST/Molecular Biology and Evolution, 12 students
       Biol. 402/502, ST/Eukaryotic Genomics, 5 students
       Biol. 402/502, ST/Advanced Fungal Physiology, 5 students
Fall: Biol. 502, ST/Fungal Molecular Biology, 3 students

NELSON, M.A.

Spring: * Biol. 402/502, ST/Molecular Genetics and the Internet, 9 students
       Biol. 402/502, ST/Eukaryotic Genomics, 5 students
       Biol. 402/502, ST/Advanced Fungal Physiology, 5 students

SNELL, H.L.

Fall: Biol. 513, Physiological Ecology, 12 students (10 graduates)

STRICKER, S.A.

Spring: Biol. 547, Advanced Techniques in Light Microscopy (4 cr), 5 students

THORNHILL, R.

Spring: * Biol. 502, ST/Applied Darwinism, 22 students

TOOLSON, E.C.

Fall: Biol. 513, Physiological and Behavioral Ecology, 9 students (co-taught with Dr. H. Snell)

WERNER-WASHBURNE, M.

Spring: * Biol. 502, ST/Regulation of Gene Expression, 4 students

YATES, T.L.

Spring: Biol. 502, Section 17, ST/Adv. Systematics, 5 students
       Biol. 599, Section 43, Master's Thesis, 1 student
       Biol. 699, Section 43, Dissertation, 3 students

Fall: Biol. 502, Section 17, ST/In. Systematics, 6 students

4. Your service on graduate student committees, not as chair, in semester oral exam was
given.

ALTENBACH, J.S.

Travis Perry, Ph.D.
Alice Chung Mcoubry, Ph.D.

DAHM, C.N.

Fall: Jennifer Edmonds, Department of Biology, Arizona State University, Oral
      Prelims; Carol Dehler, Earth & Planetary Science, UNM, Oral Prelims; Date
      Duke, Earth & Planetary Science, UNM, Oral Prelims

JOHNSON, G.V.

Gary Brown, Comprehensive exam, February 2, 1998

F-5
KODRIC-BROWN, A.
Spring: Paul Andrews (Biology)
Fall: Amanda Daly (Anthropology)

LI, B.-L.
Fall: Ethan H. Decker, Oral Exam
      Andrew J. Kerhoff, Oral Exam

LIGON, J.D.
Outside reader of Ph.D. dissertation, University of Zurich

LOKER, E.S.
Summer: Damien Scott, M.S. defense; Wade Wilson, M.S. defense
        Xiaomin Zhao, Ph.D. exam
Spring: Tom Ehler, M.S. defense
Fall: Michelle Pricer, M.S. defense

LOWREY, T.K.
Spring: Dawn Kaufman, Ph.D.
        John Hnida, Ph.D.
Fall: Jane Mygatt, M.S.

MILLER, R.D.
Summer: David Bates, Oral exam
Fall: David Bates, Dissertation defense

MOLLES, M.C. JR.
Spring: Marcos Altimirano, Comprehensive exam
Fall: Michelle Baker, Ph.D. final defense
      Dawn Kaufman, Ph.D. final defense
      Scott Norris, M.S. final defense

NATVIG, D.O.
Fall: Michelle Pricer, M.S. defense
      Pamela Padilla, Ph.D. defense

NELSON, M.A.
Summer: Diana Northup, Comprehensive exam
Fall: Pamela Padilla, Ph.D. defense

STRICKER, S.A.
Tom Ehlers, Kelli Sapp
THORNHILL, R.
Fall: Alita Cousins, UNM Psychology Dept., Master's oral defense.

VOGEL, K.G.
Fall: Ihab Abdel-Hamid, Ph.D. oral exam, Dept. of Chemical and Nuclear Engineering, "Development of a Portable Automated Immunoassay System for Rapid Detection of Analytes."

YATES, T.L.
Laura I. Gonzalez, "Consequences of Migratory Behavior on the Ecology and Biogeographic Distribution of Birds."

5. Professional accomplishments and awards of your graduate students, exclusive of those on which you were a co-author or participant (e.g., foreign travel, papers presented, papers published, awards and grants received, etc.).

BARTON, L.L.
Gary Brown, a Ph.D. candidate: received a two-year "Student Fellowship" from Sandia National Laboratories, $80,000 for his graduate study at UNM.

BROWN, J.H.
NSF Graduate Research Training Grant Fellows: Ethan Decker, Mara Fridell, Brian Enquist, Jason Pringle, Andrew Kerkhoff, Andrew Allen, Morgan Ernest, Michael Fuller, Dawn Kaufman, Jen Parody and Ford Ballantyne.

DAHM, C.N.

DUSZYNSKI, D.W.
Ingrid Asmundsson:
Foreign Travel: Guatemala, May-July 1998, to collect parasites from amphibians and reptiles on an NSF-sponsored Survey and Inventory grant to Dr. Jonathan Campbell, University of Texas–Arlington.

Kim Decker:
Awards: Best Graduate Student Oral Presentation, 7th Annual Research Day, Department of Biology, UNM, April 17, 1998.

John A. Hnida:
WADE D. WILSON:


XIAOMIN ZHAO:

Grants: Xiaomin Zhao. 1998. $765 from Research, Publication and Travel (RPT) funds from the UNM Office of Graduate Study to support his research, “Phylogenetic relationships within the protist phylum Apicomplexa.”

Xiaomin Zhao. 1998. $10,000. NSF Dissertation Improvement Grant, DEB-9902068. “Plastid-like DNAs (plDNA) and their phylogenetic realtionship within the Apicomplexa.” Submitted November 12, pending.

GOSZ, J.R.
CHUCK BUXBAUM: travel to Asia as a part of a International Long-Term Ecological Research international student exchange.

HOFMANN, G.E.
CLAIRE CARPENTER: admission to NSF Antarctic Biology Course

JOHNSON, G.V.
ANDREA EARP: received a GRAC award.

KODRIC–BROWN, A.
JONATHAN ROSENFIELD: EPA award

LIGON, J.D.


LOKER, E.S.
PASCALE LEONARD: Travel grant awarded by American Society for Tropical Medicine and Hygiene.

LOWREY, T.K.
CHRIS FRAZIER, Ph.D.: Field study in Singapore and Malaysia, February–August 1998

MARSHALL, D.L.
ANNA SHER: Awarded a Fulbright Foundation Postdoctoral Fellowship for work in Israel.

MILNE, B.T.
ETHAN DECKER: Research Training Group in Complexity Fellow for six months; Research Assistant funded by University of California–Irvine/NASA, “Ecosystem Response to Increased Urbanization in Eastern Asia.”

DREW KERKHOFF: Research Training Group in Complexity Fellow for six months; one paper in review in Conservation Ecology.

NELSON, M.A.
HARRIETT PLATERO: Fellowship from the American Indian Science, Technology and Engineering Consortium

SNELL, H.L.
STEVE EARSOM: Continued his fellowship at the Charles Darwin Research Station, gave an invited symposium address, London UK, January 1998; performed six months of research in the Galápagos Islands; also awarded a travel grant through the UNM Latin American Institute.

MARK JORDAN: Continued his year-long fellowships from the Organization of American States and Fulbright; spent eight months in the Galápagos working on his Ph.D. research; also presented papers at the annual meetings of the SSAR and HL (U.S. Herpetological Societies).

DONALD SIAS: Continued herpetological research funded by the State of New Mexico on endangered lizards; presented several public slide shows as part of the MSB Herpetology Public Outreach activities.

JENNIFER YOCUM–BROWN: Presented a research paper at the National Meeting of the Aquarium Society (she was representing the MSB Division of Herpetology and the Albuquerque Aquarium); continued molecular research on Galápagos Land Iguanas.

MARCO ALTAMIRANO: Left for two years of research in the Galápagos Islands, funded by the Ecuadorian National Science Foundation (CONACYT).
THORNHILL, R.


B. Undergraduate Education. *Bona fide* undergraduate courses taught each semester and number of students enrolled. Indicate new course (for you) with an asterisk.

AL TENBACH, J.S.

Spring: Biol. 435, Animal Physiology, 30 students
Fall: Biol. 121, Principles of Biology, 600 students
       Biol. 435, Animal Physiology, 35 students

BARTON, L.L.

Spring: Biol. 350L, General Microbiology, 69 students
       Biol. 402, ST/Hazardous Waste, 4 students
       Biol. 460, Microbial Physiology, 43 students
Fall:  Biol. 350L, General Microbiology, 80 students
       Biol. 402, ST/Environmental Biotechnology, 5 students

BROWN, J.H.

Spring: Biol. 494, Biogeography, 37 students

DAHM, C.N.

Spring: Biol. 495, Limnology, 8 undergraduate students
       Biol. 496L, Limnology Laboratory, 3 undergraduate students
Fall:  Biol. 451, Microbial Ecology, 5 undergraduate students

DUSZYN SKI, D.W.

Spring: Biol. 461L, Introduction to Tropical Biology, 18 students
Fall:  Biol. 404L, Marine Invertebrate Laboratory, 13 students
       Biol. 402, Marine Ecology, 1 student
       Biol. 499, Undergraduate Problems, 1 student

GOSZ, J.R.

Spring: Biol. 403, Ecosystem Ecology, 35 students

HOFMANN, G.E.

Spring: * Biol. 435, Animal Physiology, 50 students
Fall:  * Biol. 402, ST/Environmental Physiology, 12 students

JOHNSON, G.V.

Spring: Biol. 478, Plant Physiology lecture, 21 students

F-10
Bio 478L, Plant Physiology laboratory, 21 students (two sections)

Fall:
Bio 402, Plant Mineral Nutrition*, 7 students
Bio 491, Radiobiology lecture, 6 students
Bio 491L, Radiobiology laboratory, 6 students

KODRICH-BROWN, A.

Spring: Biol. 455, Ethology: Animal Behavior, 32 students

LI, B.-L.

Spring: * Bio 402, ST/Mathematical Biology, 2 students
Fall: Bio 402, ST/Ecological Modeling, 1 student

LIGON, J.D.

Spring: Biol. 486, Ornithology, 17 students
Fall: Biol. 379, Conservation Biology, 35 students

LOKER, E.S.

Spring: Biol. 382, Introductory Parasitology, 22 students
Bio 402, ST/Parasites and Hosts, 3 students
Fall: Biol. 371, Invertebrate Zoology, 26 students
Bio 402, ST/Parasites and Hosts, 2 students

LOWREY, T.K.

Spring: Biol. 461, Introduction to Tropical Biology, 18 students
Fall: Biol. 463, Flora of New Mexico, 33 Students

MARSHALL, D.L.

Spring: * Bio 402, ST/Women in Science, 18 students

MILLER, R.D.

Spring: Biol. 219, Principles of Cell Biology, 195 students
Fall: Biol. 456, Immunology, 90 students

MILNE, B.T.

Fall: Biol. 310, Principles of Ecology, 18 students

MOLLES, M.C., JR.

Fall: Biol. 407, Bosque Biology, 14 students
Spring: Biol. 122, Principles of Biology, approximately 350 students

NATVIG, D.O.

Spring: Biol. 402/502, ST/Eukaryotic Genomics, 5 students
Bio 402/502, ST/Advanced Fungal Physiology, 5 students
NELSON, M.A.
Spring: * Biol. 402/502, ST/Molecular Genetics and the Internet, 9 students
       Biol. 402/502, ST/Eukaryotic Genomics, 5 students
       Biol. 402/502, ST/Advanced Fungal Physiology, 5 students

SNELL, H.L.
Spring: Biol. 379, Conservation Biology, 30 students

Note: I am on a four-year partial re-assignment to the Charles Darwin Research Station and thus teach 1/5 of every semester. I did not teach an undergraduate course in the Fall 1998 because I taught a graduate core-course.

STRICKER, S.A.
Spring: Biol. 412, Developmental Biology (3 cr), 48 students
       * Biol. 416, Histology (5 cr), 36 students

TAYLOR, F.W.
Spring: Biol. 136, Human Anatomy & Physiology for Non-majors, 45 students
Fall:  Biol. 136, Human Anatomy & Physiology for Non-majors, 17 students

THORNHILL, R.
Spring: Biol. 365, Evolution of Human Sexuality, 90 students
Fall:  Biol. 300, Evolution, 75 students

TOOLSON, E.C.
Fall:  Biol. 435L, Animal Physiology, 35 students (Dr. S. Altenbach taught about four weeks of this course)
Spring: Biol. 122, Principles of Biology, 400 students (co-taught with Dr. M. Molles)

VOGEL, K.G.
Spring: Biol. 456, Immunology (3 cr), 50 students
       Biol. 402, ST/Proteoglycans (1 cr), 4 students
Summer: Biol. 400, Honors Research, 1 student (co-mentor)
Fall:  Biol. 219-001, Principles of Cell Biology (3 cr), 205 students
       Biol. 219-002, Principles of Cell Biology (3 cr), 48 students (co-taught with
       Dr. Louise Lewis)
       Biol. 402, ST/Proteoglycans (1 cr), 4 students
       Biol. 400, Honors Research, 3 students (co-mentor)

WERNER-WASHBURNE, M.
Spring: * Biol. 402, ST/Regulation of Gene Expression, 15 students

YATES, T.L.
Spring: Biol. 400, Section 019, Senior Honors Thesis, 1 student
Biol. 402, Section 017, ST/Adv. Systematics, 1 student  
Biol. 499, Section 043, Undergraduate Problems, 3 students  
Summer: Biol. 499, Section 032, Undergraduate Problems, 2 students  
Fall: Biol. 402, Section 017, ST/In. Systematics, 3 students  
Biol. 489L, Mammalogy, 16 students

C. Teaching Awards.

None.

D. Curriculum Development/Production of Teaching Materials.

BARTON, L.L.
Five new experiments for the General Microbiology teaching laboratory (Biol. 350L).

DAHM, C.N.
Updated lecture notes for Biol. 451, Microbial Ecology

DUSZYNSKI, D.W.
Biol. 404L (Marine Invertebrate Laboratory) web page: http://biology001.unm.edu/~bio404/bio404l.html. Drs. B. Modney, M. Gates and R. Gibson, Cleveland State University are producing a CD-ROM for a WWW class in Introductory Biology and they have received permission from me to use the images in my 404L web pages.

HOFMANN, G.E.
Continued to add new labs to Biol. 435L, Animal Physiology

Ll, B.-L.
Fall: Developed Biol. 122, Principles of Biology, teaching materials.

MILNE, B.T.

Software made available on request of Museum of Southwestern Biology personnel: semi-variance and autocorrelation routines in Matlab.

STRICKER, S.A.
New lecture notes for Biol. 412 (Developmental Biology) and for Bio. 416 (Histology) (115 and 120 pages, respectively)
E. Museum Curator, Advisor, Assistant Chair, EM Director, etc.

BARTON, L.L.
Director, Microbiology Culture Collection
Director, Microbiology Teaching Facility

DUSZYNSKI, D.W.
Secretary-Treasurer, Biological Society of New Mexico
Pre-veterinary Medicine Advisor

JOHNSON, G.V.
Undergraduate Advisor

LIGON, J.D.
Curator, Division of Birds, Museum of Southwestern Biology

LOWREY, T.K.
Acting Chair, UNM Department of Biology, Summer 1998
Curator, Division of Herbarium, Museum of Southwestern Biology, UNM
Director, Museum of Southwestern Biology, UNM

MARSHALL, D.L.
Director, Student Outcomes Assessment for UNM

MILLER, R.D.
Director, Molecular Biology Core Facility, starting May 1998

MOLLES, M.C. JR.
Vice-Chair of Biology
Curator, Division of Arthropods, Museum of Southwestern Biology

NATVIG, D.O.
Spring: Director, Molecular Biology Facility

SNELL, H.L.
Curator, Division of Herpetology, The Museum of Southwestern Biology
Departmental representative to the Latin American & Iberian Institute
Coordinator of the University and Departmental Collaborative Programs with the Charles Darwin Research Station, Galápagos, Ecuador.

F-14
STRICKER, S.A.
Director of EM and confocal microscopy facilities

VOGEL, K.G.
Director, Howard Hughes Undergraduate Research Program

WERNER-WASHBURNE, M.
Vice-Chair, January-August 1998

F. Other Teaching Activities.

ALTENBACH, J.S.
Guest Lectures in Biol. 379, Conservation Biology, for Dr. David Ligon

DAHM, C.N.
Coordinated the hydrogeoecology reading group, which meets for two hours weekly during both Spring and Fall semester, to discuss papers and research results.

Supervised two high school students (Ms. Aida Luong and Mr. Matt Ensign) during the summer 1998 as part of the NASA SHARP program for under-represented students in the sciences and engineering.

DUSZYNSKI, D.W.
March: took Introduction to Tropical Biology class (Biol. 461L) to Possum Point and Wee Wee Caye field stations, Belize, Central America, 11 days, 27 students and faculty from UNM, NMSU and Albuquerque TVI.

October: took Marine Invertebrate class (Biol. 404L) to CEDO, Inc., Puerto Peñasco, Sonora, Mexico, 7 days, 29 students and faculty from UNM and Albuquerque TVI.

HOFMANN, G.E.
Conducted outreach activity and visited an APS elementary school with students in Environmental Physiology.

Built web page for elementary school re: Mexico field trip.

JOHNSON, G.V.
Served as major professor for students completing senior theses:


F-15
Directed one student in Biol. 499 research, Spring 1998

Directed four students in Biol. 499 research, Fall 1998

LI, B.-L.

Graduate student committees:
Martha L. Ennis (UNM; Co-Chair), Ethan Decker (UNM, Member), Kim Decker (UNM, Member), Andrew J. Kerkhoff (UNM, Member), and William LaRue (UNM, Member).

MARSHALL, D.L.

Co-Advisor, 1 honors thesis
Second reader, 1 honors thesis

MOLLES, M.C. JR.

Biol. 499, 551, 599, 651, and 699.

NATVIG, D.O.

Biol. 400 and 499 students supervised:
Spring: Alena Gallegos, Biology 400 (3 cr)
Tara Armijo-Prewitt, Biology 499 (3 cr)
Summer: Marianita Gorman, Biology 499 (3 cr)
Fall: Lorraine Lee, Biology 499 (3 cr)
Jose Weber, Biology 499 (3 cr)

Biol. 551, 599 and 699 students supervised:
Spring: William Dvorachek, Biol. 699 (9 cr)
Edwin Weeber, Biol. 699 (9 cr)
Amy Ditto, Biol. 551 (3 cr)
Summer: William Dvorachek, Biol. 699 (9 cr)
Amy Powell, Biol. 599 (6 cr)
Fall: Amy Ditto, Biol. 551 (3 cr)
Judith Galbraith, Biol. 551 (3 cr)
Anderson Riddle, Biol. 551 (3 cr)
William Dvorachek, Biol. 699 (9 cr)
Edwin Weeber, Biol. 699 (9 cr)

NELSON, M.A.

Spring: Biol. 400, Senior Honors Thesis, 2 students
Biol. 499, Undergraduate Problems, 2 students

SNELL, H.L.

Each semester I supervised several undergraduate students in Biol. 499, Undergraduate Problems.
STRICKER, S.A.
Spring & Fall: Journal Club on fertilization

VOGEL, K.G.
Mentor for Laboratory Research:
Spring: Julie Peters, Arthur Meyers
Summer: Arthur Meyers, Carl Glover
Fall: Arthur Meyers, Melanie Falgout

WERNER-WASHBURN, M.
Supervised Carol Brandt, Program Coordinator (Recruitment and Retention), worked with her on advisory activities and planning.

YATES, T.L.
Mammalogy Field Trip, Mexico, October 11-18, 1998

II. PUBLICATIONS.

A. Books Authored.

BROWN, J.H.

MOLLES, M.C. JR.

B. Books Edited.

KODRIC-BROWN, A.
Area editor: *Encyclopedia of Evolution*, Oxford University Press

LI, B.-L.

C. Chapters in Books or Major Synthetic Reviews.

BROWN, J.H.
DUSZYNSKI, D.W.

HOFMANN, G.E.

THORNHILL, R.


D. Articles in Refereed Journals.

ALTENBACH, J.S.

BARTON, L.L.


BROWN, J.H.


CHARNOV, E.L.


DAHM, C.N.


DUSZYNSKI, D.W.


GOSZ, J.R.


KODRIC–BROWN, A.


LI, B.-L.


LIGON, J.D.


LOKER, E.S.

DeGaffé, G. and E.S. Loker. 1998. Susceptibility of *Biomphalaria glabrata* to infection with *Echinostoma paraensei*: Correlation with the effect of parasite secretory–excretory products on host hemocyte spreading. *Journal of Invertebrate Pathology* 71:64-72.


MARSHALL, D.L.


MILLER, R.D.


MILNE, B.T.


MOLLES, M.C. JR.


NATVIG, D.O.


NELSON, M.A.


STRICKER, S.A.


THORNHILL, R.


TOOLSON, E.C.


VOGEL, K.G.


WERNER-WASHBURN, M.


YATES, T.L.


E. Book Reviews.

MOLLES, M.C. JR.


THORNHILL, R.


F. Articles in Non-scholarly Journals.

BROWN, J.H.


SNELL, H.L.

Because of my extended stays in the Galápagos, it has been difficult to publish in the traditional scientific media. To compensate, and to reach a broad audience of potential students and other professionals, I've been actively trying to use the Internet for some publishing. These publications are included here since they are non-reviewed.
G. Quasi-public Reports for Internal/external Circulation.

AL TENBACH, J.S.


BARTON, L.L.

To DOE/WERC:


DUSZYNSKI, D.W.
Prepared and edited The Program And Abstracts booklet for the 1998 Annual Meeting of the American Society of Parasitologists (ASP), August 16-20, 1998, Kona HI. Mailed by Allen Press to approximately 1,300 members of ASP.

Wrote and prepared camera-ready copy of the Call For Papers booklet announcing the 1999 Joint Meeting of the American Society of Parasitologists and the Society of Nematologists (SON), July 6-10, 1999, Monterey CA. Mailed by Allen Press to approximately 1,850 members of both societies. 47 p.

GOSZ, J.R.
Integrating the Nation's Environmental Monitoring and Research Networks and Programs: An Exercise to Demonstrate the Value of Index Areas in a National Network. A Report Prepared for the Office of Science and Technology Policy (OSTP) of the Office of the President of the U.S.

LOWREY, T.K.
Status Reports for State of New Mexico Rare Plant List, available on the WWW: http://www.largocanyon.org/nmptc/list.htm:

- Status report of Townsendia gypsophila
- Status report of Porophyllum megacephalum
- Status report of Grindelia havardii
- Status report of Grindelia arizonica
- Status report of Grindelia acutifolia
- Status report of Erigeron gilensis
- Status report of Hieracium pringlei
- Status report of Grindelia arizonica var. neomexicana.

Rare Plant Survey Reports, N.M. Dept. of Transportation:

- Botanical Survey for NM64-Rio Arriba Co., November 1998
- Botanical Survey for NM 104-San Miguel Co., October 1998

MARSHALL, D.L.
Annual report on Graduate Student Outcomes Assessment, for UNM

Annual report on Undergraduate Student Outcomes Assessment, for UNM
Section on Student Outcomes Assessment for the NCA Self-Study

SNELL, H.L.


H. Abstracts (Refereed or Invited).

BARTON, L.L.


DAHM, C.N.


GOSZ, J.R.


International Long Term Ecological Research: Opportunities for Poland. Polish Academy of Sciences Conference, Warsaw, Poland, September 16, 1998 (invited).
International Long Term Ecological Research: Opportunities for Mexico. La Red Internacional de Investigaciones Ecológicas a Largo Plazo (ILTER), VII Latin American Congress on Botany, Mexico City, Mexico, October 21, 1998.


Li, B.-L.


Loker, E.S.


Milne, B.T.


Nativig, D.O.


**VOGEL, K.G.**


I. Abstracts (Contributed).

**BARTON, L.L.**


**DAHM, C.N.**


**DUSZYNSKI, D.W.**


F-28


JOHNSON, G.V.


LOKER, E.S.

Leonard, P.M., C.M. Adema, D. Quintana and E.S. Loker. Snail fibrinogen-related proteins (FREPs) comprise the first invertebrate defense-related gene family with a V-type Ig domain. Presented at the annual meeting of the American Society of Parasitologists, Kona HI, August 16-20, 1998.

Meyer, K. and E.S. Loker. Identification of a T1/ST2 homolog from the colonial tunicate *Botrylloschlosseri*, and possible implications for defense from intraspecific parasitism. Presented at the annual meeting of the American Society of Parasitologists, Kona HI, August 16-20, 1998.


Hertel, L.A., S.A. Stricker and E.S. Loker. Use of confocal microscopy to monitor calcium dynamics in *Biomphalaria glabrata* hemocytes following exposure to *Echinostoma parvum*. Presented at the annual meeting of the American Society of Parasitologists, Kona HI, August 16-20, 1998.


Adema, C.M., P.M. Leonard, L.A. Hertel and E.S. Loker. Beyond “factorology” of digenean-snail immunobiology: Molecular structure, diversity and functional aspects of snail FREPs. Was to be presented at the annual meeting of the American Society of Tropical Medicine and Hygiene, San Juan, Puerto Rico, October 18-22, 1998 (meeting cancelled due to Hurricane Georges).

Leonard, P.M., D. Quintana, C.M. Adema and E.S. Loker. Characterization of a parasite-responsive protein family from the snail host of Schistosoma mansoni featuring a unique combination of fibrinogen and Ig V-type domains. Was to be presented at the annual meeting of the American Society of Tropical Medicine and Hygiene, San Juan, Puerto Rico, October 18-22, 1998 (meeting cancelled due to hurricane Georges).

LOWREY, T.K.


MILLER, R.D.


NATVIG, D.O.


NELSON, M.A.


VOGEL, K.G.


Meyers, A. and K.G. Vogel. Taking tendon apart to see how it’s put together. Research Day, Department of Biology, The University of New Mexico, April 1998.


YATES, T.L.

J. Other.

AL TENBACH, J.S.


DUSZYNSKI, D.W.

Traveled to Monterey CA to site-visit the facilities at the Monterey Marriott Convention Center to work with staff and prepare for the 1999 joint meeting of the ASP and the SON, October 1998.

Research Affiliate, The Harold W. Manter Laboratory of Parasitology, University of Nebraska, Lincoln NE.

SNELL, H.L.

In September 1998, worked with a film crew, the producers of "Wild Things," to produce a television show about our research for the conservation of Galápagos Land Iguanas. This program aired in December and several times in the spring of 1999.

ST RICKER, S.A.

Two poster presentations, UNM Biology Research Day, April 1998.

Contributed photographs to: Invertebrates, Brusca and Brusca.

Review article, S. Paddock.

III. RESEARCH PROJECTS OR OTHER CREATIVE WORK IN PROGRESS OR COMPLETED DURING PERIOD.

A. Grants and Contracts, Extramural and Intramural.

1. Submitted to all agencies in 1998.

BARTON, L.L.


F-33


DAHM, C.N.


"Collaborative Research: NO3-N Retention in Headwater Streams: Influences of Riparian Vegetation, Metabolism, and Subsurface Processes"; C.N Dahm and P.V. Unnikrishna, Co-PIs; National Science Foundation; January 1, 1999—December 31, 2001, $241,327, proposal recommended for funding, revised budget submitted for $220,000, estimated start date of April 1, 1999.

"CRB: Flooding Regime and Restoration of Riparian Ecosystem Integrity"; M.C. Molles Jr., C.N. Dahm, C.S. Crawford and P.V. Unnikrishna, Co-PIs; National Science Foundation; June 1, 1999—May 31, 2002, $492,049, proposal pending.


DUSZYNISKI, D.W.

"Plastid-like DNAs (p!DNA) and their phylogenetic realtionship within the Apicomplexa"; X. Zhao and D.W. Duszynski, Co-PIs; NSF Dissertation Improvement Grant, DEB-9902068; $10,000, submitted November 12, 1998, pending.

"Diversity and prevalence of lemur parasites in Madagascar rain forest"; P.C. Wright, PI (I will be a paid consultant); NSF Physical Anthropology; $159,776, submitted July 1, 1998, pending.

GOSZ, J.R.

"Biodiversity in Dry Lands Conference"; J.R. Gosz, PI; NSF, $35,000.

"Sevilleta Research Experience for Undergraduates"; J.R. Gosz and R. Parmenter, Co-PIs; NSF, $120,000.
HOFMANN, G.E.


"Organismal, ecological and evolutionary significance of heat shock proteins and the heat shock response." Support for a symposium at the annual SICB meeting in Denver CO, January 6-10, 1999; G. Hofmann, PI; Ecological and Evolutionary Physiology, National Science Foundation; $6,000.


JOHNSON, G.V.

Submitted to University of New Mexico Research Opportunity Program (ROP), G.V. Johnson, PI; $500, Summer 1998.

Submitted to University of New Mexico PURSUE Program, G.V. Johnson, PI; $4,400, January 1999–May 1999, expenditure rate $4,400/4 months.

KODRIC-BROWN, A.


"Forces Driving Rapid Introgression Between a Rare Pupfish (Cyprinodon pecosensis) and its Close Congener (C. variegatus)"; A. Kodric-Brown, PI; Environmental Protection Agency (award to Jon Rosenfield); $19,000, August 1998–August 2001, $6,343.

"Life-history of Pecos pupfish"; A. Kodric-Brown, PI; N.M. Fish and Game (subcontract); $16,000, August 1998–December 1998.

LI, B.-L.

"SURP: Developing Ecological Indicators of Sustainable Land Use for Arid and Semi-Arid Environments"; B.-L. Li, PI; Sandia National Laboratories; $34,990, October 1, 1998–September 30, 1999, 100%.

"REU Site Program with the Sevilleta LTER: Ecosystem Productivity, Biodiversity, and Systematics"; R. Parmenter, PI, B.-L. Li, Co-PI; NSF; $120,00, May 1, 1999–April 30, 2002, 33%.

"Developing Space–Time Multifractal-based Nonequilibrium Thermodynamic Ecological Indicators to Assess Landscape Change and Sustainability"; B.-L. Li, PI; EPA/NSF; $323,925, January 1, 1999–December 31, 2001, 33%.
LOKER, E.S.

"Evolution of *Schistosoma mansoni* and its snail hosts"; E.S. Loker, PI; NIH; $1,009,989 direct costs, April 1, 1999–March 31, 2004, Year 1: $234,291, Year 2: $204,923, Year 3: $192,300, Year 4: $187,604, Year 5: $190,871.

LOWREY, T.K.


MOLLES, M.C. JR.

"CRB: Flooding Regime and Restoration of Riparian Ecosystem Integrity"; M.C. Molles, Jr., C.N. Dahm, C.S. Crawford and P.V. Unnikrishna, co-PIs; National Science Foundation; $492,049, June 1, 1999–June 1, 2002.

NATVIG, D.O.


"STC: National Science and Technology Center for Fungal Genomics"; M.A. Nelson, Co-PI and Co-Director (other PIs: Jonathan Arnold, University of Georgia; Rodolfo Aramayo, Texas A&M University; Melanie Cushion, University of Cincinnati; Jay Dunlap, Dartmouth Medical School; Donald Natvig, University of New Mexico); National Science Foundation; total requested for all five universities: $20,000,001, from January 1, 1999–December 31, 2003; total requested for University of New Mexico, $3,284,760; Year 1: $656,952, Year 2: $656,952, Year 3: $656,952, Year 4: $656,952, Year 5: $656,952. (These sums reflect direct plus indirect costs.)

NELSON, M.A.

"The *Neurosphaera* Genome Project at UNM: Expressed Sequence Analyses"; M.A. Nelson, PI; National Science Foundation; total requested $557,798, February 1, 1999–January 31, 2002, Year 1: $176,938, Year 2: $185,786, Year 3: $195,073 (direct plus indirect costs). This grant was awarded, in full, with a start date of February 1, 1999.

"STC: National Science and Technology Center for Fungal Genomics"; M.A. Nelson, Co-PI and Co-Director (other PIs: Jonathan Arnold, University of Georgia; Rodolfo Aramayo, Texas A&M University; Melanie Cushion, University of Cincinnati; Jay Dunlap, Dartmouth Medical School; Donald Natvig, University of New Mexico); National Science Foundation; total requested for all five universities: $20,000,001, January 1, 1999–December 31, 2003, total requested for the University of New Mexico, $3,284,760; Year 1: $656,952, Year 2: $656,952, Year 3: $656,952, Year 4: $656,952, Year 5: $656,952 (direct plus indirect costs). Preproposal submitted February 12, 1998; selected to submit full proposal; full proposal submitted September 3, 1998; selected as finalist; site visit February 16-17, 1999; outcome pending.
“New Mexico Consortium in Computational Biology”; M.A. Nelson and Thomas P. Caudell, PIs; Burroughs Wellcome Fund, Interfaces between the Physical/Chemical/Computational Sciences and the Biological Sciences; preproposal submitted February 2, 1998 (no budget with preproposal), but not selected as a finalist.

SNELL, H.L.
Submitted approximately 20 proposals for funding research and management activities within the Galápagos Islands. The most significant of these were: 1) a proposal to the United Nations via UNESCO for Research on Invasive Species, $3,000,000 for four years, funded, with a 1999 start date; and 2) a proposal to Fundacion Natura (Ecuador) for research in Ecological Monitoring Within Galápagos, U.S. $470,000 for three years, a subcontract of a Global Environmental Fund Proposal by Fundacion Natura, funded, 1999 start date.

STRICKER, S.A.
UNM, RAC committee, $2,992

THORNHILL, R.

WERNER–WASHBURN, M.

YATES, T.L.


F-37
2. Awarded with 1998 initial start date.

AL TENBACH, J.S.

B ARTON, L.L.


D AHM, C.N.


G OSZ, J.R.
“Supplement to Sevilleta LTER”; J.R. Gosz, PI; NSF; $100,000.

H OFMANN, G.E.
“Organismal, ecological and evolutionary significance of heat shock proteins and the heat shock response.” Support for a symposium at the annual SICB meeting in Denver CO, January 6-10, 1999; G. Hofmann, PI; Ecological and Evolutionary Physiology, National Science Foundation; $6,000.

K ODRIC–BROWN, A.

“Forces Driving Rapid Introgression Between a Rare Pufish (Cyprinodon pecosensis) and its Close Congener (C. variegatus)”; A. Kodric–Brown, PI; Environmental Protection Agency (award to Jon Rosenfield); $19,000, August 1998–August 2001, $6,343.


F-38
LI, B.-L.
"SURP: Developing Ecological Indicators of Sustainable Land Use for Arid and Semi-Arid Environments"; B.-L. Li, PI; Sandia National Laboratories; $34,990, October 1, 1998-September 30, 1999, 100%.

LOWREY, T.K.

"New Mexico 130 Rare Plant Mitigation Project, Otero Co."; T.K. Lowrey, PI; N.M. State Highway and Transportation Dept.; $19,900, July 1, 1998-June 30, 2000.

MARSHALL, D.L.

MILLER, R.D.
"Research Experience for Undergraduates (REU) supplement to CAREER Award"; R.D. Miller, PI: NSF; $5,000, January 1, 1998-September 30, 2000.

"International Workshop on the Immunobiology of Marsupials"; R.D. Miller, PI; NSF International Programs; $25,000; October 1, 1998-September 30, 1999.

MOLLES, M.C. JR.

SNELL, H.L.
"Investigaciones Herpetologicas para Galápagos"; H.L. Snell, PI; CONACTY (Ecuador's equivalent to the National Science Foundation); U.S. $100,000, December 1997, $50,000/year.


"Restoration Ecology of Galápagos Reptiles"; H.L. Snell, PI; The Galápagos Conservation Trust (Britain); $30,000, February 1997, $30,000/year.


Several other small proposals totaling about $100,000 a year for 1998.
STRICKER, S.A.
UNM, RAC committee, $2,992, October 1, 1998

THORNHILL, R.

WERNER-WASHBURN, M.
"The Role of SNZ and SNO Proteins in the Yeast Saccharomyces cerevisiae"; M. Werner-Washburne, PI; NSF; September 1, 1998–August 31, 2000, total award for both years $110,000 (direct & indirect costs).

YATES, T.L.


3. In force from previous years.

ALLENBACH, J.S.

BARTON, L.L.

"Mechanisms of Metal Transformation by Bacteria"; L.L. Barton is one of 15 co-PIs; NIH; $2,000,000, yearly rate to L.L. Barton = $17,500, February 1, 1996–January 31, 2001.

BROWN, J.H.


DAHM, C.N.


“Nitrogen Uptake, Retention, and Cycling in Stream Ecosystems”; C.N. Dahm, PI; Virginia Tech/National Science Foundation; June 1, 1997–August 31, 1999, $40,987.

DUSZYNSKI, D.W.


“Sevilleta LTER II: Biome-level constraints on population, community and ecosystem responses to climatic fluctuation,” Parasite subproject; B. Milne, PI, and 10 co-PIs; NSF (BSR-9411976); $3,700,000, October 1994–September 2000.


GOSZ, J.R.

“Sevilleta LTER”; J.R. Gosz, PI and other co-PIs; NSF; $560,000

HOFMANN, G.E.

"REU Supplement to NSF Grant IBN 9723063"; G. Hofmann, PI; National Science Foundation; $5,000, April 1998–July 1999.

"Ecological significance of heat shock proteins as molecular chaperones: Development of an experimental system using fish liver cells"; G. Hofmann, PI; The University of New Mexico; $6,285.

LI, B.-L.

"Sevilleta LTER II"; J.R. Gosz, PI; B.-L. Li, Co-PI; NSF; $3,780,000, October 15, 1994–October 14, 2000, 16%.

LOKER, E.S.

"Biology of Trematode–Snail Associations," Competing Renewal of RO1 AI24340; E.S. Loker, PI; NIH; $821,404 (direct costs), December 1994–November 1999.

"Molecular Phylogeny for the Family Schistosomatidae"; S. Snyder, PI; E.S. Loker, Faculty sponsor; NSF–Sloan Foundation; September 1, 1996–August 30, 1998.

International Fellowship from the Fogarty International Center, awarded to Dr. Gerald Mkaji; E.S. Loker served as the U.S. sponsor; $39,652, August 28, 1997–December 23, 1998.

LOWREY, T.K.


"Relocation and Compactorization of the Museum of Southwestern Biology"; T.K. Lowrey, PI; National Science Foundation; $313,000, August 1, 1997–present.

MILLER, R.D.

"International travel supplement to CAREER Award"; R.D. Miller, PI; NSF; $10,360, October 1, 1997–September 30, 2000.

"CAREER Award: Immunological Development in a Marsupial"; R.D. Miller, PI; NSF; $300,000, October 1, 1996–September 30, 2000.

"Research Opportunity Award (ROA) supplement to CAREER Award"; R.D. Miller, PI; NSF; $27,872; April 1, 1997–September 30, 2000.

MILNE, B.T.

“Multi-scaled Ecological Assessment Methods: Prototype Development Within the Interior Columbia Basin”; B.T. Milne; University of Colorado subaward; $120,000, 1997–99, $40,000 per year.


“Linking Vegetation Succession with Slope Failure: From Single Landslides to Landscapes”; National Science Foundation; B.T. Milne and C. Restrepo, co-PIs; 1997–98, Minority Postdoctoral Research Fellowship, $37,320.

“Research Experience for Undergraduates,” supplements to Sevilleta LTER II; NSF; 1997–98 $15,000.

NATVIG, D.O.
“Reproductive Genetics of Neurospora tetrasperma”; D.O. Natvig, PI; National Science Foundation; $158,701, June 1, 1997–May 31, 2000.


NELSON, M.A.


SNELL, H.L.
“The Status of Sceloporus arenicolus (the Dune Lizard) in Southeastern New Mexico”; H.L. Snell, PI; State of New Mexico; $180,000 for the last five years, $30,000 in 1998.

“Collaborative Research for the Conservation of Galápagos Vertebrates”; $40,000/year for four years. Funds go directly to the UNM Department of Biology to offset my absence.

Several small grants totalling $50,000 for conservation-related research in the Galápagos.
VOGEL, K.G.

WERNER-WASHBURN, M.
"Developmental Regulation of Signal Transduction: Bcy1p in Stationary-phase Yeast"; M. Werner-Washburne, PI; National Science Foundation; September 1996–August 1999, $240,000 plus supplements.

YATES, T.L.


"Cooperative Agreement: Response of Southwestern Mammalian Communities to Global Climate Change"; T.L. Yates, PI; U.S. Fish & Wildlife Service; $264,000, September 2, 1993–September 30, 1998, $52,800.


B. Other.

ALTENBACH, J.S.
Ongoing research on bats and abandoned mines.
LOKER, E.S.

THORNHILL, R.
Several non-funded projects are in various stages of progress.

IV. ACTIVITES IN LEARNED AND PROFESSIONAL SOCIETIES.

A. Invited or Plenary Talks at Professional Meetings, Workshops, Etc.

AL TENBACH, J.S.

BARTON, L.L.


BROWN, J.H.
Two invited symposium papers, annual meeting of Ecological Society of America, Baltimore MD, August 1998

Paper presented, Southwestern Association of Biologists, Portal AZ, October 1998

Seminar/Colloquia presentations: University of Nevada, Reno NV; Los Alamos National Laboratory, Los Alamos NM; University of Wisconsin, Madison WI; Rutgers, Princeton NJ.

DAHM, C.N.

GOSZ, J.R.


International Long Term Ecological Research: Opportunities for Poland. Polish Academy of Sciences Conference, Warsaw, Poland, September 16, 1998 (invited).

International Long Term Ecological Research: Opportunities for Mexico. La Red Internacional de Investigaciones Ecologicas a Largo Plazo (ILTER), VII Latin American Congress on Botany, Mexico City, Mexico, October 21, 1998.


HOFMANN, G.E.

Society for Integrative and Comparative Biology, Boston Meeting, Bartholomew Award Lecture, Boston MA, January 1998.


LI, B.-L.


Invited Panel Address, INTECOL Distinguished Statistical Ecologist Awards Ceremony and the Panel Discussion, the VII International Congress of Ecology (INTECOL), “A Statistical Eco-


LOKER, E.S.

MARSHALL, D.L.
“Interspecific seedling competition on the Rio Grande floodplain: Native Populus deltoides with introduced, invasive Tamrix ramosissima.” Symposium presentation to the Mid-continent section of the BSA and SWAN, April 1998 (with A.A. Sher).

MILLER, R.D.

MILNE, B.T.

MOLLES, M.C. JR.
NATVIG, D.O.


NELSON, M.A.

Co-organizer of meeting, Neurospora 1998 Conference (annual meeting sponsored by the Neurospora Policy Committee), Asilomar CA, June 18-21, 1998.


THORNHILL, R.


VOGEL, K.G.


WERNER-WASHBURNE, M.


YATES, T.L.


Grand Rounds, “Hantavirus, El Niño and You,” The University of New Mexico School of Medicine, June 18, 1998.

Press Conference/Meeting, Minister of Health, Catholic University, Chile, August 9-13, 1998.


B. Contributed Talks at Professional Meetings, Workshops, Etc.

ALTENBACH, J.S.


BARTON, L.L.


BROWN, J.H.
Past Presidential address plus two symposium talks, Annual Meeting of Ecological Society of America, Baltimore MD, August 1998.

DUSZYNSKI, D.W.


GOSZ, J.R.

International Long Term Ecological Research Efforts, National Science Foundation LTER Annual Meeting/International Programs Division, Arlington VA, February 5, 1998.


International LTER and GTOS Research Activities: Opportunities in South Korea, Meeting of the South Korean LTER Network Committee, Seoul, South Korea, June 29, 1998.

The International LTER Network Concept: Interactions with the Mongolian LTER Network, National Academy of Sciences of Mongolia National Committee Meeting, Ulanbaatar, Mongolia, June 30, 1998.


Introduction to Data Management in LTER, International Association of Ecologists (INTECOL), Italy, July 22, 1998.


JOHNSON, G.V.


KODRIC-BROWN, A.


Ll, B.-L.

LOKER, E.S.


Hanelt, B., W.M. El Mazny, M.H. Mansour and E.S. Loker: Using nested PCR to investigate the fate of *Schistosoma mansoni* in susceptible and resistant laboratory populations of *Biomphalaria glabrata*. Presented at the SRP International Conference on Schistosomiasis, Cairo, Egypt, March 15-19, 1998.


Leonard, P.M., C.M. Adema, D. Quintana and E.S. Loker: Snail fibrinogen-related proteins (FREPs) comprise the first invertebrate defense-related gene family with a V-type Ig domain. Presented at the annual meeting of the American Society of Parasitologists, Kona HI, August 16-20, 1998.

Meyer, K. and E.S. Loker: Identification of a T1/ST2 homolog from the colonial tunicate *Botryllus schlosseri*, and possible implications for defense from intraspecific parasitism. Presented at the annual meeting of the American Society of Parasitologists, Kona HI, August 16-20, 1998.


Hertel, L.A., S.A. Stricker and E.S. Loker: Use of confocal microscopy to monitor calcium dynamics in *Biomphalaria glabrata* hemocytes following exposure to *Echinostoma paraensei*. Presented at the annual meeting of the American Society of Parasitologists, Kona HI, August 16-20, 1998.
Barber, K., Mkoji, G.M. and Loker, E.S. Molecular variation in Kenyan *Schistosoma haematobium* and *S. bovis*: Interspecific and population-genetic level genetic analysis using ITS sequences and RAPDs assays. Presented at the annual meeting of the American Society of Parasitologists, Kona HI, August 16-20, 1998.


Adema, C.M., P.M. Leonard, L.A. Hertel and E.S. Loker. Beyond “factorology” of digenean-snail immunobiology: Molecular structure, diversity and functional aspects of snail FREPs. Was to be presented at the annual meeting of the American Society of Tropical Medicine and Hygiene, San Juan, Puerto Rico, October, 18-22, 1998 (meeting cancelled due to Hurricane Georges).

Leonard, P.M., D. Quintana, C.M. Adema and E.S. Loker. Characterization of a parasite-responsive protein family from the snail host of *Schistosoma mansoni* featuring a unique combination of fibrinogen and Ig V-type domains. Was to be presented at the annual meeting of the American Society of Tropical Medicine and Hygiene, San Juan, Puerto Rico, October 18-22, 1998 (meeting cancelled due to hurricane Georges).

LOWREY, T.K.

MARSHALL, D.L.


WERNER-WASHBURNE, M.


YATES, T.L.

78th Annual Meeting American Society of Mammalogists, “‘The Very Large Mouse Array’ (a closed system for wild rodent study) and GIS Modelling: Recently Initiated Research and Research Prospects at the University of New Mexico,” Virginia Tech, Blacksburg VA, June 6-10, 1998.


C. Attendance at Professional Meetings, Workshops, Etc.

ALTENBACH, J.S.

BARTON, L.L.


BROWN, J.H.
Annual Meeting of Ecological Society of America, Baltimore MD, August 1998

Annual Meeting of Southwestern Association of Biologists, Portal AZ, October 1998

DAHM, C.N.


SCOPE Workshop on Biodiversity Above and Below the Surface of Soil and Sediments, Lunteren, The Netherlands, October 10-17, 1998

DUSZYNSKI, D.W.
Second PEET Workshop, Woods Hole MA, March.

Albuquerque TVI Arts & Sciences Advisory Committee Meeting, October.

F-54
Southwestern Association of Parasitologists 31st Annual Meeting, Lake Texoma OK, April.

American Society of Parasitologists and Australian Society of Parasitologists Joint Meeting, Kona HI, August.

9th International Congress of Parasitology, Chiba, Japan, August.

GOSZ, J.R.

National Science Foundation LTER Annual Meeting/International Programs Division, Arlington VA, February 5, 1998.


European Science Foundation Meeting on the Life Sciences, Rome, Italy, February 10, 1998.


Annual Meeting of the Steering Committee for GTOS, Santander, Spain, June 15, 1998.

Meeting of the South Korean LTER Network Committee, Seoul, South Korea, June 29, 1998.

National Academy of Sciences of Mongolia National Committee Meeting, Ulanbaatar, Mongolia, June 30, 1998.


International Association of Ecologists (INTECOL), Italy, July 22, 1998.


JOHNSON, G.V.
KODRIC-BROWN, A.

LOKER, E.S.
Invited to attend the WHO Schistosome Genome Project Workshop, Rio de Janeiro, Brazil, May 1998 (declined invitation).

LOWREY, T.K.
New Mexico Rare Plant Technical Council Meeting, Sevilleta Field Station, Socorro NM, March 1998.

MARSHALL, D.L.
Guild of Rocky Mountain Population Biologists, Boulder CO, September 1998
American Association of Higher Education Assessment Conference, Cincinnati OH, June 1998
Academic Management Institute, Boulder CO, June 1998

MILLER, R.D.
Marsupial Immunobiology Conference, University of Western Sydney Nepean, Sydney, Australia, October 2-5, 1998.
MILNE, B.T.
Center for Advanced Studies Granularity Workshop, Albuquerque NM, Summer 1998

MOLLES, M.C. JR.
Ecological Society of America, Baltimore MD, August 1998

NATVIG, D.O.

NELSON, M.A.
Gordon Conference on Cellular and Molecular Mycology, Plymouth NH, July 19-24, 1998

VOGEL, K.G.

WERNER-WASHBURN, M.
Yeast Genetics Meeting, College Park MD, July 1998
TIGR Sequencing Meeting, Miami FL, September 1998

YATES, T.L.
Workshop of Knowledge and Distributed Intelligence with Systematic Community, Santa Barbara CA, January 9-10, 1998.
Fourth International Conference on Haemorrhagic Fever with Respiratory Syndrome (HFRS) and Hanta Virus, Atlanta GA, March 4-7, 1998.

F-57


D. Service as Editor of Scholarly Journal.

BARTON, L.L.

Anaerobe

DAHM, C.N.

Completed the second year of a three-year term as an associate editor for the journals Ecology and Ecological Monographs.

LI, B.-L.

Guest Editor, Ecological Modelling, official journal of the International Society of Ecological Modelling

SNELL, H.L.

Editor, Noticias de Galápagos (my last year)

E. Service on Editorial Board of Scholarly Journal.

BARTON, L.L.

Member, Editorial Board, international journal Biometals

BROWN, J.H.

National Center for Ecological Analysis and Synthesis, working group on Biological Diversity: Editorial Board, Evolutionary Ecology.

GOSZ, J.R.

Biogeochemistry

KODRIC-BROWN, A.

Environmental Biology of Fishes

LOKER, E.S.

Member, editorial board, Journal of Medical and Applied Malacology
MILNE, B.T.
Subject editor, *Conservation Ecology*

Editorial Board, *Landscape Ecology*

MOLLES, M.C. JR.
Editor for *Ephemera*, a new French journal on mayfly systematics and ecology.

NELSON, M.A.
Associate Editor, *Fungal Genetics and Biology*

STRICKER, S.A.
*Acta Zoologica*

THORNHILL, R.
*Evolution and Human Behavior*

Zoology: Analysis of Complex Systems

VOGEL, K.G.
Chairman, Editorial Advisory Board, *Journal of Orthopaedic Research*

Member, Editorial Board, *European Journal of Cell Biology*

Member, Editorial Board, *Archives of Biochemistry and Biophysics*

YATES, T.L.
Managing Editor, Museum of Southwestern Biology Publication

F. Service as Officer of Professional Organization (indicate whether Elected or Appointed).

BARTON, L.L.
Member, Steering Committee, International Society for Iron Nutrition and Interaction in Plants

Member, Steering Committee, International Society for Biometals

BROWN, J.H.
Governing Board, Ecological Society of America (elected)

DAHM, C.N.
Member of the nominating committee of the American Society of Limnology and Oceanography.

Unsuccessful candidate for president of the North American Benthological Society.
DUSZYNSKI, D.W.

Archivist, Annual Coccidiosis Conference. (appointed)

Archivist, Southwestern Association of Parasitologists. (appointed)

Research Affiliate, The Harold W. Manter Laboratory of Parasitology, University of Nebraska State Museum, Lincoln NE. (elected)

Albuquerque TVI, Arts & Sciences Advisory Committee. (appointed)

GOSZ, J.R.
Chairman, Long Term Ecological Research Network Coordinating Committee. (elected).

Chairman, Global Terrestrial Observing System Steering Committee. (appointed)

Chairman, International Long Term Ecological Research Network Committee. (elected)

LI, B.-L.
Member, Statistical Ecology Program Committee of International Association for Ecology (INTECOL), 1997–2002. (appointed)

LOWREY, T.K.
President-Elect, International Organization of Plant Biosystematists
Council Member, American Society of Plant Taxonomists (elected)

MILNE, B.T.
Advisory Committee member to the Vice President for Science, Ecological Society of America (appointed 1996–98)

NELSON, M.A.
Member, New Mexico Computational Biology Committee, 1994–present (appointed)

Neurospora Policy Committee, 1997–present (elected to four-year term)

VOGEL, K.G.
Board of Directors, Orthopaedics Research Society (Ex Officio, appointed)

YATES, T.L.
Trustee, Southwestern Association of Naturalists (SWAN)
Board of Directors, SWAN (appointed)
Board of Directors, American Society of Mammalologists (ASM) (elected)
President, Biological Society of New Mexico
G. Other.

MARSHALL, D.L.
Botanical Society of America Committees:
- Membership Committee
- Ad-hoc Committee on candidates for editor of *American Journal of Botany*

V. OTHER PROFESSIONAL ACTIVITIES.

A. Colloquium Presentations, UNM and Elsewhere.

ALTEBACH, J.S.

BARTON, L.L.

BROWN, J.H.
Seminar/Colloquia presentations: University of Nevada, Reno NV; Los Alamos National Laboratory, Los Alamos NM; University of Wisconsin, Madison WI; Rutgers, Princeton NJ.

DAHM, C.N.
“An Overview of the Hydrogeoecology Research Program at the University of New Mexico,” University of Alabama, October 30, 1998.

HOFMANN, G.F.


LOWREY, T.K.

NELSON, M.A.

SNELL, H.L.
Two presentations, Charles Darwin Research Station, Ecuador.

THORNHILL, R.
Departments of Anthropology and Biology, Harvard University, Cambridge MA.
Fermi National Accelerator Laboratory, Batavia IL.

B. Seminar Presentations, UNM and Elsewhere.

GOSZ, J.R.
Spring: “The LTER Concept: A Complement to Traditional Research,” UNM Biology Dept.

JOHNSON, G.V.
Presented Radiation Safety Short Course to Hughes summer students, June 3, 1998.

KODRIC-BROWN, A.
“Temporary Color Patterns in Fishes,” UNM, Department of Biology
Sexual Selection in Guppies,” UNM, Department of Biology

LI, B.-L.

LOKER, E.S.


LOWREY, T.K.

F-62
Systematics and Biogeography of Austral Pacific Daisies, National Botanical Institute, Pretoria, South Africa, December 1998

MILNE, B.T.


MOLLES, M.C. JR.

Invited Seminar, Department of Biological Sciences, San Diego State University, “Flooding and Riparian Ecology along the Middle Rio Grande,” San Diego CA, April 1998.

Invited Lecture, Department of Biological Sciences, San Diego State University, “Riparian Ecosystem Restoration in the Middle Rio Grande,” San Diego CA, April 1998.

SNELL, H.L.

STRICKER, S.A.


VOGEL, K.G.
Cell Biology Friday noon talk, Department of Biology, The University of New Mexico, November 20, 1998.

WERNER-WASHBURN, M.
Characterization of Stationary Phase in the yeast Saccharomyces cerevisiae. Biology Department, University of Texas, San Antonio TX, March 1998.

YATES, T.L.
University of Santa Cruz, Spanish Presentation to Faculty/Senate, Santa Cruz, Bolivia, February 16-20, 1998.

C. Testimony in a Scholarly Capacity at Hearings of Commissions, Legislative Committees, Etc.

DUSZYNISKI, D.W.
WICHE Professional Student Exchange Program, April 1998

F-63
YATES, T.L.


D. Presentation to General Audience in a Scholarly Capacity.

ALtenbach, J.S.

"Bats, An Evening with Scott Altenbach." Invited lecture presented to the participants and visitors at the bats/abandoned mines workshop in Socorro NM, June 23, 1998.

DAHM, C.N.

HOFMANN, G.E.

Loker, E.S.
Lecture on parasitology presented to the Grant Middle School, 6th grade, March 1998.

LOWREY, T.K.
Tour of UNM Herbarium and Lecture to 1998 Southwestern Junior Science and Humanities Symposium

MOLLES, M.C. JR.
Fall and spring: Volunteer training Rio Grande Nature Center

SNELL, H.L.

YATES, T.L.
E. Service in a Scholarly Capacity as Member of Local, State or National Panel, Committee, or Commission, for Purpose of Reviews of Public Policy Issues, Scientific Evaluations, Awards of Grants or Fellowships or Prizes, Etc.

ALTENBACH, J.S.
Advisor to the New Mexico Chapter of the Nature Conservency on the Jornada del Muerto bat caves.
Advisor to the University of Wisconsin–Milwaukee on the Neda Mine Bat Hibernaculum, Dodge Co., WI.

BARTON, L.L.
Reviewed two grant applications for National Research Initiative Competitive Grants Program, Washington DC.
Reviewed one research grant for National Research Council of Canada.

DAHM, C.N.
Panelist for the Environmental Geochemistry and Biogeochemistry (EGB) competition of the National Science Foundation, March 30–April 3, 1998.
Advisory panel reviewer for the Kissimmee River Restoration project, South Florida Water Management District, River Woods Field Laboratory, FL, July 21-24, 1998.

DUSZYNSKI, D.W.
Outside Reviewer, NSF, 1 grant proposal
Member, WICHE Veterinary Medicine Advisory Council

GOSZ, J.R.
Advisory Committee for the Social Behavioral and Economic Division of the National Science Foundation.
Advisory Committee for the Canopy Crane Research Facility, WA
Advisory Board for the Joint Infrastructure Fund of the United Kingdom.
Assisting the UNM Vice President for Institutional Advancement in Congressional Relations.
HOFMANN, G.E.
Panel Member for Ecological and Evolutionary Physiology, National Science Foundation, October 1998

JOHNSON, G.V.
Judge at State Science Fair, chairman senior botany, Soccoro NM, April 1998.

LI, B.-L.

LIGON, J.D.
New Mexico Department of Game & Fish Panel on the status of the Lesser Prairie Chicken

LOWREY, T.K.
Member, New Mexico Rare Plant Technical Council
Member, U.S. Fish and Wildlife Plant Recovery Advisory Board for New Mexico

MARSHALL, D.L.

MILNE, B.T.
External reviewer for:
- a dissertation at the University of British Columbia,
- a tenure and promotion case at Michigan Technological University,
- a tenure and promotion case at Arizona State University.

MOLLES, M.C. JR.
NSF Panel Member, LTER Review Panel, April 1998.

NELSON, M.A.
Scientific Review committee for the 1999 National American Indian Science and Engineering Fair

SNELL, H.L.
Serve on the Review Panel of the N.M. Department of Game & Fish for Reptiles.

Serve on the National Committee of Ecuador: SIG–Galápagos. This committee is charged with coordinating Geographical Information Systems for the Galápagos Islands.

WERNER-WASHBURNE, M.
Committee on Equal Opportunity in Science and Engineering advisory group to Director of NSF, 1998

F-66
YATES, T.L.


Member, Living Stock Collections Advisory Panel, National Science Foundation, Washington DC, December 17, 1998.


ALTENBACH, J.S.
Journal of Mammalogy (2)

BARTON, L.L.
Canadian Journal of Botany (1)
Applied and Environmental Microbiology (3)
Anaerobe (5)
Journal of Plant Nutrition (2)
Biometals (2)

DAHM, C.N.
Ecology (15 as an editor)
Ecological Monographs (2 as an editor)

DUSZYNSKI, D.W.
Acta Protozoologica (1)
American Midland Naturalist (1)
Folia Parasitologica (1)
International Journal of Parasitology (1)
Journal of Parasitology (1)
Korean Journal of Parasitology (1)
Systematic Parasitology (1)
Tropical Zoology (2)

GOSZ, J.R.
Ecology (3)
Biogeochemistry (2)
Journal of Vegetation Science (1)
Biocience (2)

HOFMANN, G.E.
Journal of Experimental Biology (4)
Ecology (1)
Physiological Zoology (2)
Journal of Experimental Marine Biology and Ecology (1)
Journal of Comparative Physiology and Biochemistry (2)

KODRIC–BROWN, A.
American Naturalist (3)
Animal Behaviour (5)
Environmental Biology of Fishes (6)
Behavioral Ecology and Sociobiology (1)
Behavioral Ecology (2)
Proceedings of the Royal Society of London (2)
Proceedings of the National Academy of Sciences (1)

LI, B.–L.
Conservation Ecology (1)
Ecological Modelling (4)
Environmental and Ecological Statistics (1)
J. Mediterranean Ecology (1)
Landscape Ecology (1)

LIGON, J.D.
Proceedings of the Royal Society of London (3)
American Naturalist (1)
Auk (1)
Journal of Avian Biology (1)

LOKER, E.S.
Journal of Parasitology (2)
Biological Bulletin (1)
PNAS (2)
Science (1)
Parasitology (2)
Invertebrate Biology (2)
Malacological Review (1)
Molecular Phylogenetics and Evolution (1)
Developmental and Comparative Immunology (3)
National Science Foundation proposals (1)

LOWREY, T.K.
Great Basin Naturalist (1)
Systematic Botany (1)
American Journal of Botany (2)
Sida (1)
Brittonia (1)
Molecular Ecology (1)
MARSHALL, D.L.
American Journal of Botany (2)
International Journal of Plant Science (1)

MILLER, R.D.
Journal of Immunology (3)

MILNE, B.T.
Conservation Biology (1)
Ecology (1)
Ecological Applications (1)
Landscape Ecology (1)

MOLLES, M.C. JR.
Regulated Rivers (1)

NATVIG, D.O.
Fungal Genetics and Biology (2)
Genetics (1)
Mycological Research (1)
NSF proposals reviewed (4)

NELSON, M.A.
Proceedings of the National Academy of the Sciences (1)
Fungal Genetics and Biology (1)
Molecular and General Genetics (1)
Fundamentals of Genetics (1 book review)
Reviewed one proposal for US Department of Agriculture

STRICKER, S.A.
Gene (1)
Biological Bulletin (1)

THORNHILL, R.
Science (2)
Nature (3)
American Naturalist (2)
Evolution and Human Behavior (5)
Human Nature (2)
Behavioral Ecology (2)
Evolution (1)

VOGEL, K.G.
Journal of Orthopaedic Research (6)
VI. NON-TEACHING UNIVERSITY, COLLEGE AND DEPARTMENT SERVICE.

A. Symposia, Workshops, Conferences, Etc., Sponsored, Hosted, Organized.

BROWN, J.H.
Co-organizer, Penrose Conference on Spatial and Temporal Variation in Ecology and Paleobiology.

Annual graduate mini-course in Population Biology, University of California at Davis.

HOFMANN, G.E.
Co-organizer (with Dr. Martin Feder), Heat Shock Symposium, Society for Integrative and Comparative Biology Meeting, Denver CO, January 1999

LI, B.-L.


LOWREY, T.K.
NM Rare Plant Technical Council, Sevilleta Field Station, Socorro NM, March 1998

MARSHALL, D.L.
Local arrangements chair, NMHEAA Conference, Albuquerque NM

YATES, T.L.

International Workshop on Emerging Threats, Santa Fe NM, October 9, 1998.
B. Distinguished Departmental Visitors You Hosted.

DAHM, C.N.
Dr. Jay Jones, University of Nevada, Las Vegas NV, May 7, 1998
Dr. Marcus Naegeli, Arizona State University and EAWAG, Switzerland, August 28, 1998
Dr. Larry Hersman, Los Alamos National Laboratory, December 10, 1998

DUSZYNSKI, D.W.
Dr. Lynn Wheaton, Associate Dean, College of Veterinary Medicine, Washington State University, Pullman WA, September 23, 1998

GOSZ, J.R.
Staff of N.M. Congresswoman Heather Wilson

HOFMANN, G.E.
Dr. Martin Feder, University of Chicago, seminar speaker, April 23, 1998

JOHNSON, G.V.
Dr. David Salt, Assistant Professor of Chemistry, Northern Arizona University, Flagstaff AZ; Speaker at Departmental Seminar, November 19, 1998.

KODRIC-BROWN, A.
Dr. Patricia Gowaty, "Female Choice in Bluebirds," October 26, 1998

LI, B.-L.
Hosted Biology Departmental Seminar Speakers, Dr. Jurek Kolasa from Canada and Dr. Steve Archer from Texas A&M.
Hosted Chinese Visiting Professor, J. Liu for four months research collaboration.

LOKER, E.S.
Dr. Gerald Mkoji, Sr. Staff Scientist, Kenya Medical Research Institute, Nairobi, Kenya January–December, 1998
Dr. Michael Kanost, Professor, Kansas State University, departmental seminar speaker, January 29, 1999
Dr. Isaure DeBuron, Assistant Professor, Converse College, July 1998

NELSON, M.A.
Thomas Brettin, Los Alamos National Laboratory, October 23, 1998

F-71
VOGEL, K.G.
Hernandes de Carvalho, Associate Professor, Campinas, Brazil, researcher in Vogel lab at UNM from October 1997–April 1998.

WERNER-WASHBURN, M.
Spring: Dr. Mike Snyder, Yale University

YATES, T.L.
Scott Martens, PBS, May 28-29, 1998
Jonathon Bor, Baltimore Sun, June 15-17, 1998
Madeline Nash, Time Magazine, June 29-30, 1998
Gero Von Boehm, German Television correspondent, August 3-5, 1998
Pablo Vial and Roberto Belmar, September 1-3, 1998
Greg Glass, John Hopkins University
Kris Kristalka, Director of Museum of Natural History, University of Kansas
Dr. Alberto Gianella, Director of Cenetrop, August 17-31, 1998
Michael Mares, Director of Museum of Natural History, University of Oklahoma, September 1998

C. Committee Service.

I. Departmental committees served on in 1998 (indicate chair with asterisk).

ALTERNBACH, J.S.
*Undergraduate Policy Committee
*Graduation Committee

BARTON, L.L.
Graduate Policy Committee
*Selection Committee for Microbiologist

BROWN, J.H.
*Graduate Student Selection Committee

DAHM, C.N.
Library Liaison Committee
Microbiology Search Committee

DUSZYNISKI, D.W.
*Biological Society of New Mexico
Field Program Committee
Staff-Faculty Advisory Committee
Space Committee
GOSZ, J.R.
Space Committee
* Physiology Plant Ecology Job Search Committee

HOFMANN, G.E.
Graduate Policy Committee
Search Committee for Molecular Systematics position

JOHNSON, G.V.
Greenhouse Committee
Undergraduate Committee
Physiological Plant Ecologist Search Committee

KODRIC-BROWN, A.
* Graduate Policy Committee

LI, B.-L.
Committee for GRT in Ecological Complexity
Committee for Biology Undergraduate Policy
1999 Research Day Organizing Committee

LOKER, E.S.
* Departmental Space Committee
Member, ad hoc committee on departmental RPT grants
Salary Advisory Committee
Tenure and Promotion Committee

LOWREY, T.K.
Space Committee
Staff Advisory Committee
Greenhouse Committee
* Faculty Search Committee: Ichthyologist/Curator of Fishes
* Faculty Search Committee: Systematist/Phylogeneticist
* Museum Administration Committee

MARSHALL, D.L.
* Greenhouse Committee
Space Committee
Undergraduate Policy Committee
* Search Committee for a Plant Physiological Ecologist
Honors Advisor, Spring

MILLER, R.D.
Microbiology Faculty Search Committee

F-73
Undergraduate Policy Committee

MILNE, B.T.
Faculty Mentor (for Larry Li and Andreas Wagner 1997–present)
Plant Physiological Ecologist Search Committee

MOLLES, M.C. JR.
Graduate Policy Committee
Salary Committee
* Undergraduate Policy Committee
Microbiologist Search Committee

NATVIG, D.O.
Hughes Undergraduate Research Program Advisory Committee
Research Improvements in Minority Institutions (RIMI) Committee
Microbiologist Search Committee
Space Committee

NELSON, M.A.
Hughes Undergraduate Research Program Advisory Committee
Research Improvements in Minority Institutions (RIMI) Committee
Library Liaison
Developmental Biologist Search Committee
Graduate Student Selection Committee

SNELL, H.L.
Graduate Student Selection Committee
Field Research Committee

STRICKER, S.A.
Developmental Biologist Search Committee
* 1999 Research Day Committee

THORNHILL, R.
1999 Research Day Committee

VOGEL, K.G.
Spring: Graduate Admissions Committee
Fall: Microbiology Search Committee

WERNER–WASHBURN, M.
Space Committee
* Developmental Biology Search Committee
YATES, T.L.
Annual Research Day Committee Member

2. College/University committees served on in 1998 (indicate chair with asterisk).

DAHM, C.N.
Graduate Studies Committee, Department of Biology Representative
A&S Curriculum Committee

DUSZYNSKI, D.W.
Athletic Council

HOFMANN, G.E.
UNM Radiation Safety Committee

JOHNSON, G.V.
Faculty Senate Undergraduate Committee

KODRIC-BROWN, A.
Research Allocations Committee

LI, B.-L.
UNM Scientific and Engineering Program Committee

LOKER, E.S.
Committee to review proposals for USDA Hispanic Serving Institutions Awards

LOWREY, T.K.
Academic Freedom and Tenure Committee
Investigative sub-committee, Academic Freedom and Tenure Committee
Vice-President for Research Committee on Libraries

MARSHALL, D.L.
NCA Self Study Steering Committee
A&S Senior Promotion and Tenure Committee

MILLER, R.D.
Biosafety Committee

MILNE, B.T.
Dean's Research Semester Award Committee (1998)
Dean's Junior Tenure and Promotion Committee (1998–99)
NATVIG, D.O.
MBRS Advisory Committee
IMSD Proposal Committee

NELSON, M.A.
Faculty Senate, elected to two-year term (1997–99), served 1997–98 (until Fall 1998 sabbatical)
SEC Program Committee (since 1997)
Albuquerque High Performance Computing Center Associated Faculty Group (Charter member)

SNELL, H.L.
The Latin American Travel Grant Committee
The Latin American Faculty Committee

STRICKER, S.A.
C.A.L.C. (analytical laboratory equipment) Committee, College of Arts and Sciences

TAYLOR, F.W.
Spring and Fall: Faculty Senate Budget Committee

VOGEL, K.G.

WERNER–WASHBURNE, M.
Representative to the LANL/Sandia/LRRI/UNM group to develop collaborative work.

YATES, T.L.
Electronic Management Information Systems (EMIS)

D. Other.

LOKER, E.S.
Mentor for MBRS students David Quintana and Danny Molina
Mentor for Regents' Scholars Danny Molina
Mentor for Seniors Honors students Danny Molina and Angela Costanzo
Informal mentor for Elizabeth Martinson, grad student, Anthropology
Outside Reader for Ph.D. Dissertation of Hanaa Mahmoud Mohamed, University of Cairo, Egypt
MARSHALL, D.L.
Director, Student Outcomes Assessment

Half-time administrative appointment; my teaching is therefore half my normal load.

MILNE, B.T.
Member, Center for Advanced Studies Steering Committee, Department of Physics, UNM

NATVIG, D.O.
Summer and Fall: Served as MBRS program co-director

Mentored three undergraduate students (Alena Gallegos, Diego Martinez and Jose Weber) in the Minorities in Biomedical Research Support (MBRS) Program

Alena Gallegos (undergraduate), award for oral presentation, UNM Department of Biology Seventh Annual Research Day, April 1998.

Advisor for Alena Gallegos (undergraduate), senior honors thesis: “Recombination on the Mating-type Chromosome of Neurospora tetrasperma.”

NELSON, M.A.
Mentored one undergraduate student (Amy Garcia) in the UNM Research Opportunity Program, Summer, 1998

Mentored three undergraduate students (Robert Trujillo, Diego Martinez and Stephanie Flores) in the Minorities in Biomedical Research Support (MBRS) Program

Mentor for a Regents’ Scholar (Leslie Reeves)

Judge for Oral Presentations, 7th Annual Research Day, UNM Department of Biology, April 17, 1998

YATES, T.L.
Chair, Department of Biology, UNM

VII. ADVANCED STUDY AND NEW SCHOLASTIC HONORS, FELLOWSHIPS, ETC.

GOSZ, J.R.
Medal of Science, Czech Republic, Charles University 650-Year Anniversary Celebration, September 7, 1998.

HOFMANN, G.E.
Bartholomew Award, Society for Integrative and Comparative Biology
LOWREY, T.K.
George Lincoln Cross Memorial Lecture, Dept. of Botany and Microbiology, University of Oklahoma, Norman OK, February 1998.

MILNE, B.T.
Regents' Lecturer in Arts and Sciences, UNM, 1995–98.

SNELL, H.L.
I spent nine months in 1998 coordinating research in conservation biology with the Galápagos Islands, Ecuador.

VIII. SABBATICALS, LEAVES OF ABSENCE, SUMMER TEACHING ELSEWHERE, TRAVEL, ETC., DURING THE PERIOD.

BROWN, J.H.
Fall: Faculty Research Semester awarded
External Faculty member at Santa Fe Institute

DUSZYNSKI, D.W.
Traveled to the following locations on some aspect of teaching or research:
> Woods Hole, Boston MA (research)
> Belize, Central America (teaching)
> Lake Texoma OK (research)
> San Diego CA (service)
> Kona HI (research)
> Chiba, Japan (research)
> Puerto Peñasco, Sonora, Mexico (teaching)

GOSZ, J.R.
Traveled to:
> Arlington VA
> Rome, Italy
> Bersheva, Israel
> Portland OR
> Santander, Spain
> Seoul, South Korea
> Ulanbaatar, Mongolia
> Dublin and Shannon, Ireland
> Baltimore MD
> Estes Park CO

HOFMANN, G.E.
Research travel to:
> Friday Harbor Laboratories, July 1998

F-78
Mexico Study Site near Puerto Peñasco, Sonora, Mexico, February (4 days), August (5 days), and October 4-11 (teaching field trip for Biol. 402/502, ST/Environmental Physiology).

LOKER, E.S.
Trip to consult with scientific colleagues at the Instituto Oswaldo Cruz in both Rio de Janiero and Belo Horizonte, Brazil, December 1998

LOWREY, T.K.
Travel:
- Belize, Biol. 461L, Introduction to Tropical Biology field trip, March 1998

MILNE, B.T.
Traveled to Escuela de Ciencia y Tecnología, Comisión Atómico Constituyentes, Buenos Aires, Argentina.

MOLLES, M.C. JR.

NAVIG, D.O.
Sabbatical from Fall 1998 through Spring 1999 (in residence at UNM)

NELSON, M.A.
Sabbatical from Fall 1998 through Spring 1999 (in residence at UNM)

SNELL, H.L.
Spent nine months in 1998 coordinating research in conservation biology with the Galápagos Islands, Ecuador.

STRICKER, S.A.
Research, Friday Harbor Laboratories, Friday Harbor WA, May–June 1998
Faculty Member, Physiology Course, Woods Hole MA, July 1998

TOOLSON, E.C.
Leave of absence part of Fall, 1998

WERNER—WASHBURN, M.
Visiting scientist, program director of Microbial Genetics, NSF, Arlington VA, September 1–December 31, 1998
YATES, T.L.

Domestic:
- California
- Georgia
- North Carolina
- Pennsylvania
- South Carolina
- Virginia
- Washington DC

International:
- Bolivia
- Chili
- Mexico
- Spain
- Portugal

IX. PUBLIC SERVICE.

ALTEBACH, J.S.
Advisor to the City of Albuquerque on the Bat Habitat Project in the Montano Bridge.

BROWN, J.H.
Scientific Advisory Board, Malpai Borderlands Group
Scientific Advisory Board, National Center for Ecological Analysis and Synthesis

DAHM, C.N.
Science Fair Judge for Mountain View Middle School, Rio Rancho NM.

DUSZYNSKI, D.W.
Spoke to Jefferson Elementary School fourth and fifth grade classes about the tropics and parasites, April 1998.

JOHNSON, G.V.
President United Campus Ministeries Board (University of New Mexico campus)

MARSHALL, D.L.
Steering Committee, Expanding Your Horizons Conference, UNM, Albuquerque NM, March 1998

MILNE, B.T.
Aquarium installation, Escuela del Sol Montesorri
Tile installation, Escuela del Sol Montesorri
Camping trip to El Morro and Candy Kitchen Wolf Rehabilitation Center

F-80
Brownie Cookie Sale
Brownie day-hike to Elena Gallegos and Albert Simms Park

MOLLES, M.C. JR.
Trustee for the New Mexico chapter of The Nature Conservancy

NELSON, M.A.
Lead Judge for the 7th Annual Native American Science and Engineering Fair, March 5-7, 1998

Court Appointed Special Advocate (addressing child abuse and neglect)

SNEILL, H.L.
Active in conservation organizations concerned with the preservation of biological diversity in the Galápagos Islands, Ecuador, and in Latin America.

STRICKER, S.A.
Demonstration of confocal microscopy to Albuquerque high school students, November 1998

THORNHILL, R.
Interviews with several popular magazines about my research (Rolling Stone, National Geographic, Men's Health, and others). Assisted article author in each case with article preparation.

Assisted TV producers featuring my research (ABC's 20/20, Off the Wall [British], Quantum [Australian]).
APPENDIX G

PROFESSIONAL
& TECHNICAL
SUPPORT STAFF,
FY 1998–99
<table>
<thead>
<tr>
<th>Employee</th>
<th>Title</th>
<th>Grant P.I.</th>
<th>Employment Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADEMA, COENRAAD</td>
<td>SR. RESEARCH SCIENTIST I</td>
<td>Loker, E</td>
<td>5/1/93-11/30/99</td>
</tr>
<tr>
<td>ALTENBACH, MARILYN</td>
<td>DATA ANALYST</td>
<td>Mehlhop, P</td>
<td>1/4/99-6/30/00</td>
</tr>
<tr>
<td>ATENCIO, LUPE</td>
<td>ACCOUNTANT I</td>
<td></td>
<td>6/22/99-12/31/99</td>
</tr>
<tr>
<td>AVRITT, JOY</td>
<td>RESEARCH TECH/LIFE SCIENCES</td>
<td>Marshall, D</td>
<td>8/1/94-12/31/99</td>
</tr>
<tr>
<td>BAKER, MICHELLE</td>
<td>POSTDOCTORAL FELLOW</td>
<td>Miller, R</td>
<td>1/1/99-12/31/99</td>
</tr>
<tr>
<td>BARNHART, DENNIS</td>
<td>SUPPLY/STOCK CLERK</td>
<td></td>
<td>12/13/94-12/31/99</td>
</tr>
<tr>
<td>BEAN, LAURA</td>
<td>RESEARCH TECH/LIFE SCIENCES</td>
<td>Natvig, D</td>
<td>10/19/98-9/30/99</td>
</tr>
<tr>
<td>BENNETT, TERI</td>
<td>GIS ANALYST</td>
<td>Mehlhop, P</td>
<td>1/5/97-10/31/99</td>
</tr>
<tr>
<td>BOSTON, PENELope</td>
<td>RESEARCH ASSOCIATE PROFESSOR</td>
<td>Dahm, C</td>
<td>1/1/98-9/30/99</td>
</tr>
<tr>
<td>BOUCHER, RAYMOND</td>
<td>RESEARCH TECH/LIFE SCIENCES</td>
<td>Barton, L</td>
<td>4/6/92-12/31/49</td>
</tr>
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<td>BRANDENBURG, WILLIAM</td>
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JOINT APPOINTMENTS (with other departments or areas)

Sarah Allen, Assoc. Prof., Internal Medicine
Brian Hjelle, Assoc. Prof., Dept. of Medicine
Robert Kelley, Prof., Anatomy
Frederick Koster, Prof., Dept. of Medicine
Miriam Roman, Asst. Prof., Valencia Campus

Sherry Rogers, Assoc. Prof of Anatomy
Henry Shapiro, Assoc. Prof. Of Computer Sci.
John Trotter, Prof., Anatomy
Robert Waterman, Prof., Anatomy

ADJUNCTS (not on UNM payroll):

Richard Aguilar, Forest Service, Adj. Asst. Prof.
Craig R. Baird, Adj. Prof.
Susan M. Barns, Res. Asst. Prof.
David Bleakley, Assoc.
Michael Bogan, Res. Prof.
David Breshears, Res. Asst. Prof.
Ralph T. Bryan, Adj. Res. Prof.
Richard A. Byles, USFWS, Adj., Asst. Prof.
Jack L. Carter, The Colorado College, Associate
Jean-Luc Cartron, Res. Asst. Prof.
David M. Chapin, Univ. of Washington, Res. Asst. Prof.
James Cheek, Res. Asst. Prof.
James Childs, Adj. Assoc. Prof.
Roger Conant, UNM, Adj. Prof.
John O. Corliss, UNM, Adj. Prof.
David Cowley, North Carolina State, Adj. Asst. Prof.
Nancy Cox, Associate
Clifford S. Crawford, Res. Prof.
Harry Crissman, Los Alamos National Labs, Adj. Prof.
David C. Deardorff, Adj. Prof.
Robert Dickerman, Res. Assoc. Prof.
Christopher A. Fields, Res. Prof.
Deborah Finch, Res. Asst. Prof.
Richard Forbes, Res. Prof.
Jacob Frenkel, Adj. Prof.
Jennifer Frey, Res. Asst. Prof.
Vincent Gutschick, NMSU, Res. Prof.
Charles Gwo, Res. Asst. Prof.
David Hafner, NMMNH, Res. Assoc. Prof. & Visiting Scholar
Robert Harrison, Res. Asst. Prof.
Bill Hevron, Associate
Bruce Hofkin, Adj. Asst. Prof.
Davis Hsi, NMSU, Adj. Prof.
John P. Hubbard, NMG&F, Adj. Assoc. Prof.
Sorin Istrail, Adj. Assoc. Prof.
Randy Jennings, Adj. Asst. Prof.
Kathryn M. Jacobson, Res. Asst. Prof.
Karl Johnson, Res. Prof.
Mahmood Kassam, Ryerson University (Canada), Res. Prof.
Donald W. Kaufman, Res. Prof.
Glenn A. Kaufman, Res. Asst. Prof.
Timothy Keitt, Visiting Asst. Prof.
Jeffrey Kelly, USDA, Res. Asst.
William J. Kuipers, Adj. Asst. Prof.
Samuel Kunkle, Adj. Prof.
Juanita Ladyman, Adj. Assoc. Prof.
James Lewis, Res. Prof.
Ronald D. Ley, Lovelace foundation, Adj. Prof.
Karen Lightfoot, Associate
John E. Lobdell, Univ. of Alaska, Adj. Assoc. Prof.
Jenella Loeve, Res. Asst. Prof.
Lawrence M. Mallory, Res. Assoc. Prof.
Patricia Mehlhop, Nature Conservancy, Adj. Asst. Prof.
Gary S. Morgan, Associate
Paul J. Polechla, Res. Assoc. Prof.
Deborah U. Potter, Res. Asst. Prof.
Arian Fregenzer, SNL, Res. Prof.
Eric M. Rominger, Res. Asst. Prof.
J. Rowland, Adj. Assoc. Prof.
Kenneth Schoenly, Adj. Asst. Prof.
Daniel Shaw, Associate
Michael E. Seidel, Res. Prof.
Gary L. Simpson, Res. Prof.
Robert Slivinski, Associate
Bruno Sobral, Adj. Asst. Prof.
Mohna Sopori., Lovelace Foundation, Adj. Prof.
Peter B. Stacey, Res. Prof.
Mary Stuever, Assoc.
George Stevens, Adj. Assoc.
Eleonara Trotter, UNM, Res. Asst. Prof.
John Ubelaker, Southern University-Dallas, Adj. Prof.
Roby Wallace, Nature Conservancy, Associate

Paul J. Watson, UNM, Res. Asst. Prof.
John Weins, Adj. Distinguished Prof.
Stephen Wood, Lovelace Foundation, Adj. Prof.
Marcus I. Yaffee, Res. Assoc. Prof.

RESEARCH OR VISITING STATUS (usually on UNM payroll):

Coenraad Adema, Res. Asst. Prof.
Penelope Boston, Post-Doctoral Fellow
Sandra Brantley, Res. Asst. Prof.
Debra Coffin, Res. Asst. Prof.
Lee Couch, Res. Assoc.
Charles Curtin, Res. Asst. Prof. (P-T)
Murray Dailey, Adj. Prof.
Jerry Dragoo, Post-Doctoral Fellow
William Dunmire, Associate
Brian Enquist, Post-Doctoral Fellow
Michael Folsom, Res. Asst. Prof. (P-T)
K. (Wendy) Fuge, Res. Asst. Prof.
Deborah Goldberg, Univ. of Michigan, Res. Assoc. Prof.
Gregory Glass, Res. Assoc. Prof.
Faulstino de Carvalho Hernandes, Res. Asst. Prof.
Lynn Hertel, Res. Assoc.

David Lightfoot, Res. Assoc. Prof. (P-T)
Gary Miller, Visiting Asst. Prof.
Gerald Mkojl, Res. Assoc.
Diana Northup, UNM Centennial Library, Res. Assoc.
Robert Parmenter, Res. Assoc. Prof.
Vicki Peck, Visiting Asst. Prof.
Ana V. Perez, Post-Doctoral Fellow
Elizabeth Roberts, Visiting Assoc. Prof.
Luis Ruedas, Post-Doctoral Fellow
Ursula Shepherd, Adj. Asst. Prof.
Fellsa Smith, Adj. Asst. Prof.
Kenneth Sylvester, Visiting Asst. Prof.
Scott Snyder, Post-doctoral Fellow
Carleton White, Res. Asst. Prof.
Patricia Wilber, Adj. Asst. Prof.

EMERTI

Oswald Baca
Earl W. Bourne
Clifford Crawford
William Degenhardt
Howard Dittmer
James S. Findley
William W. Johnson
Paul Kerkof
William Martin
Loren D. Potter
Marvin L. Riedesel
APPENDIX I

ALL COURSE OFFERINGS,
FY 1998–99
## COURSE OFFERINGS & SEMESTER CREDIT HOURS, FY 1998-99

### SUMMER 1998

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TOTAL, SPRING 1999  

| 235 | 4,250 | 9,816 |

TOTALS, FY 1998-99  

| 530 | 9,266 | 21,316 |
1998-99 DEPARTMENTAL SEMINAR SERIES


DR. ROBERT MILLER, Department of Biology, The University of New Mexico, “Marsupial Antibody Genetics and the Implications for Evolution of Mammalian Immune Systems,” October 22, 1998.


DR. JUREK KOLASA, Department of Biology, McMaster University, Hamilton, Ontario, Canada, “Biodiversity: Insights from Aquatic Microcosms,” November 12, 1998.


DR. DAVID M. FAGUY, Department of Biochemistry, Dalhouse University, Halifax, Nova Scotia, Canada, “Cell Division in the Archean Sulfolobus and What It Might Tell Us about Evolution From Prokaryote to Eukaryote,” January 21, 1999.


DR. MICHELLE RONDON, Department of Plant Pathology, University of Wisconsin, Madison WI, “Microbial Function in Complex Communities: Soil Metagenomics and Rhizobial Ecology,” February 11, 1999.

DR. STEVE SHUSTER, Department of Biology, Northern Arizona University, Flagstaff AZ, “The Genetics of Alternative Mating Strategies and Biased Sex Ratios in a Marine Isopod,” February 18, 1999.


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APPENDIX L

MSB

AGREEMENT
June 23, 1999

Administrative Reorganization of the Museum of Southwestern Biology

Administrative Change: The Museum of Southwestern Biology (MSB) will become, as of July 1, 1999, a distinct division and administrative unit of the Department of Biology at the University of New Mexico as detailed below.

Brief History of the Museum:

The Museum of Southwestern Biology (MSB) is a research and teaching facility in the Department of Biology at the University of New Mexico. Currently housing internationally significant collections of vertebrates, arthropods and plants, the museum began as a small teaching collection. The herbarium was begun in 1928 by ethnobotanist, Edward F. Castetter. The vertebrate zoologist, William J. Koster, joined the faculty in 1938 and initiated the vertebrate collections. Throughout the period of from 1940 to 1970 the herbarium and the vertebrate collections continued to grow and eventually moving to the basement of a new biology building, since renamed Castetter Hall. In the early 1960s, the current title of Museum of Southwestern Biology was established. The Directorship of the Museum was first established in 1982 by then Chair, Donald Duszynski. The first Director of the Museum was James S. Findley.

Growth of the museum continued throughout the 1960 and 70s with James S. Findley as Curator of the Divisions of Birds and Mammals, William G. Degenhardt as Curator of the Division of Amphibians & Reptiles, David Ligon as Curator of Birds, W.J. Koster as Curator of the Division of Fishes, William C. Martin Curator of the UNM Herbarium and Clifford Crawford founding the Division of Arthropods. In the 1970s a wing was added to the existing biology building, and the collections expanded to occupy a major portion of the basement. The Division of Biological Materials, established in 1978 by Terry L. Yates, was added in 1995 as a distinct division of the museum. Today, the MSB comprises the following seven divisions curated by six faculty members:

1. Arthropods- Curator: Manuel Molles.
2. Birds- Curator: David Ligon.

It is expected that in the foreseeable future the Division of Biological Materials will be curated by one of the faculty curators from the original six divisions.
In 1993, the Mid-Continent Ecological Science Center of the U. S. Geological Survey (USGS) moved the Biological Survey Collection-Fort Collins (BS/FC) and its curatorial staff to the MSB. This collection includes more than 535,000 specimens of vertebrates, many from federal lands in the western United States. Curatorial interactions between the university and the USGS are detailed in a cooperative agreement signed by the two parties. Overall, the Museum of Southwestern Biology houses more than 3 million specimens, and provides a substantial representation of the biodiversity in the American Southwest.

With considerable growth in all divisions, the museum has outgrown its space and recently secured a new location adjacent to the Department of Biology. Renovation is scheduled, and the MSB will relocate in 2000. The new facility will be equipped with compactors to accommodate the projected growth in each division for a minimum of 20 years.

MSB collections staff provide taxonomic and ecological research services and information to the public while training students in various aspects of museum curation. In addition to preserving and maintaining research and education materials for researchers and students, staff facilitate use of the collections through loans, which are available for study to the scientific community. The museum issues two publication series, Occasional Papers, featuring concise research studies, and Special Publications featuring more extensive articles.

COMPONENTS OF THE ADMINISTRATIVE CHANGE:

1. **New Division of Biology**: The MSB will become a distinct administrative unit of the Department of Biology. This agreement will be implemented for a period of two years after which time the Department will review the change. Following the review, the Department will vote to continue or discontinue the arrangement.

2. **Administration and authority**:
   A. The Director of the MSB will report directly to the Dean of Arts and Sciences. The Dean will allocate the budgetary monies from UNM directly to the MSB Director. The exact allocation of the separate budget shall be listed in a separate document. The I&G, staff lines, and student work-study portions of the budget will be maintained at current levels. Increases above current levels shall be allocated by the Dean of A&S in the same manner as for other administrative units in the College. The Director shall be responsible for budget oversight and allocation to the separate divisions within the Museum. The Director will directly supervise Curators and will have line authority over other museum personnel. However, the responsibility for Tenure and Promotion of the Curators
shall reside in the Department of Biology. The Chair of Biology shall prepare the Tenure and Promotion reports for the curators with advice from the Director. The Director shall work closely with the Chair of Biology to maintain and promote the cohesiveness of the Department of Biology. The Director shall become a member of the Council of Chairs within the College of Arts and Sciences.

B. Museum policy will be determined by the Museum Administration Board consisting of the six faculty curators and one member of the Biology Department who is not a curator. The Chair of Biology will appoint the non-museum Board member.

3. Selection and tenure of Director: The Director of the MSB will be chosen by a formalized majority vote of the Museum Administration Board with the addition of one collective vote of the collection managers. The election of the Director is subject to approval by the Dean of Arts and Sciences. The term of office shall be four years subject to renewal upon majority approval by the faculty curators and collection managers. It is assumed in the near future that the Director shall be chosen from the pool of MSB faculty. With the exception of unusual circumstances it is expected that no Director shall serve longer than two consecutive terms with one term being the norm. The Director shall be evaluated annually in the same manner as departmental chairs in the College.

4. Teaching Load and Compensation for the Director:
   A. Teaching load: The Director shall be expected to teach one full and one seminar course per year.
   B. Remuneration: The Director shall receive remuneration and a 9 month appointment as determined by negotiation with the Dean of Arts and Sciences.

5. Teaching: The allocation of teaching duties shall remain the responsibility of the Chair of Biology.

   A. UNDERGRADUATE EDUCATION: Historically and presently, the faculty curators (and occasionally staff) of the MSB are responsible for teaching the following undergraduate courses: General-Vertebrate Zoology, Herpetology, Conservation Biology, Flora of New Mexico, Mammalogy, Ichthyology, Ornithology, Bosque Biology, and Entomology (when taught). These courses can only be taught successfully with the use of specimens obtained, prepared, and curated by the Museum of Southwestern Biology. The curators will continue to
teach these courses, as determined by the Chair of Biology. They may teach additional courses as needed by the Department of Biology. The MSB, therefore, has a significant and integral role in the undergraduate curriculum at UNM. Undergraduate students receive training in curation and museum practice that is unavailable elsewhere in the Department and the University. The major role in undergraduate education played by the Museum will be maintained and strengthened where possible.

B. GRADUATE EDUCATION: The MSB is responsible for graduate education in the field of study represented by the faculty curators and in museum curation. Graduate student teaching assistants are employed in the collections, participate in graduate courses linked to the museum, and utilize the museum collections in their research. Historically, the faculty curators teach the main taxonomy and systematics graduate level courses. The faculty curators are expected to supervise graduate students and play a major role in graduate education through this activity. In summary, the MSB plays a significant role in the graduate program at the curriculum and research level in the Biology Department.

6. Faculty Curators:

A. Curators will continue to be Biology Department Faculty with a portion of their responsibilities allocated to the Museum. The level of responsibility shall be commensurate with the degree of actual participation and commitment of the Curator in their respective division. Curators with a significant level of responsibility in the MSB will receive a reduced teaching load to be determined by the Chair of Biology upon the advice of the Director. The following non-exhaustive list of responsibilities of any Faculty Curator delimits necessary and important functions that demonstrate the need for teaching load reduction in a university setting: supervision of the maintenance of collections, responsibility for policy decisions for the collection, supervision and participation in collection growth, participation in advisory roles with state and federal agencies, responsibility for granting loans and ensuring the protection of loans received, fundraising, public outreach, and collection-based research. The Chair of Biology shall decide the teaching assignment for each faculty curator in consultation with the Director. A reduced teaching load will be given with the understanding that it is not to be detrimental to the Department of Biology and that it is to be supported by the Dean of Arts and Sciences.

B. Hiring of Curators: The Department of Biology explicitly agrees that faculty curators of the original six divisions shall be replaced by faculty curators when a
vacancy occurs. The hiring of a new curator to fill a vacant FTE position as Curator of a division of MSB will be done by a majority vote of the full Biology faculty as is currently done. The search committee shall have a minimum requirement of the membership of one MSB curator who shall chair the committee. The position will have the requirement of curatorial experience and commitment to administrative supervision of the respective division. These requirements are to be stated in the job advertisement. It is expected that the Curator shall have education and experience in curation of the organisms contained in the particular collection in question. The tenure requirements will be the same as for any other Biology faculty member with the provisos that excellence in curation will be taken into account for tenure and faculty curators will not be penalized for having a reduced teaching load approved by the Chair of Biology. The Museum Board shall develop for the department and the College of A&S, an explicit statement of the procedure for the consideration and inclusion of curatorial accomplishments in recommendations for tenure and promotion. The requirements for service, research and teaching will not change from current standards in the Biology Department and the UNM Faculty Handbook. The faculty curators will receive an annual evaluation prepared by the Chair of Biology. The curatorial component of the evaluation shall be prepared by the Director and included in the Chair’s evaluation.

7. **Grant Indirect Cost Allocation:** The MSB will receive its own allocation of contract and grant IDC from A&S for only those grants that have a significant component of Museum support included. Contracts and grants that are received by Curators for research not involving the Museum will have the IDC allocated to the Department of Biology as is presently done. Contracts and grants that have a dual component of Department and Museum shall split the IDC in proportion to the workload stated in the proposal and agreed upon by the MSB Director, Chair of Biology, and Dean of A&S. All grant and contract proposals that involve the MSB shall require the signatures of the Director and the Chair of Biology before they leave the department.

8. **Graduate Student Teaching Assistants:** Each division of the Museum presently receives a 0.5 TA line (20 hrs. per week) for each semester. During the summer each division receives a 0.25 TA line (10 hr. per week). This allotment shall be maintained. The TAs shall be selected by the respective Faculty curator from graduate students admitted into the degree program of the Department of Biology. The teaching assistants employed in the museum divisions are expected to participate in preparation and/or laboratory teaching of the courses in which there is a significant
use of museum specimens from the respective division. These courses are commonly referred to as the “ologies”.

9. Clerical and Administrative Staff: Currently there are no administrative or clerical personnel with state supported lines in the Museum. It is a stated goal of the Museum to obtain one staff position in the short term whose duties shall include secretarial and grants administrative responsibilities. This staff member shall assist the Department of Biology when possible. The Director shall supervise this staff member.

10. Collection Managers: It is the stated goal of the MSB to acquire a full-time Collection Manager staff line for each of the seven divisions within the museum. Presently, the Mammal Division and Herbarium are the only divisions that have full-time, state-funded collection managers. The Division of Fishes has a 0.5 time collection manager. All collection manager positions have been obtained through cost-share agreements resulting from grant awards and/or through startup funds for new faculty members. The MSB will continue to pursue staff lines through these mechanisms. It must be recognized that the archival nature of the Museum mandates that a collection manager be eventually employed in each division. This requirement is recognized by the National Science Foundation as demonstration of minimal institutional support of a museum.

11. MSB Publications: The MSB currently issues two publication series, Occasional Papers, featuring concise research studies, and Special Publications featuring more extensive articles. The publication series will continue to be an important feature of the Museum and Department of Biology. The Centennial Science and Engineering Library presently uses the series as one of its main items for publication exchange. An editorial board consisting of all the faculty curators including the USGS Curator and any other researchers as deemed appropriate by a majority vote of the curators shall be responsible for policy and supervision of the quality and timely production of the issues. An editor appointed by the editorial board is responsible for the receipt, processing, reviewing, and publication of both series. The costs for the production and publication of the series shall be borne by the Museum and shall be offset by page charges and publication sales where possible.

WE THE UNDERSIGNED DO HEREBY ADOPT THIS ADMINISTRATIVE REORGANIZATION PLAN FOR THE MUSEUM OF SOUTHWESTERN BIOLOGY

Timothy K. Lowrey
Director of the Museum of Southwestern Biology

DATE 6-23-99.

Terry Yates
Chair, Department of Biology

DATE 6-25-99.

Kathryn Vogel
Chair-elect, Department of Biology

DATE 6-23-99.

Michael Fischer
Dean, College of Arts and Sciences

DATE 6-28-99.
APPENDIX M

CHARLES DARWIN

RESEARCH STATION AGREEMENT
MD

The campus of the University of New Mexico (UNM) and the campus of the University of New Mexico (UNM) are both located in the state of New Mexico. The campuses of the two institutions are separated by a distance of approximately 25 miles. The UNM is the largest institution in the state, with over 35,000 students, while the University of New Mexico is the second largest institution with over 25,000 students. The campuses of the two institutions are both located in the Albuquerque metropolitan area.

The two campuses are connected by a road that runs through the city of Albuquerque. The road is approximately 3 miles long and is a major thoroughfare in the city. The road is also a major tourist attraction, as it is lined with numerous shops and restaurants.

The two campuses are both home to a number of academic programs. The University of New Mexico offers a wide range of courses, including engineering, business, and law. The University of New Mexico also offers a number of arts and humanities programs, as well as a number of social science programs.

The two campuses are also home to a number of athletic teams. The UNM is home to the UNM Lobos, who compete in the NCAA Division I. The University of New Mexico is home to the UNM Aggies, who also compete in the NCAA Division I.

The two campuses are connected by a number of buses and shuttles that run through the city. The two campuses are also connected by a number of pedestrian paths and bike trails.

The two campuses are both home to a number of student organizations. The University of New Mexico is home to a number of student organizations, including the Student Government Association, the University of New Mexico Muslim Student Association, and the University of New Mexico Black Student Union.

The University of New Mexico is home to a number of student organizations as well. The University of New Mexico is home to the University of New Mexico Student Government Association, the University of New Mexico Asian Student Organization, and the University of New Mexico Latino Student Organization.

The two campuses are both home to a number of research institutions. The University of New Mexico is home to the University of New Mexico Cancer Center, the University of New Mexico Institute for Desert Studies, and the University of New Mexico Institute for Educational Research.

The University of New Mexico is home to a number of research institutions as well. The University of New Mexico is home to the University of New Mexico Institute for Desert Studies, the University of New Mexico Institute for Educational Research, and the University of New Mexico Institute for Environmental Studies.

The two campuses are both home to a number of health care facilities. The University of New Mexico is home to the University of New Mexico Hospital, the University of New Mexico Health Science Center, and the University of New Mexico Dentistry.

The University of New Mexico is home to a number of health care facilities as well. The University of New Mexico is home to the University of New Mexico Hospital, the University of New Mexico Health Science Center, and the University of New Mexico Dentistry.

The two campuses are both home to a number of museums and art galleries. The University of New Mexico is home to the University of New Mexico Museum of Art and the University of New Mexico Art Gallery.

The University of New Mexico is home to a number of museums and art galleries as well. The University of New Mexico is home to the University of New Mexico Museum of Art and the University of New Mexico Art Gallery.

The two campuses are both home to a number of libraries. The University of New Mexico is home to the University of New Mexico Library and the University of New Mexico Law Library.

The University of New Mexico is home to a number of libraries as well. The University of New Mexico is home to the University of New Mexico Library and the University of New Mexico Law Library.

The two campuses are both home to a number of dining options. The University of New Mexico is home to the University of New Mexico Dining Services, which offers a wide range of meals and snacks.

The University of New Mexico is home to a number of dining options as well. The University of New Mexico is home to the University of New Mexico Dining Services, which offers a wide range of meals and snacks.
Cooperative Agreement Supporting Research for the Protection of Biological Diversity in the Galápagos World Heritage Site

Participating Institutions:
The Charles Darwin Research Station of the Charles Darwin Foundation for the Galápagos Islands,
The Department of Biology and the Museum of Southwestern Biology of the University of New Mexico

Executive Summary

This agreement seeks improvements in the collaborations among the Department of Biology and its Museum of Southwestern Biology of the University of New Mexico and the Charles Darwin Research Station of the Charles Darwin Foundation for the Galápagos Islands. The Galápagos Archipelago is unique among inhabited oceanic archipelagos because 95% of its biological diversity remains. Combining research and training activities within the conservation biology programs of the University of New Mexico and the Charles Darwin Research Station can promote the preservation of the unique flora and fauna of these islands while providing valuable opportunities for South and North American students and professionals. For at least the next five years these institutions will collaborate via the interchange of personnel, training opportunities, proposal preparation, and joint activities. Initial specific projects are support for museum collections of Galápagos material and ecological monitoring of the Galápagos National Park. Hopefully this agreement will stimulate the elaboration of collaborative ties among the participating institutions and other agencies. For that reason, the collaborations fostered by this agreement will not be exclusive in any way.

Introduction

Oceanic archipelagos are unique centers of evolutionary radiations that have produced thousands of fascinating species and contributed greatly to the biological diversity of the world. Unfortunately, almost all oceanic archipelagos have experienced staggering losses of biological diversity through the direct and indirect effects of human activity. A majority of historic extirpations of plants, birds, reptiles, and mammals have occurred in the floras and faunas of islands. Classical biogeographic examples like Hawaii, New Zealand, and the Caribbean have lost roughly 50% of their biological diversity through habitat destruction, over exploitation, and the introduction of alien species.

The Galápagos archipelago is a unique group of islands where more than 95% of the indigenous biological diversity remains restorable. Very few species have gone extinct, primarily due to a short history of relatively low levels of human activity. However, the human population of the islands is currently growing 5% annually. Many populations of once common organisms are now at extremely low levels and some have been extirpated. Approximately 37 years ago the government of Ecuador declared the islands a National Park, the first in the country. At nearly the same time, the Charles Darwin Foundation (CDF) was formed. The CDF was charged with conducting scientific research for the protection of the Galápagos ecosystems while the Galápagos National Park Service (GNPS) was formed to manage the archipelago with the express purpose of maintaining the natural systems and processes in as unaltered a state as possible.

For the last thirty years the GNPS and the CDF have developed an extremely effective cooperation of management activity supported by research, which has contributed to the preservation of much of the islands' unique biological
diversity. Unfortunately, new challenges threatening the biological diversity are appearing at ever-increasing rates. To meet these challenges, the CDF seeks to solidify and strengthen its relationships with its international research partners.

The Department of Biology (DB), and its Museum of Southwestern Biology (MSB), of the University of New Mexico (UNM) have a long history of productive research supporting the conservation of biological diversity throughout the western hemisphere. During the last 11 years six faculty, 10 graduate students, and 12 undergraduates have worked on a variety of projects within the Galápagos Archipelago, and another 30 members of the Department have worked on Central and South American projects. Within the Museum of Southwestern Biology there are more than 4,000 specimens from the Galápagos. In addition, the journal of the Charles Darwin Foundation, Noticias de Galápagos, has been produced by the Biology Department since 1980.

With this cooperative agreement between the field station of the CDF, the Charles Darwin Research Station (CDRS), and the Department of Biology with its Museum of Southwestern Biology, these agencies hope to promote a long-term spirit of collaboration among their divisions and personnel. Such collaboration will greatly increase the amount of scientific research supporting the preservation of the Galápagos Archipelago, provide expert curatorial support for collections of Galápagos organisms, and provide training and research opportunities in conservation biology for students of the Americas.

Contributions

Interchange of Personnel

1. With its irregular revenue and remote location the CDRS has experienced difficulty in recruiting and supporting senior research staff. The DB and the MSB will promote appropriate activity of their staff in collaborations with the CDRS through sabbatical leaves, temporary reassignments, and research opportunities. These UNM staff may work with the CDRS as paid staff members, visiting scientists working on CDRS programs, visiting scientists with independent research projects, or volunteers, as will be determined in each specific case.

2. Personnel of the CDRS lack adequate access to much of the infrastructure of science necessary to promote the production of high quality publications and analyses. Academic resources including research laboratories, libraries, sophisticated computer facilities, and broad museum collections are basically out of reach of the Galápagos islands. The DB and the MSB will provide direct and indirect access to these facilities and the CDRS will promote their use by its staff.

3. The content and field opportunities of the Conservation Biology Program of the DB are heavily biased towards the desert southwest of the United States. By incorporating visiting from the CDRS as potential teachers within the program, the DB will significantly increase the international scope of its program. Students leaving a program where they have been exposed to a broader scope will be competitive for a greater range of employment opportunities.

Training Opportunities

The conservation of biological diversity has become a global concern. The theoretical development of strategies for the protection and restoration of global biological diversity occurs principally in developed countries where the past losses of diversity have been great. However, much of the need for active field research and management programs occur in developing countries. By promoting opportunities for Ecuadorian students and professionals to visit the DB and the MSB, this collaboration will increase their access to the theoretical side of conservation biology. In turn, by promoting opportunities for North American students and professionals to participate in "on-the-ground" training programs in the Galápagos and Ecuador, their appreciation of the practical side of conservation biology will be enhanced. The CDRS is keen to expand opportunities for Ecuadorian staff and students to develop their capabilities through experience at UNM and by working alongside UNM scientists in Galápagos. By mutual agreement, the CDRS and the DB or MSB may incorporate Ecuadorian universities into cooperative programs of research and training.

Specific Projects

1. Museum support. Museum collections are crucial for much of conservation biology. They provide direct documentation of changes in the distribution, phenotypes and genotypes of organisms. The collections of the
CDRS consist of a herbarium, divisions of terrestrial invertebrates and vertebrates, and a division of marine biology. The tropical humidity of Galápagos is a harsh environment for preserved specimens and collections housed in Galápagos are in constant danger of rapid deterioration. It is also extremely difficult to successfully loan specimens from a museum located 1000 km west of South America in the eastern Pacific. Several divisions of the CDRS collections are seeking multiple "sister" collections outside of Galápagos in North and South America. A sister collection would house specimens duplicating those held at the CDRS. Along with collections from other institutions, several divisions of the MSB would like to act as sister collections. The MSB is an internationally recognized and accredited natural history museum. Within a year the MSB will move into a new $7 million facility with sophisticated climate control and backup systems to protect its holdings against any foreseeable deterioration. Sister collections within the MSB would function as mirrors of the CDRS collections. The specimens would not be on loan, they would be catalogued within the MSB collection and be under that collection's curatorial control. The MSB Division housing the sister collection will accept full responsibility for financial support of its perpetual maintenance and protection. The CDRS may refer request for loans of CDRS specimens to the sister collections, and provide prepared specimens, as they become available. In addition, the CDRS would encourage scientists to deposit specimens collected in research projects with the sister collections as well as at the CDRS. In addition, participating divisions of the MSB would promote opportunities for their staff to visit the CDRS collections and assist with their curation. MSB divisions would also promote the training of CDRS staff or students in museum techniques as described in "Interchange of Personnel." The CDRS would assist the efforts of the MSB to procure the necessary permits for exporting, importing, and housing specimens of the Galápagos flora and fauna.

Researchers interested in using the collections of museums frequently request searches of the collection's catalogue for appropriate material. It is often difficult for distant researchers to obtain information about the holdings of isolated collections. To broaden the availability of information about all collections with significant holdings of Galápagos material, the Herpetology Division of the MSB will promote the development of a shared database representing the collections of participating divisions of the MSB, the CDRS, and other sister collections.

2. Ecological Monitoring. The most important step in meeting the new challenges facing the biological diversity of the Galápagos now and into the future is their quick identification. The CDRS is in the design phase of an ecological monitoring program for the Galápagos National Park. Components of the program will likely include field surveys, remote sensing, and the use of a Geographical Information System for managing and analyzing data. The DS and the MSB are experienced in all of these techniques, and the Sevilleta Long Term Ecological Research Site of the DS is an International model of ecological monitoring. The DS and MSB will be valuable colleagues for the CDRS in this design.

Funding Collaborative Activities

The research activities of all the institutions involved in this cooperative agreement are supported by grants from funding agencies and donors. None of these institutions are granting agencies themselves. Therefore, the successful collaboration among the CDRS, DS, and the MSB depends upon extramural funding. Under this agreement the participating institutions will share information and opportunities for funding collaborative activities. In general, the CDRS, DS, and MSB recognize that indirect costs are real and agree to seek funds to cover them. However, because many funding agencies and donors are reluctant to pay indirect costs, the collaborating agencies may accept waivers of indirect costs. To the extent that it becomes possible, the DS, and MSB will promote the eligibility of the CDRS staff in their limited intramural funding opportunities.

In addition to those general funding guidelines, the CDRS, DS, and MSB agree to collaborate on proposals for international inter-institutional funding. These proposals will be submitted to potential sources such as the International Programs Division of the National Science Foundation of the United States, the Organization of American States, the Fulbright Commission, etc.

Duration of this Agreement

This is a general collaborative agreement, which will remain in effect for five years. Within the collaborative activities promoted by this document there will be specific memorandums of understanding used to clarify more precisely the duties and responsibilities of each institution for the support of specific projects. While all of the institu-
tions are enthusiastic about collaborations promoting the preservation of the biological diversity of the Galápagos islands, they recognize their needs for flexibility. Thus, participation of any institution can be terminated with six months written notice acknowledged by the other participants. Specific memorandums of understanding will clarify how premature terminations will be effected, especially with regard to financial concerns.

Nonexclusive Nature of Agreement

The CDF, DB, and MSB are active research institutions with many international collaborations. The spirit of this agreement is to specify the range of collaborations of these institutions not restrict them. Consequently, this agreement is not exclusive in nature, and it is fully expected that the MSB and DB will seek other collaborative agreements within the Americas and that the CDRS will form additional collaborative agreements with other international research institutions.

Representatives of Participating Institutions

Because the Department of Biology and the Museum of Southwestern Biology are divisions of the University of New Mexico, their overall representative is the President of the University. For the Department of Biology the direct representative is the Chairperson, and for the Museum of Southwestern Biology the Director. The Charles Darwin Research Station is the primary operative branch of the Charles Darwin Foundation for the Galápagos Islands. Thus, the overall representative is the President of the Charles Darwin Foundation. The direct representative is the Director of the Charles Darwin Research Station.

<table>
<thead>
<tr>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richard Peck</td>
<td>2/12/98</td>
</tr>
<tr>
<td>Ing. Jorge Anhelar</td>
<td>12/24/97</td>
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<td>William C. Gordon</td>
<td>12/6/97</td>
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<td>Michael R. Fischer</td>
<td>12/12/97</td>
</tr>
<tr>
<td>Dr. Robert Bernside-Smith</td>
<td>23 Dec 97</td>
</tr>
<tr>
<td>Dr. Terry Yates</td>
<td>12/4/97</td>
</tr>
<tr>
<td>Timothy Lowery</td>
<td>12/11/97</td>
</tr>
</tbody>
</table>

Dr. Richard Peck, President, University of New Mexico
Ing. Jorge Anhelar, President, Charles Darwin Foundation
Dr. William C. Gordon, Provost & Academic Affairs VP, UNM
Dr. Michael R. Fischer, Dean, College of Arts & Sciences, UNM
Dr. Robert Bernside-Smith, Director, Charles Darwin Research Station
Dr. Terry Yates, Chairperson, Department of Biology, UNM
Dr. Timothy Lowery, Director, Museum of Southwestern Biology
APPENDIX N

GRADUATING UNDERGRADUATE STUDENTS SURVEY RESULTS
Graduation Survey, 1998-1999 Results

Total Number of Surveys = 167

A total of 238 students applied for a Biology Degree in 1998-1999 when they reached 90 credit hours. Of this group 70% (167) completed this survey. Some of these students are graduating Spring of 1999, while others will not graduate until Spring of 2000. Note: if the totals for each question do not add up to 100%, it is because some students did not respond to the question.

1. How many years will you have spent as an undergraduate by the time you graduate?
   - a. 4 years ago. 33% (55)
   - b. 5 years ago. 41% (68)
   - c. 6 years ago. 11% (18)
   - d. 7 years ago. 5% (9)
   - e. more than 7 years ago. 10% (17)

2. Did you complete any college coursework at other universities or community colleges?
   - a. yes 59% (99)
   - b. no 41% (68)

3. If you answered yes to #2 above, how many semesters did you spend away from UNM or at another school before you transferred to UNM? (of the 99 above)
   - a. one or more summer sessions only. 15% (15)
   - b. one to two semesters. 28% (28)
   - c. three to four semesters. 28% (28)
   - d. more than four semesters. 28% (28)

4. Did you participate in a biologically-relevant research project in the lab or field that was not a part of a UNM class (examples: research in other departments, the Hughes Program, MBRS, REU, Biol 499, biology honors, programs at other universities, etc.)?
   - a. yes 33% (55)
   - b. no 53% (88)
   - c. I plan to participate in research this year. 13% (22)

5. If you did not participate in a research, what were the reason(s)? (of the 88 above)
   - a. I did not know about the opportunities. 26% (23)
   - b. I was not interested in doing research. 13% (11)
   - c. I did not have time to do research. 49% (43)
   - d. I applied but was never accepted into a research program. 6% (5)
   - e. I wanted to, but needed to work at a job that paid more money. 17% (15)

6. Did you receive any advising from within the Biology Department?
   - a. yes 87% (145)
   - b. no 13% (22)
7. If you replied yes to #6 above, how would you rate your advising from the Department? (of the 145 above)

- a. excellent 59% (85)
- b. adequate 39% (56)
- c. poor

8. Did you take advantage of any of the following undergraduate activities?

- a. attend Biology Club meetings. 17% (28)
- b. attend Biology Buddy Programs. 5% (9)
- c. attend Departmental seminars. 22% (37)
- d. use Biology Department email servers (UNMBIO, BIOCLUB-L, etc.). 31% (52)
- e. attend/participate in Research Day. 5% (9)
- f. participate in research day (presenting a poster or making a presentation). 0.5% (1)

9. What are you going to do in the year following graduation? (fill in the blanks too!)

- a. begin employment as __________________________.
  16% (26)
  
  paramedic, EMT (3)
government agent
wildlife biologists with the USFS
USGS Biological Researcher
pharmaceutical sales (2)
molecular/cell internship
Center for Disease Control internship
research tech (2)
biologist for some land-management government agency
military officer
medical technologist (2)
secondary ed teacher
veterinarian tech

- b. go to graduate school in ________________________.
  20% (33)
  
  microbiology
immunology/parasitology
biology
naturopathy
biophysics
speech pathology
Anderson School of Management
toxicology
biochemistry or ethnobotany
plant pathology
c. go to medical school. 23% (38)

d. go to a professional school in _______________________.
11% (18)

  pharmacy (6)
  physician assistant program (3)
  physical therapy (8)
  veterinarian medicine (3)
  dentistry (4)
  secondary education certification (4)

e. relax or travel. 6% (10)

f. look for a job. 5% (9)

g. undecided. 19% (31)

10. What are you planning to sometime later (in the next five years)?

a. begin employment as _______________________.
22% (27)

  lab assistant
  physician (7)
  physician assistant (3)
  ranger with the forest service
  environmental engineer
  computer soft-ware engineer
  physical therapist (7)
  naturopathist
  public health physician
  veterinarian (3)
  pharmacist (1)
  geneticist
  research plant chemistry
  hospital administrator
  aquarist or zoo-keeper (2)
  dentist (3)
  high school biology teacher (4)
  plant pathologist
  turf management
  pediatrician
environmental tech
surgeon (2)
environmental educator

b. go to graduate school in ________________________________.

37% (61)

- genetics (2)
- pharmacy
- biology
- marine biology
- microbiology
- neuroscience
- physical therapy

c. go to medical school.

19% (32)

d. go to a professional school in ________________________________

4% (7)

- pharmacy (3)
- veterinary school (3)
- business
- law
- physician assistant program

- relax or travel.

2% (3)

f. look for a job.

6% (10)

g. undecided.

7% (12)
7b. What could the Biology Department do to improve advising for undergraduates?

- I tried several times to contact the premed advisor, but never got a response. He should be more responsive to students.
- Inform their students of advisors and their office hours by mail or email.
- Find more ways to get out information to students, make opportunities more "visible".
- I would say, replace the Pre-Vet advisor.
- Provide opportunities for mentoring by professors or graduate students.
- Advertise opportunities (research, etc.) more effectively.
- I became behind in my biology track and am trying to catch up. I wish someone would have let me know to get into certain classes sooner (219, 221).
- I didn't receive any real advisement until my Junior year, which made it a little hard to rework my schedule and plans considering I only had a year left. Perhaps, you could make it a must to see undergrads as freshmen or sophomores. That way they have time to make any changes if needed.
- Have no bottle neck courses.
- Have summer courses
- Be more explicit on the 42 hour of 300+ classes
- Advise as to what students might consider taking outside of pre-requisites. We want to go somewhere after we graduate too. My encounter with advising was brief and very informative, but I'm sure I could have asked for more.
- Check and make sure that advising hours handed out by the main office are correct
- Once a year required advisement appointment at the Biology Department
- As a transfer student I don't think that I was well informed of a lot of the opportunities for Biology students.
- Big poster which details all the different avenues (in biology). It could possibly answer questions students may have without having to schedule an appointment.
- One of my problems was with Dr. Duszynski. I don't think that he gave enough up to date Veterinary advisement.
- I always wished I had a professor familiar with my "path" in order to seek advice or even representation in discrepancies.
- More advisement time.
- More pre-med advising.
- Some form of mentorship is crucial, especially if the student may wish to attend graduate school in the future.
- Make an effort to contact all students in Biol 121 to inform them of degree requirements, also make advisement meetings mandatory in order to register for any biology over Biol 122.
- Give people more advisement toward medical school.
- It was kind of hard to get to office hours if you had to work.
- Make sure you reach the Freshman and really set a plan for them. The more structure early on makes it easier for the rest of the years.
- Maybe by explaining in the intro courses that advising is available and helpful.
- Make it more mandatory.
- We need a post grad job fair.
- Stress the importance of getting to know the professors through office hours or working in a lab.
- Greater accessibility.
- I think the department does a good job, but maybe they could emphasize coursework that will give the student a good background in their field.
- Longer hours available to do advising.
- Would help if advising (or knowledge of Biology advisement) was started as a freshman. My first semester here I did not realize there were advisors specifically for undergrads.
- Have a full time person that is available during week days most of the day long.
- More advising hours.
- My situation involved dental school and I had to receive most of my information directly from those schools.
- Make the info more accessible. Put it on a website and print handouts.
- Make the catalogue explanations clearer.
- Need more pre-med info.
- Get more involved in students, and their needs, not just the 3.0 GPA students.
- Be more knowledgeable on programs outside of the department.
- Job placement aid.
- Put all freshman Biology majors on an email list and strongly encourage them to come in for advisement on which classes they must take and in what order.
- Work on scheduling classes with the students.
- They should try to get all biology majors on the email listserv right away! Once I was on the listserv, I found all the information I needed.
- I think that when you're a freshman and you choose biology as a major, it should be required that you meet with someone in the biology department to help you.
- Be more approachable and warm towards students. The advising was fine, but I hesitated to come back because I felt like the advisor had no time to help me.
- Have more flexibility and use available option to waive residency requirements.
- Awareness freshman year (earliest possible) about research fieldwork, also research and fieldwork relevant to overseas traveling.
- Possibly a minority advisor, someone whom minority undergraduates may feel more comfortable talking with.
- Advisor assigned to each student relevant to their emphasis (i.e. pre-med, research, etc.).
- I think everything is well in the department; the advisor actually listens and offers help that's relevant to the problem.
- Get more feedback from the students. For example, A&P is not advised as essential for pre-meds, but it is!
- Require advisement from the Bio Department so students know exactly what they need every semester.
- The advisor doesn't have time to have personal contact with students.
- Have closer relationships with the Biochemistry and Chemistry Departments and know what they expect from their students.
- Make pre-requisites clear. Many undergraduates end up needing classes that they don't have the pre-requisites for. Lots of people can't take cell bio because they don't have the chemistry pre-requisites.
- Explained actually what I needed to take, there wasn't any confusion about what was required of me. They also made some suggestions on classes to take.
11. What did you like best about your education in the Biology Department?

Faculty and Staff:

- The instructors for the most part were great! and even though the biology department is large, it has a real caring family-environment. Great support!
- The staff was great.
- Relationships I established with some of the professors and faculty.
- Everyone was always really supportive and always pushed me to do my best. A lot of great instructors and programs.
- I had quite a few amazing teachers who really wanted to teach!
- Excellent instructors who were very willing to spend time to help students, either individually or in a group.
- I had many great teachers, and there always seemed to be good opportunities for summer research.
- The great staff.
- There were lots of opportunities to get involved with other than just course work. The teachers with very few exceptions were outstanding, easily accessible, and open to questions, and very willing to help.
- Faculty was extremely helpful and willing to deal with needs and questions on an individual level.
- Professors use their current research in teaching classes. I also liked the flexibility of the degree plan.
- Interactive and interesting education; great research opportunities and people who care about your future.
- Lots of different professors to give a wide range of concentrations.
- Enthusiastic instructors, willing to help the students succeed, not only in class, but in jobs and life in general.
- The atmosphere within the department is happy. Most of the professors are willing to work with you individually.
- friendly, accessible faculty
- The faculty, especially professors like Nelson, Werner-Washburne, Kerkoff, Barton, Toolson...all very approachable and personable.
- Some of the instructors were great and understanding
- The professors: Altenbach is great!
- The opportunity to have David Ligon as a professor.

Classes:

- The core requirements give a good basis in all aspects of biology and the required intro classes prepare students for the upper level.
- Diversity of classes and options, i.e. conservation, botany, genetics.
- I loved the higher level classes (immunology, microphysiology, genetics).
- I liked my classes after the required pre-requisites.
- Variety of courses offered
- The A&P lab, Bio 412 from Dr. Stricker, Bio 371 from Dr. Loker, the Limbic System from Dr. Kuipers.
- The subjects discussed in Microbiology and related topics; most professors were very enthusiastic and helpful.
- It opened my eyes to what real education is, beginning with genetics
- A&P course with Dr. Swan, Genetics with Dr. Nelson.

Research and Advising:

- Working in a research lab and the course Prosection
- I enjoyed learning about current research in field like cancer biology, neurological diseases, aging, etc.
- Going to Australia.
- Variety, learning about the research conducted in the department.
- They tried very hard to get people involved in clubs and seminars.
- Ability to work in a laboratory
- The profs, labs, and environment
- Research, advising, exposed to new situations and information
- That all my bio credits from a different school transferred in and that I was able to take few from this department.
- The program here is great with many opportunities for advancement.
- Classes with the opportunity to travel.
- The research opportunities and the opportunity to become a research assistant for microbiology.
- The opportunity to do research, and the Biology email list giving information about jobs, seminars.
- Lots of info available through the Bio-Listserv.
- Allowed me to first gain appreciation to how wonderful education is and finally how a major in biology opened up a world of biology to me that I could not have imagined.

12. What did you like least about your education in the Biology Department?

Classes, class size:

- Large class sizes in Biol 429 and 460.
- Not enough lab experience associated with classes.
- Not enough labs in the 400-level courses.
- Lack of human biology upper division courses.
- Huge classes for the core, not enough instructor/TA interaction.
- Classes are too large.
- Not enough applied field science courses.
- Some of the freshman labs were unappealing, remedial, more regurgitation than learning.
- Lower division classes (121 and 122) were too big.
- Some classes were way too big so it was extra hard to see your professor even at office hours.
- The introductory classes were taught by professors who made me feel like I was wasting their time. They didn't act as though they really wanted to be teaching.
- The required supportive coursework.
- The classes are too large.
- Evolution, I was very interested in the subject, but I had problems with the teacher and his
teaching style.
- Biol 123 lab
- Large classes, professors not knowing me on an individual basis.
- The four required classes.
- Large lower level classes.
- Biol 121 and 122.
- I did not like 3 of the 4 basic required classes (121, 122, and 219). I think this was because the teachers were not so great.
- Way too big classes...makes it hard to develop one-on-one with professors.
- Labs in this department seem to be more disorganized than other departments.
- Lack of variety and emphasis on genetics education. Lack of versatile hours that upper level biology classes were offered.
- Large classes, and a focus on molecular biology in the lower classes.
- Labs did not correlate well to the lectures in my biology classes.
- Large class size.
- Required biology classes are offered in the fall semester. Perhaps opening some up in the spring semester would help.
- Huge lecture halls, too many students in class.
- Your approach is too traditional.
- Not enough field ecology classes.
- Not enough plant biology courses.
- The genetics class I took one summer was taught entirely by a TA and was, without question, the worst academic experience I have ever had.

Scheduling:
- The Biology schedule is not user friendly. Too many courses are offered at the same times, or the labs are offered at the times that other courses are.
- The classes were sometimes only offered during the fall or spring, scheduling!
- Scheduling of classes.
- Lack of courses to choose from.
- The bottleneck syndrome (schedules)
- Scheduling conflicts (e.g. several classes offered at the same time)
- Limited number of electives offered some semesters
- The scheduling of classes made it difficult to take courses I wanted in the order I wanted. I sometimes had the feeling that the university wanted to make it as difficult as possible to graduate in a timely manner.
- Some courses are never offered, e.g. pathogenic bacteriology
- Having to take classes I did not really want because those I wanted were offered at conflicting times, or simply not offered at all.
- Cancellation of courses such as the Lab Methods of Molecular Biology.
- More interesting classes like virology were rarely offered.

Resources:
- Need better equipment in learning labs.
- The amount of money available for lab equipment is clearly not enough.
- The building is old (especially room 139).
- lack of resources
- lack of proper lab equipment, and lack of teachers
- Bad facilities and labs.

Advising and Miscellaneous Comments:

- Concentrations aren't recognized as majors in themselves.
- Some requirements were not adaptive to my field of interest.
- No Biology tutors at CAPS.
- Teachers seemed to be caught up in their own world. Also, a sense of uneasiness or ignorance when dealing with minority students. This is mainly why I am not close with faculty.
- Not knowing about research/work opportunities sooner: not getting to professors well enough for recommendations for grad school.
- Some professors expected you to know more sometimes when graduate students were in the same class with undergraduates.
- Severe inflexibility in evaluating transfer credits and an unwillingness to waive residency requirements, despite a policy officially being in place.
- The education here is based on how well a student can memorize info and spit it out in an exam.

A department can generate better educated graduates if one is taught to learn and not to memorize.
- Lack of variety of advising hours.
- Feeling research wasn't available because I'm not a minority.
- The time it took to fill out appropriate paper work to graduate; some employees in the biology department are not knowledgeable about required forms and which advisors can process certain forms, so a lot of my time was wasted.
- Unstructured advising.
- All the politics involved in trying to complete the degree requirements.
- Too much focus on research and not enough on teaching. This is a college afterall.
- Some teachers were unapproachable.
- I didn't feel any sense of community. I wanted an opportunity where a student like myself could come to a person who would throw around ideas of different avenues to explore or subjects to study. More of an assessment of me as an individual would help me.
- At UMASS the teachers used a lot of storytelling techniques and make learning the facets of biology fun. Most classes here at UNM just want you to remember the facts and regurgitate what the teacher says in class. It's not as fun and it's not conducive to learning.
- The competitive nature of the students. The few opportunities for work-study positions.
- The professors don't seem to have much interest in their students, as a whole, and their teaching skills are questionable if non-existant.
APPENDIX O

UNDERGRADUATE OUTREACH ASSESSMENT REPORT
OUTCOMES ASSESSMENT REPORT

1. a. Name of Unit: Department of Biology  
b. Name of Author(s): Dr. Manuel C. Molles, Jr.  
c. Date of Report: 19 August 1999  
d. Who Has Reviewed This Report: Dr. Scott Altenbach, Associate Chair, Department of Biology

2. a. Goal

The goal assessed within our Department was that students taking our four "core" courses (Biol 121, 122, 219, and 221) will demonstrate a broad understanding of basic concepts in biology. Upon completion of the core, students will have a basic understanding of biological principles, vocabulary, and content in the following areas:

A) How scientists ask questions and use evidence

B) The characteristics and behavior of the macromolecules that make up living systems

C) Procaryotic and eucaryotic cell structure

D) Nucleic acid-based programming and the processes of the perpetuation, the use and expression, of the programming

E) The energy transformation reactions

F) Asexual and sexual reproduction and the role that mitosis and meiosis play in the life cycles of organisms

G) Basic Mendelian genetics in diploid, sexually-reproducing organisms

H) Evolution by natural selection, speciation, and the population genetic basis for understanding these principles

I) Simple population growth models

J) Basic principles of energy, micronutrient flow and structure in ecosystems

K) Diversity of organisms including major characteristics of phyla, basic differences between procaryotes and eucaryotes and basic difference between plants and animals

L) Enzymology and the requirements for homeostatic maintenance

M) Selected homeostatic maintenance system physiology of plants and animals
b. Subject Population:

The subject population for our assessment was students who were completing the last course in the Biology "core" sequence, Biol 221 Introductory Genetics. A total of 167 students who were enrolled in three sections of this course in the Fall of 1998 and the Spring of 1999 took the outcomes assessment exam.

Table 1.a. Profile of Students Taking Assessment Exam: Class Rank.

<table>
<thead>
<tr>
<th>Class Rank</th>
<th>Percent 1997-98 (N=211)</th>
<th>Percent 1998-99 (N=167)</th>
</tr>
</thead>
<tbody>
<tr>
<td>freshman</td>
<td>0.9</td>
<td>0</td>
</tr>
<tr>
<td>sophomore</td>
<td>21.8</td>
<td>22</td>
</tr>
<tr>
<td>junior</td>
<td>42.6</td>
<td>49</td>
</tr>
<tr>
<td>senior</td>
<td>28.9</td>
<td>22</td>
</tr>
<tr>
<td>other</td>
<td>5.7</td>
<td>6</td>
</tr>
<tr>
<td>No response</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 1.b. Profile of Students Taking Assessment Exam: Hours of Biology.

<table>
<thead>
<tr>
<th>Hours of Biology</th>
<th>Percent 1997-98 (N=211)</th>
<th>Percent 1998-99 (N=167)</th>
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<tbody>
<tr>
<td>fewer than 11</td>
<td>10.0</td>
<td>5</td>
</tr>
<tr>
<td>11-16 hours</td>
<td>49.8</td>
<td>46</td>
</tr>
<tr>
<td>16-20 hours</td>
<td>19.9</td>
<td>26</td>
</tr>
<tr>
<td>20-26 hours</td>
<td>11.8</td>
<td>15</td>
</tr>
<tr>
<td>more than 26 hours</td>
<td>8.5</td>
<td>7</td>
</tr>
<tr>
<td>No response</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
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Table 1.c. Profile of Students Taking Assessment Exam: Participation in Core at UNM.

<table>
<thead>
<tr>
<th>How much of the &quot;Core&quot; was taken at UNM?</th>
<th>Percent 1997-98 (N=211)</th>
<th>Percent 1998-99 (N=167)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 core classes</td>
<td>48.8</td>
<td>56</td>
</tr>
<tr>
<td>2 core classes</td>
<td>29.4</td>
<td>18</td>
</tr>
<tr>
<td>One core class</td>
<td>11.8</td>
<td>20</td>
</tr>
<tr>
<td>No core at UNM</td>
<td>10.0</td>
<td>6</td>
</tr>
<tr>
<td>No response</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
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Table 1.d. Profile of Students Taking Assessment Exam: Major.

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Biology</td>
<td>67</td>
<td>70</td>
</tr>
<tr>
<td>Allied Health</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Other</td>
<td>26</td>
<td>22</td>
</tr>
<tr>
<td>No response</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
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Table 1.e. Profile of Students Taking Assessment Exam: Hours of Chemistry Taken.

<table>
<thead>
<tr>
<th>Hours of Chemistry Taken</th>
<th>Percent 1997-98 (N=211)</th>
<th>Percent 1998-99 (N=167)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>1-4 hours</td>
<td>21</td>
<td>15</td>
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<tr>
<td>5-8 hours</td>
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<td>8+ hours</td>
<td>35</td>
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<tr>
<td>No response</td>
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<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

c. What assessment method was used:

On the last day of their Biol 221 class in December 1997 or May 1998, students were given a multiple choice exam with questions that covered each of the topics mentioned above (Goals A-M). Thirty-four questions were included in the exam with 1-3 questions in each topic area.

d. How did you operationalize your goal?

We used a locally developed multiple choice test to assess progress toward our goal. The test was developed by soliciting test questions from all of the instructors in the general biology core. From the sample we received, a set was selected that included 1-3 questions from all but one content area.

Please see attached copy of assessment instrument, the multiple choice test.
e. Summarize your findings:

Approximately 43% of the students taking the outcomes assessment exam were able to answer over 60% of the questions correctly. The percentage of students scoring above 60% increased to 43% from 31% in 1998 and 20% in 1997. The mean score among all students was 19.5 with a standard deviation of 4.4. The mean score was higher than the mean of 18.1 found in 1998 and 17.2 found in 1997. Table 2 summarizes the number of students by their scores. In the judgement of this and past Department of Biology committees, a score of 20 or more corresponds to a good performance on the exam. In 1998 37% of students taking the exam received scores of 20 or more. In 1999 the percentage of students receiving a score of 20 or higher increased to 51%.

Table 3 summarizes the results by question, showing the number of students who were able to answer each question correctly. In 1998 only four of 34 questions were answered correctly by greater than 75% of the students. In 1999 the number of questions answered correctly by greater than 75% of students increased to six. In 1998 thirteen of 34 questions were answered correctly by 60% or more of the students. In 1999 20 of 34 question were answered correctly by 60% or more of the students, which was a substantial improvement. Table 4 summarizes the scores by Goals (A-M) that were mentioned above.
Correlation coefficients were determined for the relationships between grades obtained in the four biology core courses (Biology 121, 122, 219, and 221) and student scores on the outcomes assessment exam. These were the strongest correlations obtained in the 1998 Biology Outcomes Assessment and so were repeated this year. In addition to correlations with grades in individual courses, correlation coefficients with averages in 3 or 4 core courses were also determined. The analyses were limited to those students that identified themselves on the exam, reported grades on all four core courses, and completed the Outcomes Assessment Exam. One hundred and five students met these requirements and were included in the analysis. The results of this analysis are summarized in Table 5 and Figure 1.

Table 5. Correlation coefficients for relationship between Outcome Assessment Exam scores and student grades in Biology Core classes.

<table>
<thead>
<tr>
<th>Demographic Data</th>
<th>1998 Correlation</th>
<th>1999 Correlation</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade in Bio 121</td>
<td>0.27</td>
<td>0.46</td>
<td>Increased correlation with 121 grade. 1999 correlation good.</td>
</tr>
<tr>
<td>Grade in Bio 122</td>
<td>0.38</td>
<td>0.37</td>
<td>Good correlation with 122 grade remains.</td>
</tr>
<tr>
<td>Grade in Bio 219</td>
<td>0.40</td>
<td>0.52</td>
<td>Increased correlation with 219 grade. 1999 correlation very good.</td>
</tr>
<tr>
<td>Grade in Bio 221 (Expected)</td>
<td>0.24</td>
<td>0.34</td>
<td>Increased correlation with expected 221 grade; correlation good.</td>
</tr>
<tr>
<td>Average grade Bio 121,122,219</td>
<td>Not available</td>
<td>0.53</td>
<td>Correlation with average grade in Bio 121-219 very good.</td>
</tr>
<tr>
<td>Average grade Bio 121,122,219,221</td>
<td>Not available</td>
<td>0.51</td>
<td>Correlation with average grade in Bio 121-221 very good.</td>
</tr>
</tbody>
</table>
Students with higher average grades in the first 3 biology core courses obtained higher average scores on the outcomes assessment exam.

Figure 1. Relationship between average grade in Biology 121, 122, and 219 and score on Outcomes Test.
f. Conclusions:

1) The overall performance of students continues to improve. The number of students "passing" the exam increased from 20% in 1997 and 31% in 1998 to 43% in 1999. This improvement is approaching our goal of attaining a minimum of 50% of students who master over 60% of the conceptual material within the Biology Core curriculum.

2) The average test score increased relative to the previous two years: 17.2 in 1997, 18.1 in 1998, and 19.5 in 1999.

3) Students grades in individual Biology Core courses show good to very good correlations with scores on the Outcomes Assessment test.

4) Grade in Biology 219 and average grade in Biology 121, 122, and 219 were most highly correlated with student scores on the Outcomes Assessment test.

5) The results of the correlation analysis suggest that Biology 219, the newest course in the Department of Biology Core Curriculum is very important to students' conceptual grasp of the core of biological knowledge.

g. Implications:

The performance of students on the 1999 Outcomes Assessment test and their changing demographics encourage the Department of Biology to continue to do the following.

1) Continue to encourage students to take all 4 core courses in sequence.

2) Continue to emphasize a synthetic view of biology which includes all levels of biological organization from molecules to the biosphere.

3) Continue efforts to communicate clearly with UNM branch campuses and TVI about the content of the recently revised core.

4) Continue our longitudinal comparison using the existing Outcomes Assessment test.

5) Continue our search for a better vehicle for assessing graduating seniors. One option is to use a standardized national test to compare our graduating majors against national outcomes. The major obstacle to implementing this option is cost.
With approximately 200 graduates per year, current cost of the exam would be approximately $5,000 per year.

6) Continue efforts to develop tests for oral and written communication skills of Biology majors.

3. Other forms of assessment within the Department of Biology.

Each year the core biology classes and a selected number of upper division level courses are given a survey to learn about the demographics of student taking classes with the Department of Biology and to learn about their career goals. An open ended question at the end of the survey allows student to provide suggestion on ways of improving their biology education. In response to student requests the Department of Biology has hired two new faculty in the area of animal and plant physiology between 1997 and 1999.

In addition, in response to student requests for increased advisement, the Department of Biology hired a staff advisor, Carol Brandt, who has increased communication with Biology students. Carol administered another assessment tool, a graduation survey, to 167 students that applied for a Biology degree in 1998-1999. The results of this survey, which are attached, will help the Department of Biology anticipate and serve the needs of our students.

4. Contact: Manuel Molles at 505-277-3050, or 277-3411, or molles@sevilleta.unm.edu
APPENDIX P

FACULTY & STAFF
STUDENT OUTREACH SUMMARY
Summary of Outreach 1998-1999
UNM Department of Biology

Diane Marshall, faculty
1. Senior elementary class, Escuela del Sol (This is 4th and 5th grade) 15 students.
   a. Visited class to give a presentation and answer questions about my work and about
      being a scientist
   b. Hosted a visit by this class to my lab. They saw the lab and greenhouse and performed
      pollinations.
2. Junior elementary class, Escuela del Sol (1-3rd grade), 16 students
   Bruce and I set up an area for growing plants indoors and Bruce helped to build a
   greenhouse.
3. Expanding your Horizons conference
   I did local arrangements for this conference, cosponsored by Biology and the New Mexico
   Network for Women in Science and Engineering. 200 middle school and high school girls
   attended this event which included a number of workshops by women scientists.

Jerry W. Dragoo, research faculty
I have worked with 2 high school students. One senior from Cibola High School who presented
our results at Science Fairs from regional to international. I have another student, freshman,
from Sandia High School who has presented our results at an international meeting
(Southwestern Association of Naturalists). Finally, I gave a tour to a biology class
(junior/senior) from Albuquerque High School. I showed them the museum and my (Terry's)
lab.

Amy Ditto, graduate student
I've been mentoring a HS student through APS Career Exploration Program and am still a
member of the American Society of Mammalogist's Public Education Committee. (Something I
suppose it might have been useful to tell you about sooner!) The committee's goal is to serve as a
clearinghouse for information about mammals to primary and secondary educators. We have
packets with suggested lesson plans that can be mailed upon request!

Kim Decker, graduate student
I gave talks to three 10th grade classes (Chuck Buxbaum's classes) at Sandia Prep about
parasites April 22nd.

James Gale, research faculty
For the past two years I have been working with a high school student, Bahram Razani (Del
Norte) on science fair projects. In 1998, he got First Place at States (medicine and Health), and
third place in the internationals. This year, he also got First place in state, and will be
competing in the internationals soon.

Alexa Snyder, staff, Museum of Southwest Biology
Just two students from Albuquerque High School, for "Job Shadow Day", 2 Feb 1999 for one
hour. (Jacob Thompson and Hoss Bichsel were the students; junior level in school; interest in
marine biology.)
Bill Gannon, staff, Museum of Southwest Biology
I am mentoring several students:
Laura Carlisle - from Valley High
Laurie Apodaca - from Rio Rancho High

I gave two science talks - one at the Nature Center to 100 school kids; another at Van Buren MS.

As you know, there have been a number of kid tours - I've done 11 class tours since beginning 1999.

Carl White, research faculty
Provided guidance and support for a proposal from Sandia Prep. through Chuck Buxbaum and another teacher to develop a garden study at the school with one practice utilizing Anasazi (take that term loosely) cobble mulch techniques.

Worked with Debbie Loftin at Bosque Prep. for instruction on laboratory techniques, "Right-to-Know" on hazardous materials in the work place, soil analyses, and general laboratory techniques. Classes came to UNM and I took a demonstration lab to Bosque Prep.

Gave a class talk at 4th grade class at A. Montoya Elementary on cobble mulch as part of New Mexico History session.

Provided preparation materials for science fair at A. Montoya Elementary.

Joy Avritt, staff
This year I collected various books and supplies off of the free table and distributed them to the science teachers at Taylor Middle School. I will also be leading a field trip (on May 13) to the Sandia Mountains where we will ID a few plants and discuss some their uses by both Native Americans and early Spanish families.

Kim Eichhorst, graduate student
I have started giving tours for the Arthropod Division for the Museum of Southwestern Biology. One was for a lutheran church (I don't know the name), for Karen Grussi. The tour consisted of 9 k-2nd graders. I've had one of the Albuquerque Academy students (Heena) visit the museum. I'm giving a presentation at Parajito Elementary for 2nd & 3rd graders. I'm also giving another tour to another christian school for elementary kids. All pertaining to insects and related organisms.

Scott Burt, graduate student
I gave a lecture on Brazilian Hantavirus to Eagle Ridge Middle School classes and have assisted in museum (MSB) tours here at UNM.

Felisa Smith, assistant research professor
I gave two talks to 2nd graders at EJ Martinez Elementary in Santa Fe (on Fossils and Geological Time). About 20 kids per class.

Vickie Peck
I mentored Jennifer Salazar from Cuba, NM with her science fair project.

Richard Cripps, assistant professor
Telephone discussions with school students and teachers concerning genetics (Cleveland Middle School, Albuquerque Academy, Roosevelt Middle School). Approximately five students and one teacher.

Wendy Fuge, research staff
December, 1998- Spoke to three 8th grade science classes at Annunciation School. I mentored one 8th grade student (Veronica Lockwald) Science Fair Project. I mentored a High School Student (Linda Melendres). Her Science Fair project took first place awards at Regionals and also at State Competition. Area: Microbiology and Health

George Rosenberg, research staff, Molecular Biology Facility
Gave a tour of the molecular biology laboratory to 16 students and 2 teachers from Highlands High School. Also, I and grad student Kate Miska went to Albuquerque High School to attend a presentation by students on biotechnology.

Roy Ricci, staff, Biology Animal Research Facility
The BARF Group has also given presentations for the following: Monte Vista Elementary, Jefferson Middle School, Sandia High School, St. Charles Borromeo School, Garfield Middle School, Grant Middle School, and John Adams Middle School (approximately 200 students).

Graduate Students, Faculty, and Staff Involvement in Science Fairs:
16 people contributed to ten different science fairs as judges and lead judges. Some of these fairs included:

- Raymond Gabaldon Middle School in Los Lunas
- National American Indian Science and Engineering Fair
- Jefferson Middle School
- 40th Annual Northwestern NM Regional Science and Engineering
- Southwest Regional Junior Science and Humanities Symposium
- New Mexico State Science and Engineering Fair
- Atrisco Elementary School
- Del Norte High School
- St. Charles Borromeo School
- Eisenhower Middle School

Carol Brandt, staff
Summary: I provided presentations to students from Albuquerque Public Schools on biology employing activities using the public plant conservatory and the mammal teaching collection in room 86. There were 21 schools participating, 606 students and 20 teachers involved.

May 19
Alvarado Elementary, Gr. 3-5, 24 students
worked with mammal collection and plant conservatory
Teacher: Bobbi Molles, 344-2634
June 25  Peppermint Stick Day School, Gr. 1-3, 14 students  
worked with mammal collection and plant conservatory  
Teacher: Dermot Newman, 266-2300

July 7  UNM Day School, Gr. K, 11 students  
Plant conservatory  
Teacher: Joanne Dominguez, 291-9394

July 23  Explora Science Center Day Camp, Gr. 5-7, 25 students  
worked with mammal collection  
Teacher: Simone, 842-1537

August 11  Mountain View Academy, Grades 1-5, 22 students  
worked with mammal collection and plant conservatory  
Teacher: Jason Caul, 292-0139

August 13  Mountain View Academy, Kindergarten, 20 students  
worked with plant conservatory  
Teacher: Jason Caul, 292-0139

September 11  Grant Middle School, 6-8th Gr., 44 students  
worked with mammal collection, focus on endangered animals  
Teacher: Bridgette Cabral

September 18  Carlos Rey Elementary, 5th Gr., 23 students  
worked with mammal collection, focus on biodiversity and classification  
of insects. Teacher: Chris Olson, 255-3486

September 24  Escuela Del Sol Elementary, Rio Rancho, 5th Gr., 23 students  
(visited their classroom) Focus on insects  
Teacher: Bruce Reed, 892-6800

September 28  Lew Wallace Elementary, 1st Gr., 25 students  
worked with mammal collection focusing on bats  
Teacher: Martin Gabaldon (bilingual class)

October 6  Acoma Elementary, 4-5th Gr., 45 students  
(visited their classroom) worked on insects  
Teacher: Gloria Gooch, 299-3547

October 7  Sandia Prep, 6-8th Gr., 70 students  
gave a presentation to students on ethnobotany to four classes  
Teacher: Chuck Buxbaum

October 13  S.Y. Jackson Elementary, 5th Gr., 50 students  
worked on arthropods
Teacher: Marilyn Montori, 294-0476

November 9  Valley H.S., 9-11th Gr, 11 students
MESA group, worked with mammal teaching collection

November 20  Petroglyph Elementary, 4th Gr, 44 students
worked with mammal teaching collection
Teacher: Eileen Flores, 899-2188

January 12  Southwest Indian Polytechnic Institute (SIPI), 4 students
tour of Biology Department
Instructor: Val Christenson, 346-2369

January 22  A&S Presentation to APS Mid-Schoolers
100 students and 4 teachers, school?
(arranged by Monique Denzler)

Taylor Middle School, 8th graders, 5 students
Mammal teaching collection
Teacher: Jerry McGuin, 898-3666

February 2  Job Career Shadow Day, Albuquerque High, 2 students
Spent one hour with them on a tour of the Dept., spent 2 hours in the
MSB with Lex and Bill

February 8  S.Y. Jackson Middle School, 5th Grade, 42 students
plant conservatory and mammal teaching collection
Teacher: Terry Klaus, 296-9536

February 24  Belen Middle School, 6th grade, 25 students
plant conservatory and mammal teaching collection
(coordinated by NM MESA)

March 26  Attended MESA luncheon and spoke with middle school students at Career
Fair for two hours.

March 27  Judge for MESA research projects, 20 High School Projects
Included research papers and oral presentation

March 29-30  Judge for Junior Sciences and Humanities Symposium for the
Southwest Region. Included research papers and oral presentations

April 14  Menaul Middle School, 5-6th grades, 41 students
plant conservatory and mammal teaching collection
Teacher: Lisa Valle, 345-7727

April 26  Menaul High School, 11-12 grades, 14 students
plant conservatory and mammal teaching collection
Teacher: Lisa Valle, 345-7727
A. Significant Events During Academic Year 1998-99

The past academic year has been very busy for the Department of Chemistry. Continued effort has been directed toward stabilizing the fragile situation with regard to the faculty that had been identified by the graduate program review team in 1993. This fragility has resulted from the ongoing and impending loss of many of the more senior faculty and the potential loss of some of the faculty hired in the course of building the program which has been underway for the past dozen years. This year the department was exacerbated with the failure of two searches and the loss of Mark Hampden-Smith and Ignacio Villegas. Last year, we were pleased to add Dr. James Brozik, a physical inorganic chemist, to the faculty at the junior level. After the cancellation of the faculty search the preceding year and the subsequent recasting of the position as a computational position, we were able to hire Dr. Hua Guo at the Associate Professor level, from the University of Toledo. Dr. Guo joined us last summer.

Continued efforts have also been underway to provide the additional high-quality space which the recent review team also strongly emphasized that the Department needed if the growth pattern of the preceding dozen years is to continue and the gains made to be consolidated. Regrettably, the Science and Engineering Building was not funded again by this legislative session. Even more regrettable is that this project has dropped to second priority for next year. The department’s faculty and research programs are now spread out in two buildings.
2. Faculty

Several faculty personnel changes occurred during the course of this past academic year. Two faculty resigned this year. Mark Hampden-Smith left us to join the company he co-founded with Toivo Kodas of Chemical Engineering, Superior Micropowders. Ignacio Villegas received a positive mid-probationary review but he resigned to pursue other interests. We were also unsuccessful in filling two faculty vacancies so we begin next year four faculty short. We are approved to hire one faculty member for next year.

UNM’s Chemistry department continues to have the smallest faculty of any of the UNM peer institutions so the issue of faculty size is of critical import as reported in the latest ACS survey of Chemistry departments. In an informal survey of the current chemistry faculty, I have learned that we will lose approximately a half dozen faculty to retirement over the next half dozen years. Fortunately, Michael Fischer the Dean of A&S is aware of our situation and has been helpful with positions and set-up funding to address this issue. While the hiring of Chemistry faculty is expensive and can only proceed at the pace at which the start-up funding can be located, every effort must be made to continue to increase the department faculty numbers. The Associate Provost for Research has not been as forthcoming as usual with help with the set-up packages and this will slow the development of the department.

3. Curriculum

The department has implemented a new Freshman/Organic curriculum that should have two main results. First, most students will encounter higher level courses as they take their chemistry requirements. Second, Tenured faculty will be teaching the Freshman courses in place of the lecturers who have taught the course in the past five years. I predict that the enrollments in Freshman chemistry will be dramatically impacted by this change. The glassware we purchased last year has enabled us to continue to open
sections of Organic lab and thus we have been able to keep up with the demand for this course. A number of the sections are offered in the evening to make them available to the growing number of non-traditional students who cannot attend the usual weekday/ daytime sections. The Saturday sections in Organic Chemistry Laboratory were deleted last year to no apparent problem.

The faculty of the Chemistry department has engaged in an exhaustive reexamination of our undergraduate curriculum. We have restructured the majors curriculum so they take less freshman chemistry and more advanced courses. A typical entering student will take one semester of freshman chemistry and enter directly into the Organic lecture sequence. The content of the first semester of freshman chemistry will be altered to reflect the needs of the student entering into the organic sequence. The credits from the second semester of freshman chemistry will be replaced with course work in the senior year. The American Chemical Society, our accrediting body, has determined that we must offer biochemistry to our B.S. majors. To that end we now offer a new biochemistry course, Chem 421. The course will be more chemically oriented than the course offered in the Medical School. This course and others in the topical areas of chemistry supply the credits lost by the majors to the Freshman program. For those students seeking to meet group requirements through the freshman chemistry path, we have quite drastically changed the content of the second semester of freshman chemistry to more directly reflect the appropriate ideas required for a scientifically literate citizen.

In the past, the department has offered an honors track for our B.S. majors. In 1998-99, Professor James Brozik has taught Chem 131L-132L, the honors freshman course and Professor Holder once again offered the honors Organic lectures, Chem 307-307. This year we will no longer offer the 131-132 class and 307-8 will be offered for the last time. These classes were valuable additions to our offerings but they are very faculty intense for the small number of students involved. Professors Deck and Paine continue to offer the course they began recently, Chem 415L, with excellent success.
All classes offered by the chemistry department are listed in Appendix B.

4. Facilities

The renovation of the heating, ventilating and air conditioning system in the Riebsomer wing of the Chemistry building which was begun in December of 1995 has finally been completed. The renovation was funded from a proposal to the National Science Foundation along with state matching money. Funding in the amount of $1.3 million was awarded by the NSF with matching funds of $1.7 million required to claim the NSF grant. The project improved the quality and safety of the instructional and research laboratories in that wing. It will also represent a component of the work called for in phase II of the programming document for Chemistry space that was completed four years ago. It greatly improved the safety and functionality of our facilities. However, it did not provide the additional space required by the Department. The project was complex and benefited from an excellent Contractor, Shumate Constructors.

The department of Chemistry went through a programming exercise with Facilities Planning in 1989-90 with a view to developing a plan for a Chemistry Addition. Although the program was completed, no building priority was forthcoming and the project was not funded. We were told that the legislative environment was not “right” for a chemistry building. However, during these years, New Mexico State was funded for a Chemistry addition and they are now occupying their new facility. An alternative approach to resolving the space problem was sought through continued consideration of the long-discussed Science and Technology Research Center. An agreement was reached among the chemistry faculty that, since the Research Center was the building the University seemed to be willing to build, we should seek the space we needed in that building. Biology and Earth and Planetary Sciences were contacted and invited to participate in a joint use building providing needed space to those three departments. With this support, a proposal for planning funds for such a building was sought from the 1994 legislative
session and $250,000 was provided. The planning so far carried out has led to an agreement with the Provost that these three departments and Computer Science will share the space created. The size of the budget has also been determined. However, how the space is to be divided amongst these users remains a source of considerable contention. The fact that the building went unfunded last year and has dropped to second priority for next session implies to me that UNM fears the cost of the centralized building. This is especially ridiculous in view of the fact that the Facilities Planning and the central administration asked us to band together and actually enlarged the building by the inclusion of Computer Science. Now, we are surprised that a building of sufficient size for the four departments is large and expensive. Truly, considering UNM's continual lack of focus on this issue which is so critical for the department, I do not expect to see adequate space for the department until long after my retirement.

5. Graduate-Program

The Graduate Recruitment and Selection Committee was again very active under the leadership of Professor Cary Morrow, the Associate Chairman for Graduate Recruitment, and succeeded in attracting an average size group of new graduate students to the department for the coming year. The return to a larger class reflects the Committee's efforts to increase significantly the quality of students available to the graduate program. Other methods are being sought to alleviate the on-going problem of needing to use graduate students who are less than fluent in English to teach undergraduate laboratories. Professor Cary Morrow has agreed to continue to serve as Associate Chair for Graduate Recruitment in the 99-00 academic year. Appendix A summarizes the recruiting activities.

Dr. Joe Ho, the Laboratory Supervisor has continued his efforts to reduce the average number of laboratories each Teaching Assistant must teach from six per year to five per year. We have continued to guarantee the incoming graduate students a position for the summer. Although our basic offer is still not as competitive as we would like it to be, the
recent change in stipend represents major progress toward building a competitive graduate program. We are grateful to the Dean for his continuing support for our achieving this goal.

This year we reserved a portion of the TA stipends for a reward for a job well done at the end of the semester. The TAs who were well regarded by their students, the lab director, the faculty in charge of the lab and the stock room attendants were rewarded with $1200 at the end of the semester. This program has significantly improved the teaching in the labs.

6. Undergraduate Program

We had our eighth annual departmental commencement following the general commencement ceremonies, followed by an elegant catered buffet luncheon served on our patio. This year again, we were not joined by the department of Biochemistry in our graduation ceremony. Over 100 graduates and guests attended, with Dr. Holder presenting certificates to those receiving the B.S., B.A., M.S. and Ph.D. degrees, and to award winners.

Our own undergraduate program produced a small but well prepared group of graduating majors this year. Several will attend graduate or professional schools this fall. Three females including an Hispanic and one male student earned a B.S. degree. Three male students earned the B.A. degree. In addition to these students who completed chemistry degrees, seventy-two men and twenty-six women earned a minor in chemistry. At the graduate level, three Asian students earned the M.S. degree (all male), and three women, including two Asians, finished the Ph.D. degree. Individuals receiving degrees in Chemistry during the 1998-99 academic year are listed below.
UNDERGRADUATE PROGRAM

STUDENTS RECEIVING THE B.A. DEGREE IN CHEMISTRY 1998-1999

Daniel Cano
Zachary Wilson
Robert Mickelsen
Maria Tapia

STUDENTS RECEIVING THE B.S. DEGREE IN CHEMISTRY 1998-1999

Hang Huynh
Patrick Owen
Tiffany Tinsely
Elizabeth Martinez
Lisa Whalen

STUDENTS COMPLETING THE M.S. DEGREE IN CHEMISTRY 1998-1999

Chunsheng Fu
Jun Zhang
Xingfa Fu

STUDENTS COMPLETING THE DOCTOR OF PHILOSOPHY DEGREE IN CHEMISTRY 1998-1999

Panadda Chirakul
Spring 1999
Dr Phil Hampgon

Terri Constantopoulos
Spring 1999
Dr. Christie Enke

Hongbin Yan
Spring 1999
Dr. Thomas

Niemczyk

GRADUATE STUDENTS IN CHEMISTRY 1998-1999

<table>
<thead>
<tr>
<th>Name</th>
<th>Assistantship</th>
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<tr>
<td>BAILEY, Alex</td>
<td>R.A.</td>
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<td>BANJAC, Kathleen</td>
<td>R.A.</td>
<td>Robert Paine</td>
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<td>BUTLER, Kara</td>
<td>R.A.</td>
<td>Robert Paine</td>
</tr>
<tr>
<td>CAI, Chunai</td>
<td>R.A.</td>
<td>Robert Paine</td>
</tr>
<tr>
<td>CAI, Xiaolu</td>
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<td>CHANG, Virginia</td>
<td>R.A.</td>
<td>Patrick Mariano</td>
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<td>CHIRAKUL, Panadda</td>
<td>R.A.</td>
<td>Phil Hampton</td>
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<td>Terri</td>
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<tr>
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<td>DEPPERMAN, Ezra</td>
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<td>Robert Paine</td>
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<td>T.A.</td>
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<td>T.A.</td>
<td>Cary Morrow</td>
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### APPENDIX A

**APPLICATIONS RECEIVED FOR GRADUATE STUDY IN CHEMISTRY U.S. CITIZENS 1998-1999**

- APP - APPLICATIONS RECEIVED
- APR - APPLICATIONS APPROVED
- DIS - APPLICATIONS DISAPPROVED
- INC - APPLICATIONS INCOMPLETE
- DEC - APPLICATIONS APPROVED BUT DECLINED OFFER

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GRADUATE STUDY IN CHEMISTRY
U.S. CITIZENS
1998-1999

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APPLICATIONS RECEIVED FOR GRADUATE STUDY IN CHEMISTRY
U.S. CITIZENS
1998-1999

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INC - APPLICATIONS INCOMPLETE
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### Applications for Graduate Study in Chemistry

**Foreign Citizens**

1998-1999

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### Applications for Graduate Study in Chemistry

**Foreign Citizens**

1998-1999

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APPLICATIONS FOR GRADUATE STUDY IN CHEMISTRY
FOREIGN CITIZENS
1998-1999

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**Chemistry Course Offerings**

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Sub-Total Undergraduate Upper Division: 3970 students, 12661 CR HRS

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## CHEMISTRY COURSE OFFERINGS

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Sub-Total Graduate: 380 students, 1125 credit hours

GRAND TOTAL ALL STUDENTS: 4350 students, 13786 credit hours

## SPONSORED RESEARCH

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## FACULTY AND STAFF OF THE DEPARTMENT OF CHEMISTRY

### PROFESSORS:

- **ALLEN, Fritz S., Ph.D.** 1969  
  University of Illinois
- **DUNAWAY-MARIANO, Debra, Ph.D.** 1979  
  University of Wisconsin
- **ENKE, Christie, G., Ph.D.** 1959  
  University of Illinois
- **HAMPDEN-SMITH, Mark, Ph.D.** 1984  
  London University
- **HOLDER, Richard W., Ph.D.** 1970  
  Yale University
- **MARIANO, Patrick, PhD.** 1969  
  University of Wisconsin
- **MORROW, Cary J., Ph.D.** 1970  
  Tulane University
- **NIEMCZYK, Thomas M., Ph.D.** 1972  
  Michigan State University
FACULTY AND STAFF OF THE DEPARTMENT OF CHEMISTRY

PROFESSORS:

ONDRIAS, Mark R., Ph.D. 1979 Michigan State University
Paine, Robert, Ph.D. 1970 University of Michigan
PAPADOPoulos, E. Paul, Ph.D. 1961 University of Kansas
WALTERS, Edward A., Ph.D. 1966 University of Minnesota

ASSOCIATE PROFESSORS:

DECK, Lorraine, Ph.D. 1989 University of New Mexico
GUO, Hua, Ph.D. 1988 Sussex University
KELLER, David, Ph.D. 1984 University of California-Berkeley
MCLAUGHLIN, Donald R., Ph.D. 1965 University of Utah

ASSISTANT PROFESSORS:

BROZIK, James 1996 Washington State University
EVANS, Deborah, Ph.D. 1995 University of Pittsburgh
HAMPTON, Philip D., Ph.D. 1989 Stanford University
KIRK, Martin L., Ph.D. 1991 University of North Carolina
VILLEGAS, Ignacio 1991 University of Georgia

EMERITUS PROFESSORS:

CATON, Roy D., Ph.D. 1963 Oregon State University
HOLLSTEIN, Ulrich, Ph.D. 1956 University of Amsterdam
LITCHMAN, William M., Ph.D. 1965 University of Utah
SCHAFFER, Riley, Ph.D.* 1967 University of Chicago
VISITING FACULTY:

NONE

POSTDOCTORAL AND RESEARCH FELLOWS:

BASAME, Solomon 1998 University of Utah
BOND, Evelyn 1998 University of New Mexico
CHEN, Chuanfeng 1994 Nanjing University
CHEN, Rongqing 1991 Shanghai Institute of Optics and Fine Mechanics
CHO, Sung Ju 1996 Pusan National University

POSTDOCTORAL AND RESEARCH FELLOWS:

CONSTANTOPOLOUS, Terri 1999 University of New Mexico
GAN, Xinmin 1995 Kinki University
GARDNER, Benjamin 1997 Michigan State University
JACKSON, George 1997 Florida State University
KIM, Hyun-Jin 1997 Pusan National University
KOESTLER, Wolfgang 1995 University of Munich
LEE, Sangok 1992 Pusan University
MA, Guobin 1992 Shanghai Institute of Optics and Fine Mechanics
MEDFORTH, Craig 1988 University of Liverpool, U.K.
SONG, Xingzhi 1996 University of New Mexico
SU, Zhuoyi 1997 University of Maryland
WOOD, Gary 1987 University of Maryland

ADJUNCT PROFESSORS:

BAKER, Thomas R. Adjunct Research Professor
CAMPBELL, David Lecturer III
CLARK, David L. Adjunct Research Professor
DORKO, Ernest A. Adjunct Professor
DUESLER, Eileen Research Associate Professor
ELLIOTT, Scott M. Adjunct Research Professor
ENGLEMAN, Rolf, Jr. Adjunct Professor
HAALAND, David Adjunct Professor
HO, Kuangchiu Lecturer III
SHELNUTT, John UNM/SNL Adjunct Professor
SHREVE, Andrew P. Adjunct Assistant Research Professor
SMITH, Karen Ann Adjunct Assistant Research Professor
STALLARD, Brian Adjunct Assistant Professor
ADJUNCT PROFESSORS:

WILKINS, Ralph G. Adjunct Assistant Research Professor
TAPSCOTT, Robert Research Professor

APPENDIX C
DEPARTMENT OF CHEMISTRY
UNIVERSITY OF NEW MEXICO
SEMINAR SPEAKERS
1998-1999


18 September 1998 Professor Ignacio Villegas, The University of New Mexico, *Coordination Chemistry During The Formation of Nanometer-Scale Compounds on Electrode Surfaces*

25 September 1998 Professor Elmer Alyea, University of Guelph, *Metal Oxide Vapor Synthesis [MoVs]: A New Preparative Method for Heterogeneous Metal Oxide Catalytic Systems*

29 September 1998 Professor Jeffery T. Davis, The University of Maryland, *Self Assembled Ionophores. Synthesis Characerization And Applications*

02 October 1998 Dr. Bruce Chase, DuPont Experimental Station, *Vibrational Spectroscopy as a Structural Probe of Polymers During Mechanical Deformation*

05 October 1998 Professor Lothar Stahl, University of North Dakota, Grand Forks, *Bis(amido) cyclodisilazane and Cyclodiphosphazane Complexes: Syntheses, Molecular Structures and Applications In Polyolefin Catalysis*

23 October 1998 Professor Lisa McElwee-White, University of Florida, *Chemistry of Tungsten Imido Complexes: Mechanisms, Amine Carbonylation and CVD of Tungsten Nitride*
APPENDIX C
DEPARTMENT OF CHEMISTRY
UNIVERSITY OF NEW MEXICO
SEMINAR SPEAKERS
1998-1999

30 October 1998
Professor Curtis Shannon, Auburn University, Building Materials from the Ground Up: A Surface Science Approach To Electrosynthesis

06 November 1998
Professor Stephen F. Martin, University of Texas – Austin Strategies for the Total Synthesis of Heterocyclic Natural Products

4 December 1998
Professor Martin L. Kirk, The University of New Mexico, Orbital Control of Catalysis and Electron Transfer in Pterin-Containing Molybdenum Enzymes

11 December 1998
Professor Gary A. Molander, University of Colorado at Boulder, Selective Cyclization/Silylation Reactions of Polyunsaturated Substrates with Metallocene Catalysts

22 January 1999
Professor Christopher Gorman, North Carolina State University, Encapsulated Electroactive Molecules: Control of Electron Transfer in Redox-Activeupramolecules

12 February 1999
Professor Ronald Cavell, The University of New Mexico, New Transition Metal Carbene Chemistry Provided by P/N Ligands – Have We Found the Perfect Ligand

19 February 1999
Dr. Chaitanya Narula, Ford Motor Company Central Research Department, Recent Advances in Automotive Exhaust Reduction Catalysts

23 January 1998
Professor Ralf Reidel, University of Colorado and the University of Darmstadt Preceramic Routes to Novel Cermanics

5 March 1999
Professor Mike Cocivera, University of Guelph, Effect of Oxygen on Transient Photoconductivity in Thin-Film TiO2
APPENDIX C
DEPARTMENT OF CHEMISTRY
UNIVERSITY OF NEW MEXICO
SEMINAR SPEAKERS
1998-1999

12 March 1999  Professor George W. Gokel, University of Washington, *Hydraphiles: Synthetic, Cation and Conducting Transmembrane Channels*

9 April 1999  Professor Larry Overman, University of California, Irvine *New Strategies for Ring Formation. Applications in Natural Product Synthesis*

16 April 1999  Mr. Curt Marcott, Corporate Research Division, Proctor and Gamble, *Dynamic 2D IR Spectroscopy*

APPENDIX D
FACULTY AND STAFF OF THE DEPARTMENT OF CHEMISTRY

RESEARCH SCIENTIST:


SMITH, Karen An, Ph.D., 1984, University of Illinois - Oversees, maintains, and operates the Department's NMR spectrometers, trains students and faculty in their use, and consults with faculty and students concerning the solution of chemistry problems using NMR.

RESEARCH ENGINEER II:

SHAHVAR, Hoshang, B.S., 1981, University of New Mexico - Manufactures state of the arts electronic equipment as requested by faculty and graduate students.

RESEARCH SCIENTIST II:

DAVENPORT, Michael, - Electronic design and maintenance engineer for faculty and graduate students.
APPENDIX D

FACULTY AND STAFF OF THE DEPARTMENT OF CHEMISTRY

RESEARCH SCIENTIST:

OTHER STAFF:

BAUER, John - Research Tech/Life Sciences: - Performs multi-step tests, analyses, results of experiments, specimens and samples and provides support to students in learning and functional activities within the lab setting.

BUSH, Gary, Research Tech/Life Sciences: - Performs multi-step tests, analyses, results of experiments, specimens and samples and provides support to students in learning and functional activities within the lab setting.

CANO, Daniel, Research Tech/Life Sciences: - Performs multi-step tests, analyses, results of experiments, specimens and samples and provides support to students in learning and functional activities within the lab setting.

CANDELARIO, Ricky, Supply/Stock Clerk: - Assists the Department and UNM personnel with all aspects of ordering, receiving, billing and inventory of chemicals and supplies.

DUNAGAN, Julie, Editorial Tech: - Responsible for transcription, proofreading and typing complex manuscripts and other documents for publication or other distribution for the Department of Chemistry.

HILTON, Carl, C.R.L.S. Operations Manager II - Responsible for the overall operation of C.R.L.S. including budget, buying and inventory control and EPA/OSHA regulations and compliance.

MINSEN, Ovella, Admissions Assistant I: - Responsible for processing student applications for admissions status and residency for foreign and U.S. graduate applicants to the Department of Chemistry, The University of New Mexico.

MORRATO, Anna, Department Administrator III: - Manages, controls and supervises the fiscal system, daily administrative operations and assists the Chairman with departmental matters.

SOBLICK, Leonard, Accountant II: - Responsible for compiling, analyzing and reviewing data and statistics pertaining to revenues and expenditures; prepares, examines and verifies accounting data and documents and maintains accounting records.
APPENDIX D

FACULTY AND STAFF OF THE DEPARTMENT OF CHEMISTRY

APPOINTMENTS TO STAFF:

STANLEY, Kriss, C.R.L.S. Systems Analyst III: - Assists Department and UNM personnel with all aspects of ordering, receiving, billing and inventory of chemicals. Responsible for all computer operations in C.R.L.S.

TEWOLDE, Adda, Accountant II: Responsible for compiling, analyzing and reviewing data and statistics pertaining to revenues and expenditures; prepares, examines and verifies accounting data and documents and maintains accounting records for C.R.L.S.

APPOINTMENTS TO STAFF:

BLYTHE, William, Coordinator of Purchasing: prepares sale invoices, inventory entries and places orders while overseeing the receiving and proper stocking and delivery of orders.

SCHELLENBERBER, Karen, Editorial Tech: - Responsible for transcription, proofreading and typing complex manuscripts and other documents for publication or other distribution for the Department of Chemistry.

WHALEN, Debra, Administrative Assistant I: Responsible for assisting the accountant in verifying accounting data and documents and maintaining accounting documents.

CHANGES TO STAFF PERSONNEL:

PENHALL, Michele, Administrative Assistant III: coordinates and performs a variety of staff and/or operational support activities for C.R.L.S.; manages daily administrative operations and assist the Manager of C.R.L.S. in all daily activities.

SEPARATIONS:

ADAMS, Ron, LAN Administrator: - Performs Local Area Network (LAN), World Wide Web (WWW), and stand-alone PC hardware and software support, and provides DeskTop Publishing (D"P) expertise in graphic design, page layout and Web page authoring. RETIRED

HONEY, Donna, Administrative Assistant I: - Responsible for assisting the accountant in verifying accounting data and documents and maintaining accounting documents.
RESEARCH EQUIPMENT:

Major pieces of equipment (more than $10,000.00 unit price) acquired during the reporting year:

- 789945 Single Beam Spectrometer $12,500.00
- 787682 Kachina UniStation $10,091.58
- 786627 Residual Mass Analyzer $28,924.00
- 784506 Coherent Innovative 90-06 Argon Laser $12,685.73
- 785964 Demo Used Laser/ Sl401-50hz $19,000.00
- 138929 Femtosecond Model Locked Laser $45,000.00
- 782667 Innovative 302 Laser $42,000.00
- 788258 Electrochemistry AFM Converter Base $11,800.00

PROPOSALS SUBMITTED FOR FY 98-99

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## CONVOCATION CEREMONY 15 MAY 1999
UNDERGRADUATE AWARDS

Sara Brooks-Sienkiewicz | Riebsomer Award
Sarah Kehrman | Riebsomer Award
CONVOCATION CEREMONY 15 MAY 1999
UNDERGRADUATE AWARDS

Jason Ferguson  Dean Uhl Award
Justin Marbury  Dean Uhl Award
Elizabeth Martinez  Dean Uhl Award
McKenzie Minke  Dean Uhl Award
Hang Huynh  Gibson Award
Adam Koertner  Mozely Award
Robert Mickelsen  Millican Award
Kevin Riley  Millican Award
Mona Pandey  Hughes Scholarship
Vincent Torres  Hughes Scholarship
Lisa Whalen  Ann Kahn Memorial Prize

CONVOCATION CEREMONY 15 MAY 1999
UNDERGRADUATE AWARDS

GRADUATE AWARDS

Alec Bailey  Schnoebelen Award
Jason Deck  Clark Teaching Award
Nadja Lindley  Smith/Dow Award
Department of Communication and Journalism
Annual Report
July 1, 1998 - July 1, 1999

Submitted by
Karen A. Foss, Chair

Significant Developments and Plans

The department continues to work toward the remodel of the first floor, vacated by the Printing Plant in spring, 1997. The remodeling committee, chaired by Richard Schaefer, solicited faculty input and solidified department needs and wishes in regard to the renovation. The University committed $70,000 for architectural fees, and the firm of Kevin Georges and Associates was asked to prepare preliminary plans, based on the information prepared by the department.

The department, working with Leslie Elgood from the Development Office, was also given the opportunity to submit a proposal to Bill Daniels, from Denver, for funding all or part of the renovation of the building. Daniels will consider two proposals—one from C&J and one from the Anderson Schools of Management—as part of a preliminary effort to establish a foundation in New Mexico for philanthropic endeavors. The department prepared a proposal and a department video and submitted it to Mr. Daniels in late May.

The department also embarked on plans for its 50th anniversary celebration, to be held October 19 - 23, 1999. The celebration will open on Wednesday with a "hard hat" reception in the yet-to-be-renovated space, followed by panel presentations on Thursday and an awards dinner on Saturday at La Posada Hotel in downtown Albuquerque.

A fundraising committee also was formed, chaired by Judith Hendry, to begin the process of securing ongoing funds for the department from alums and other supporters. The department hopes to raise $50,000 as part of this effort.

The department finalized its outcomes assessment programs. For Communication majors, the senior seminar (C&J 480) will be the class in which outcome assessment is initiated, and for Journalism majors, C&J 251--Writing for Mass Media II will be the class in which assessment occurs. Assessment for graduate students also was developed and will be initiated in fall, 1999.

The department hosted a dinner for this year's doctoral graduates at Casa de Benavides, the evening before graduation, and plans to make this an annual affair.
**Appointments, Leaves, and Separations**

The department conducted two faculty searches during the 1998-99 year—one in Journalism and Mass Communication and one in Communication. Janet Cramer, from the University of Minnesota, was hired for the Journalism position. The top candidate for the Communication position did not accept our offer, and the department decided to search again next year for this slot.

Three faculty members were on sabbatical during 1998-99: Janice Schuetz and Miguel Gandert were on leave for the entire academic year; Estelle Zannes was on leave in the spring semester. Brad Hall will be on sabbatical in fall, 1999; Everett Rogers will be on leave for the entire 1999-2000 academic year.

Michael McDevitt was appointed director of undergraduate studies, beginning fall 1998.

John Oetzel was appointed director of graduate studies, beginning fall 1999, replacing Brad Hall.

Richard Schaefer will serve as Associate Chair for fall 1999; Brad Hall will serve as Associate Chair for spring 2000.

There were several changes in terms of staff during this year. Jackie Sumner was hired as the Graduate Administrative Assistant, replacing Kim Summers who left in July 1998. Jackie left in May 1999 and was replaced by Rachel Mylan.

Jayison Klinger, Department Administrator, took a position in the Department of Mathematics in November 1998. Virginia Ortiz filled in as temporary administrator until March 1999, when Monique Bell was hired as Department Administrator.

Diana Ortiz, Undergraduate Administrative Assistant, left to take a position in the Law School; she was replaced by Marian Chavez and then Brenda Strong, both from the UNM temporary pool. Graduate students—Britta Limary, Donna George, Heidi Carr, and Sheena Malhotra—filled in until a new department administrator was hired. It was decided not to hire for this position until the department administrator was in place. Linda Yancy was hired for this position in June 1999.

A full roster of faculty and staff is attached.
Publications

The department completed a department video, specifically to use as part of the proposal for Bill Daniels about funding the renovation of the building. It will also be available for general use.

The department made a video of the graduation ceremony, which was made available for purchase by those attending the commencement exercises. The department hopes that this can become a yearly department fundraiser.

The department also collected videotaped comments from the first two classes of doctoral students in order to construct a brochure of commonly asked questions about the program. Actual students from the program will be featured in the brochure, which is being prepared by Jack Condon and Miguel Gandert.

For individual faculty publications, see annual biographical reports.

Sponsored Research

Everett M. Rogers and colleagues completed a five-year research project (1993-1998) in Tanzania in which they evaluated the effects of an entertainment-education radio soap opera, Twende na Wakat (Let's Go with the Times), in changing adult Tanzanian's' adoption of family planning and HIV/AIDS prevention. This research was supported by grants from the Rockefeller Foundation, the Weyerhauser Family Planning Foundation, the Long Trust, and the United Nations Population Fund. Research results are published in several articles, theses, and dissertations, and in a book, Entertainment and Education: A Communication Strategy for Social Change (Lawrence Erlbaum, 1999).

Everett Rogers also continues to direct a research program, now in its seventh year, on technological innovation and technology transfer in New Mexico and Japan. This research centers on technology transfer, especially via high-technology spin-offs, from federal research and development laboratories and from university-based research centers. Four journal articles were accepted for publication or published in 1998-99 about this research.

Special Awards and Honors

Richard Schaefer and Dirk Gibson were promoted to Associate Professor with tenure, effective fall 1999.

Professor Everett Rogers was awarded a Regents' Professorship.
Associate Professor Brad Hall received the El Paso Natural Gas Faculty Achievement Award for outstanding teaching.

Jean Civikly-Powell was appointed director of the new Faculty Dispute Resolution Center, beginning fall 1999.

Sheena Malhotra, doctoral student, received an Arts & Sciences Dissertation Fellowship.

Tomoko Masumoto, doctoral student, received a Dean’s Dissertation Fellowship from the Office of Graduate Studies for 1999-2000 to complete her dissertation research.
Faculty and Staff Roster

Faculty

Jean Civikly-Powell, Professor
John Condon, Professor
Karen Foss, Professor
Ken Frandsen, Professor
Diane Furno-Lamude, Associate Professor
Miguel Gandert, Associate Professor
Bob Gassaway, Associate Professor
Dirk Gibson, Assistant Professor
Brad Hall, Associate Professor
Judith Hendry, Visiting Assistant Professor
Michael McDevitt, Assistant Professor
John Oetzel, Assistant Professor
Everett Rogers, Professor
Richard Schaefer, Assistant Professor
Janice Schuetz, Professor
Gill Woodall, Associate Professor
Estelle Zannes, Professor

Staff

Monique Bell, Department Administrator
Rachel Mylan, Graduate Assistant
Linda Yancey, Undergraduate Assistant
Pat Kiska, Broadcasting Engineer
THE ANNUAL REPORT
OF THE
DEPARTMENT OF EARTH AND
PLANETARY SCIENCES

July 1, 1998 to June 30, 1999
# TABLE OF CONTENTS

I. GENERAL DEPARTMENT INFORMATION .................................................................................................................. i
   Faculty and Staff ......................................................................................................................................................... 1
   Departmental Standing Committees .......................................................................................................................... 4
   Appointments and Separations ............................................................................................................................... 5

II. ACTIVITIES, ACHIEVEMENTS AND PLANS .................................................................................................................. 6
   Introduction ...................................................................................................................................................................... 7
   Faculty and Staff Accomplishments ............................................................................................................................ 7
   General Departmental Activities ..................................................................................................................................... 14
   Alumni Programs and Support ........................................................................................................................................ 18
   Plans and Goals ........................................................................................................................................................... 19

   Teaching Accomplishments ........................................................................................................................................ 22
   Publications ................................................................................................................................................................... 36
   Research Grants and Contracts ...................................................................................................................................... 51
   Research Projects in Progress .......................................................................................................................................... 57
   Activities in Professional Societies .................................................................................................................................. 78
   Other Professional Activities ........................................................................................................................................... 89
   Non-teaching University Service .................................................................................................................................... 99
   Scholastic Honors ........................................................................................................................................................ 107
   Sabbaticals and Travel .................................................................................................................................................. 108
   Public Service ............................................................................................................................................................. 114

IV. GRADUATE PROGRAMS AND SCHOLARSHIPS ................................................................................................................. 119
   Summary of Graduate Programs ................................................................................................................................... 120
   Student Scholarships and Other Awards .......................................................................................................................... 126

APPENDIX I - Logs of Geology Museum and Harding Mine visitors ............................................................................. 131
Department of Earth and Planetary Sciences

Annual Report

July 1, 1998 - June 30, 1999

Barry S. Kues, Chair
I. GENERAL DEPARTMENTAL INFORMATION

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i
FACULTY AND STAFF

PROFESSORS:

- Michael E. Campana, Ph.D., University of Arizona, 1975.
- John W. Geissman, Ph.D., University of Michigan, 1980.
- Karl E. Karlstrom, Ph.D., University of Wyoming, 1981.
- Cornelis ("Kase") Klein, Ph.D., Harvard University, 1965.
- Albert M. Kudo, Ph.D., University of California, San Diego, 1967.
- Barry S. Kues, Ph.D., Indiana University, 1974.
- Leslie D. McFadden, Ph.D., University of Arizona, 1982.
- James J. Papike, Ph.D., University of Minnesota, 1964. (Regents Professor)

ASSOCIATE PROFESSORS:

- Adrian J. Brearley, Ph.D., University of Manchester, (United Kingdom), 1984.
- David Gutzler, Ph.D., Massachusetts Institute of Technology, 1986.
- Stephen P. Huestis, Ph.D., University of California, San Diego, 1976.
- Jane Selverstone, Ph.D., Massachusetts Institute of Technology, 1985. (Regents Lecturer)
- Gary Smith, Ph.D., Oregon State University, 1986.

ASSISTANT PROFESSORS:

- Frank Pazzaglia, Ph.D., Pennsylvania State University, 1993.
- Peter Fawcett, Ph.D., Pennsylvania State University, 1994.

SENIOR RESEARCH PROFESSORS:

- Wolfgang E. Elston, Ph.D., Columbia University, 1953.

RESEARCH PROFESSORS:

- Horton Newsom, (Institute of Meteoritics), Ph.D., University of Arizona, 1981.
- Mousumi Roy, Ph.D., Massachusetts Institute of Technology, 1997 (Caswell Silver Research Professor).
- Charles K. Shearer, Jr., (Institute of Meteoritics), Ph.D., University of Massachusetts, 1983.

PROFESSOR EMERITUS:

- Rodney C. Ewing, Ph.D., Stanford University, 1974.
- J. Paul Fitzsimmons, Ph.D., University of Washington, 1949.
RESEARCH STAFF:

Viorel Atudorei, Research Scientist III, Ph.D., University of Lausanne, Switzerland, 1998.
James Connolly, Research Scientist II, M.S., University of New Mexico, 1981.
John Husler, Research Scientist III, M.S., University of New Mexico, 1968.
Rhian H. Jones, Senior Research Scientist (Institute of Meteoritics), Ph.D., University of Manchester, Great Britain, 1986.
Jennifer Loomis, Post-Doctoral Scientist, Ph.D., University of New Mexico, 1996.
Aurora Pun, Post-Doctoral Scientist, Ph.D., University of New Mexico, 1996.
Nabil Shafike, Post-Doctoral Scientist, Ph.D., University of Arizona, 1994.
Kamran Syed, Post-Doctoral Scientist, Ph.D., University of Arizona, 1999.
Padinare V. Unnikrishna, Post-Doctoral Scientist, Ph.D., Utah State University, 1995.
Michael Wiedenbek, Senior Research Scientist I, (Inst. of Meteoritics), Ph.D., Australian National University.
Huifang Xu, Research Scientist III, Ph.D., Johns Hopkins University, 1993.

ADJUNCT PROFESSORS:

Warren S. Baldridge, Ph.D., Caltech University, 1978.
M. Susan Barger, Ph.D., Pennslyvania State University, 1982.
James E. Bossert, Ph.D., Colorado State University, 1990.
Tracey Cascadden, Ph.D., University of New Mexico, 1997.
Robert J. Glass, Ph.D., Cornell University, 1988.
Fraser E. Goff, Ph.D., University of California, Santa Cruz, 1977.
Stephen Harlan, Ph.D., University of New Mexico, 1992.
Grant H. Heiken, Ph.D., University of California, Santa Barbara, 1972.
Spencer G. Lucas, Ph.D., Yale University, 1983.
Sean McKenna, Ph.D., Colorado School of Mines, 1994.
Matthew Nyman, Ph.D., Virginia Polytechnic Institute and State University, 1992.
Donald Peterson, Ph.D., Stanford University, 1961.
Aurora Pun, Ph.D., University of New Mexico, 1996.
Walter C. Riese, Ph.D., University of New Mexico, 1980.
John Shomaker, Ph.D., University of Birmingham (United Kingdom), 1995.
Daniel B. Stephens, Ph.D., University of Arizona, 1979.
Gregory Valentine, Ph.D., University of California, Santa Barbara, 1988.
Erik Webb, Ph.D., University of Wisconsin, Madison.
Thomas Williamson, Ph.D., University of New Mexico, 1993.
Kenneth Wohletz, Ph.D., Arizona State University, 1980.

STAFF:

Christopher Adcock, Research Technician, Institute of Meteoritics
Tracey Cascadden, Natural Sciences Coordinator
Mabel T. Chavez, Editorial Technician
Gilbert E. Griego, Harding Mine Maintenance Mechanic
Yongxiang Guo, Senior Research Technician, STEM lab
Sally E. Hayes, Accounting Technician
Paula Holub, Department Administrator
Cindy Jaramillo, Administrative Assistant II
Sara Lentz, Administrative Assistant III, Institute of Meteoritics
Robert Macy, Research Engineer
Mary Marcilla, Administrative Assistant I, Institute of Meteoritics
Florine Rietmeijer, Lab Assistant
Mary Simmons, Editorial Technician
Anthony Velardez, Facilities Service Technician

VISITING SCIENTISTS (in residence, 1998-1999):

Dr. Weiliang Gong, Institute of Geochemistry, Chinese Academy of Sciences
Dr. Barbara Dutrow, Department of Geology and Geophysics, Louisiana State University, Jan. – June, 1999
Dr. Kirsten Menking, Vassar College, June – July, 1998; June – August, 1999
Fidel Grandia, Autonomous University, Barcelona, Spain, Jan. – July, 1999
Dr. Andrew Baker, University of Newcastle Upon Tyne, U.K., March 21, 1998 – April 15, 1999
Dr. Anna Bojin, Department of Geology and Paleontology, Karl-Franzens University, May 15 – July 15, 1999
Dr. Mengist Teclai, University of Eritrea, June – Sept. 1999
DEPARTMENTAL COMMITTEES, 1998-99

GRADUATE COMMITTEE
M. ELRICK
J.W. GEISSMAN
Y. Asmerom
A. Brearley
M. Campana
P. Fawcett

UNDERGRADUATE COMMITTEE
L.D. McFADDEN
D. Gutzler
S. Huestis
K. Karlstrom
C. Klein
J. Selverstone

SCHOLARSHIP COMMITTEE
B. KUDO
L. Crossey
M. Elrick
S. Huestis

FACILITIES COMMITTEE
J.W. GEISSMAN
Y. Asmerom
A. Brearley
J. Papike
Z. Sharp
C. Shearer

COMPUTER COMMITTEE
D. GUTZLER
J. Connolly
P. Fawcett
F. Pazzaglia
M. Spilde
(Graduate student)

COLLECTIONS COMMITTEE
C. KLEIN
B. Kues

GRADUATE ADVISOR
M. ELRICK
J.W. Geissman

UNDERGRADUATE ADVISOR
S. HUESTIS

HONORS ADVISOR
L. CROSSEY

LIBRARY LIAISON
Y. ASMEROM

VEHICLES
M. ELRICK
P. Holub
(Graduate student)

SAW ROOM
J. SELVERSTONE

SEARCH COMMITTEE (VOLCANOLOGIST)
L.D. McFADDEN
Y. Asmerom
A. Kudo
J. Papike
J. Selverstone
Goff (LANL)
(Graduate student)
APPOINTMENTS AND SEPARATIONS

APPOINTMENTS TO FACULTY

Adrian Brearley, Associate Professor ( untenured), August, 1998.

SEPARATIONS FROM FACULTY


APPOINTMENTS TO STAFF

Mary Simmons, Editorial Technician, September 8, 1998.

SEPARATIONS FROM STAFF

Chris Adcock, Research Technician, IOM, April, 1999.
Padinare V. Unnikrishna, Research Assistant Professor, June, 1999.
II. ACTIVITIES, ACHIEVEMENTS, AND PLANS
INTRODUCTION

This annual report summarizes the activities, accomplishments and plans of the Department of Earth and Planetary Sciences (E&PS), including the Institute of Meteoritics (IOM), during the 1998-99 academic year. Most details of faculty activities (Part III) are derived from biographical supplements for 1998, whereas the general discussions and information on other aspects of the Department include the period from July 1, 1998 to June 30, 1999. This inconsistency in reporting UNM data (calendar year for individuals; academic year for departments) is unfortunate, and UNM should choose one or the other period for its standardized reports. As this is the only document that comprehensively summarizes the Department's history during the past year, and is used as a source of information by many people both within and outside of the University, we have endeavored to make it as complete as possible.

During the 1998-99 academic year, the faculty of the Department of Earth and Planetary Sciences consisted of 19 regular tenured or tenure-track faculty, 3 Senior Research Professors, and 3 Research Professors. In addition, 9 Ph.D.-level research scientists (2 within IOM) filled a variety of non-faculty positions within the Department. Most were scientific staff with specific responsibilities relating to analytical laboratories and departmental research endeavors; 5 were post-doctoral scientists. The Departmental faculty is thus augmented by a significant number of other doctoral-level geoscientists, who in some cases participate in teaching and advising of graduate students, and add to the research capabilities and scholarly reputation of the Department.

Permanent scientific staff also includes several technicians and Research Associates, and the office administrative, clerical, and support staff also contribute vitally to the functioning of the Department. Several other geoscientists affiliated with other institutions were in residence in the Department for periods ranging from weeks to the entire year, conducting research as visiting scientists and working with faculty and staff members. The names of all these departmental personnel are included in Part I of this report.

FACULTY AND STAFF ACCOMPLISHMENTS

Position Changes in Faculty

One new regular faculty member joined the Department in 1998-99. Dr. Adrian Brearley assumed a position as Associate Professor (untended) in Fall, 1998, succeeding Professor Rod Ewing. Dr. Brearley received his Ph.D. degree from the University of Manchester (United Kingdom), and his research interests are in the area of mineralogy, especially of meteorites. Dr. Brearley formerly was a senior research scientist in the UNM Institute of Meteoritics and a research professor in E&PS.

Dr. Mousumi Roy (Ph.D., M.I.T., 1997) joined the Department in July, 1998, beginning a two-year appointment as Caswell Silver Research Professor, and endowed position. Dr. Roy's main research is in the areas of large-scale deformation processes, earthquake nucleation, and the formation of fault systems. She arrived after a year as a post-doctoral research scientist at the Southern California Earthquake Institute and California Institute of Technology.

In Spring 1999 Assistant Professor Frank Pazzaglia accepted a tenured Associated Professorship at Lehigh University, Pennsylvania, and resigned his UNM faculty position effective at the end of July. Dr. Pazzaglia, a geomorphologist, came to UNM in 1994 and contributed greatly to the Department, especially the Quaternary Studies Program, in his teaching, research and service.

Impending Faculty Changes

During 1998-99 the Department successfully conducted an international search for an Assistant Professor in volcanology, and hired Dr. Tobias Fischer (Ph.D., Arizona State University, 1999) to fill this position. Dr. Fischer, currently serving a one-year appointment as a post-doctoral research scientist at Lawrence-Berkeley National Lab, will
arrive to assume his faculty duties in January, 2000. His research focuses on the role of fluids and volatiles in igneous and volcanic processes, including active volcanoes. In addition to teaching and research in volcanology, Dr. Fischer will coordinate the Department's joint volcanology program with Los Alamos National Lab.

The Department has formally requested approval from the Dean for a search for a new faculty member in geomorphology during the 1999-2000 year, to replace the departing Frank Pazzaglia.

Other Position Changes

In Fall 1999 Jim Connolly, the Department's computer network manager, also assumed the responsibility of managing the X-ray diffraction laboratory, under the supervision of Professor Adrian Brearley.

The Department hired Nicu-Viorel Atudorei (Ph.D., 1998, University of Lausanne, Switzerland) as a research scientist in the stable isotope laboratory, in January 1999.

Faculty Advancement and Honors

The faculty reviewed and recommended Associate Professor Laura Cressey for promotion to full Professor in Fall, 1998; her promotion will become effective in Fall, 1999.

The faculty reviewed and recommended Assistant Professors Yemane Asmerom and Frank Pazzaglia for tenure and promotion to Associate Professor in Fall 1998. Asmerom's advancement will become effective in Fall 1999; Pazzaglia's is moot, as he will be leaving UNM.

The faculty conducted Assistant Professor Peter Fawcett's Code 2 review in April, 1999.

In Spring 1999, the faculty reviewed the Department's three Research Professors (Horton Newsom, Frans Rietmeijer, and Chip Shearer), and renewed their two-year appointments.

Jane Selverstone, upon nomination by the faculty, was appointed one of four new Regents' Lecturers from the College of Arts and Sciences in November, 1998. Regents' Lecturer appointments recognize achievements of the very highest level in teaching, scholarship, and service by tenured UNM associate professors. Her appointment is for 1998-2001.

Frank Pazzaglia, upon nomination by the faculty, received in December 1998 one of three Gunter Starkey Teaching Awards, conferred upon College of Arts and Sciences faculty for the first time this year. The Starkey awards recognize individuals who have made significant contributions to the College's teaching mission through the quality, breadth, and impact of their teaching activities.

Mike Campana continued his half-time appointment as Director of UNM's Master of Water Resources Administration program this year.

Laura Crossey continued her two-thirds-time appointment as Associate Dean, College of Arts and Sciences this year.

John Geissman and Les McFadden both served as Arts and Sciences representatives on the Faculty Senate during the 1998-99 year.

Laura Crossey and Les McFadden served as Assistant Chairs of the Department this year.
In February 1999 the faculty recommended Les McFadden to the Dean as the next Chair of E&PS, and the Dean appointed him to a four-year term beginning July 1, 1999. McFadden succeeds Barry Kues, who served as Chair from 1991-1999.

In April, Jim Papke was presented with the Outstanding Achievement Award of the University of Minnesota, which recognizes former students who have attained unusual distinction in their chosen field or profession, and who have demonstrated outstanding achievement and leadership.

The Department learned this Spring that Emeritus and Senior Research Professor Wolf Elston will be honored at the Fall 1999 national meeting of the Geological Society of America, with “A multidisciplinary symposium on volcanism, planetary geology, and economic geology in honor of 50 years of geological work by Wolf Elston.”

Sabbatical and Other Leagues

Gary Smith was on sabbatical during the 1998-1999 academic year. His primary activity during the sabbatical was research work in the Geohydrology Group at Sandia National Laboratories. This work mostly centered around geostatistical simulation methods applied to understanding transmissivity variation near the Waste Isolation Pilot Plant. These methods are also applicable to Smith’s new research directions in the application of sedimentology to hydrological problems and the experience with SNL was extremely beneficial in broadening his expertise. He also completed two quadrangle geological maps for the New Mexico Bureau of Mines and Mineral Resources and completed four research papers. Additional effort was directed toward developing interactive, animated computer presentations for use in introductory geology classes. Smith also gave invited colloquium presentations at UNM, University of Nevada-Las Vegas, and Oregon State University.

Instructional Activities

1. Student enrollments

Student enrollments in Department of Earth and Planetary Sciences courses during the 1998-99 academic year, as indicated by total student credit hours (SCH), totalled 5705 for regular courses, and 6777 counting natural sciences courses (see #3 below). These figures represent a decline of 3.0% for the regular courses, but an overall increase of 3.7% with Natural Sciences, compared to the previous year. These figures include academic year courses plus our three summer field courses (E&PS-319, -420, and -451). The Department’s SCH figures for the past 5 years are given below. The recent declines in departmental SCH have to some extent mirrored similar declines in UNM enrollment, and perhaps too, an increase in transfer students who have fulfilled science requirements at other institutions.

<table>
<thead>
<tr>
<th>Year</th>
<th>SCH</th>
<th>SCH (with Natural Sciences)</th>
<th>% change from previous year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>regular</td>
</tr>
<tr>
<td>1994-95</td>
<td>6763</td>
<td>-</td>
<td>-6.7</td>
</tr>
<tr>
<td>1995-96</td>
<td>6524</td>
<td>-</td>
<td>-3.5</td>
</tr>
<tr>
<td>1996-97</td>
<td>6303</td>
<td>-</td>
<td>-3.4</td>
</tr>
<tr>
<td>1997-98</td>
<td>5882</td>
<td>6534</td>
<td>-6.7</td>
</tr>
<tr>
<td>1998-99</td>
<td>5705</td>
<td>6777</td>
<td>-3.0</td>
</tr>
</tbody>
</table>

The Department extensively discussed enrollment trends this year, with a view towards determining causes for declining enrollments and measures that could be taken to reverse this downward trend. Numerous factors appear to be involved, some of which we have some control of, some not.
Unlike the other sciences and mathematics, geoscience courses are not required for majors in other fields; thus students in E&PS 100 and 200-level courses are volunteers rather than filling mandatory requirements. The Department effectively loses academic-year SCH credit for our summer field courses, which are required or strongly recommended for our undergraduate majors, but which cannot easily be taught during the academic year. Elementary geography courses are now considered science courses in the A&S Group Requirements and in the new Core Curriculum; because these courses are not as rigorous as earth sciences courses they will attract some students who would otherwise have taken E&PS courses. Most students entering the university have not been exposed to earth sciences in high school, in contrast to biology, chemistry and physics, suggesting that the Department should develop an outreach program to make students aware of our subject before they reach UNM, and to encourage high school science teachers to develop geoscience teaching units. Within UNM, better communication of our course offerings to advisors and other departments, and increased advertising of each semester's offerings, might help to draw more students into our courses. Some revision of course descriptions for the next edition of the UNM catalog was completed, as well as development of a series of 1- and 2-unit short courses on selected topics of wide interest, which will be conducted initially in the 1999-2000 AY, we hope will increase student interest. Enrollment increases would result from greater numbers and higher frequencies of 100-200-level courses offered by the regular faculty, but such increases must be balanced with adequate offerings of 300-500-level courses for our undergraduate majors and graduate students. All of the faculty agree that content and grading standards must be maintained; making courses easier in order to attract greater enrollments benefits neither the students nor the integrity of our instructional program.

The number of declared undergraduate E&PS majors stood at 96 during the Spring semester, 1999, up from 90 a year ago. During Fall, 1998, 30 M.S., and 15 Ph.D., students were pursuing degrees in the Department. In Spring, 1998, there were 28 M.S., and 15 Ph.D., students. Additional, more detailed information about the graduate students and their activities is presented in Part IV of this report.

2. Degrees Awarded (Fall, 1998 through Summer, 1999)

18 Bachelors Degrees

B.A. — Marsha Greene, Todd Lopez, Mark Luongo, Kathleen McLeroy*, Frederic Shean.

B.S. — James Ashby, Charles Bertram, Alex Castrounis, Aaron Cavosie*, Ivan Erchak, Leigh Fall, Alex Garza, Sheila Hutcherson*, Anders Lundahl, Mary Ann Montoya, Meghan O'Rourke, Jessica Preston, Jasper Schaer.

(* indicates students completing departmental honors).

7 Masters Degrees

Cynthia Brown, Dan Koning, Michael Petronis, Karen Roche, Mary Simmons, Mike Timmons, Karl Wegmann.

1 Doctoral Degree

Joel Pederson

3. Developments in Course Offerings

The number of courses offered by the Department in AY 1998-99 (excluding problems courses and lab sections) amounted to 66, about the same as the previous year. About 82% of these courses were taught by the faculty.
Several new or modified courses were conducted this year. In the Fall, the New Mexico Field Geology course (EPS-255) was considerably revised and formatted as a team-taught course, primarily involving Professors Geissman, Pazzaglia, Elrick and Selverstone but with contributions from other faculty as well. The heavy investment of faculty time unfortunately was not rewarded with adequate enrollments; less than 10 students took the course, and this course will face re-evaluation in the future. Peter Fawcett offered a new 400-level seminar on mathematical modeling in the geosciences, which will become a regular course in the future.

During Spring 1999 four topics (EPS-400) courses were offered on subjects not previously taught by the Department but for which there was significant student interest. These courses -- Vertebrate Paleontology (by Adjunct Professor S. Lucas); El Nino (D. Gutzler); Processes of the Earth’s Deep Interior (A. Brearley); and Hydrology of Small Watersheds (Research Assistant Professor P. Unnikrishna) -- attracted a total enrollment of 46. In addition, two new graduate seminars were conducted, on Strength and Dynamics of the Lithosphere (Caswell Silver Research Professor Mousumi Roy), and Geomicrobiology (cross-listed in the Biology Dept., and conducted by L. Crosse and C. Dahm).

The Department reviewed its 400-level course offerings and added 500-numbered parallel courses to most of them, in order to allow students and the University to receive appropriate graduate credit for these courses. Previously, many graduate students enrolled in these 400-level courses together with undergraduates; in the future graduate students will enroll in the 500-numbered versions. During this process several new courses were added as well, including a series of 1- and 2-unit short courses at the 100-level designed to provide short introductions to topics of wide interest within the geosciences. They will be offered initially during the 1999-2000 AY on an experimental basis to determine if they will be of interest to UNM’s undergraduate population.

In January 1998 the Department assumed responsibility for the Natural Sciences Program, which provides a series of three courses integrating the natural sciences for College of Education students who will become K-9 teachers in New Mexico’s public schools. The intent of the program is to provide potential public school teachers with solid training in science and in the effective teaching of science to younger students. Seven sections of these courses were offered in Fall and eight in the Spring, accommodating a total of 268 enrolled students. During the summer of 1998, the Natural Science office moved from the Physics and Astronomy building to Northrop Hall while classes continued to be taught in Regener Hall during the 1998-99 AY. In summer 1999, one classroom in Northrop Hall was renovated and all natural science classes are now taught in it.

4. Summer Course Offerings

During Summer 1998 the Department conducted its 6-week Beginning and Advanced Field Geology sequence (E&PS-319 and E&PS-420). Both the field courses, but especially E&PS-319, experienced significant increases in enrollment. E&PS-319 attracted 34 students, nearly double the enrollment of the previous summer, as a result of increasing enrollment by geology students from other universities, notably contingents from Rice, Brown and Wisconsin-Oshkosh. In order to accommodate this increased enrollment but maintain the close, hands-on instructor-student relationships essential to the success of this course, a second faculty instructor, F. Pazzaglia, J. Geissman) and a third Teaching Assistant were added, and the Department invested considerably in additional field equipment. Course fees were raised substantially to pay for these additions, but the total cost of our field camps is still considerably less than those conducted by most other universities. The Department also offered E&PS-101, -105, and -365 during summer 1998, with the latter course of special interest to public school teachers and trainees.

During late Summer, 1998, G. Smith and several Los Alamos Lab volcanologists again offered E&PS-451, (field volcanology), based at UNM’s Young Ranch facility near Cochiti. The course was fully enrolled, with a diverse group of students, many from other states and some other countries. This field course, and the volcanology program in general, remain one of the few such programs of its kind in the country.

During Summer 1999, the 6-week field sequence was offered, as well as sections of EPS-101, -105, and -365.
5. Curriculum Changes

The faculty discussed and approved a proposal by the undergraduate committee for a Bachelor of Science degree in Environmental Sciences. This degree would be offered through E&PS (in addition to our regular E&PS degree), and includes several required E&PS, math and outside science courses, an interdisciplinary menu of course options, and two new "core" environmental science courses, yet to be developed. This degree program will provide students rigorous training in the environmental sciences to better prepare them for careers in this rapidly maturing field. The proposal for this new degree is on its way to the various university committees outside the Department who must approve it.

Research and Publication

The faculty, research staff and students of the Department continued their high level of productivity in research in 1998-99. Research, contributing to human knowledge in one's discipline, is an essential and fundamental function of the Department of Earth and Planetary Sciences at UNM. The Department's status and respect within its discipline depends primarily on the quality and quantity of its research, just as a university's stature depends mainly on the scholarly activities of its entire faculty. In addition, active research programs form an essential teaching tool in keeping students up to date, in educating them not only about facts but also about how knowledge is gained, and (especially with graduate students) providing support for thesis/dissertation work and in the mentoring process of future geoscientists.

During calendar year 1998 members of the Department and Institute of Meteoritics (including faculty, research scientists and students) produced more than 160 publications, in the following categories:

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books and Monographs Written:</td>
<td>2</td>
</tr>
<tr>
<td>Scholarly Papers</td>
<td></td>
</tr>
<tr>
<td>Refereed Journals</td>
<td>38</td>
</tr>
<tr>
<td>Edited Volumes</td>
<td>12</td>
</tr>
<tr>
<td>Geologic Maps</td>
<td>3</td>
</tr>
<tr>
<td>Notes, Extended Abstracts, etc.</td>
<td>32</td>
</tr>
<tr>
<td>Technical Reports:</td>
<td>3</td>
</tr>
<tr>
<td>Published Abstracts:</td>
<td>73</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>160</strong></td>
</tr>
</tbody>
</table>

As in past years, graduate students and even some undergraduates participated significantly in the Department's publication effort. Some 10% of refereed papers published in 1998 had student coauthors and students contributed to about 40% of the published abstracts based on presentations made at professional meetings; in many cases students were the presenters. These figures testify to the importance the faculty places on involving students in research and in presenting the results of their research through professional talks and publications, an important part of their preparation for careers in the geosciences. All 1998 departmental publications are listed by author in Part III-2 of this report.

Faculty and research scientists also continued their success in attracting external funding to support their research. About 50 different externally funded grants and contracts were in effect among Department scientists in FY 1998-99, (see Part III-3 for a complete list), having a total value of about $5.95 million. This includes nearly $2 million of grants on which E&PS faculty are Co-PI's with members of the Biology Department and the Center for Microengineered Materials. New grants, worth about $1.7 million, were awarded to Department personnel in FY 1998-99. Total indirect costs returned to the University by departmental grants in 1998 were more than $200,000. These figures exclude the Institute of Meteoritics, whose personnel have numerous additional grants.
The great majority of these awards was from Federal agencies, especially the National Science Foundation, Department of Energy, the National Labs, and the National Aeronautics and Space Administration. Competition for these awards with scientists across the country has always been rigorous, but has become increasingly severe in recent years, which makes the success of the Department in 1998-99 all the more noteworthy. The amount of new research funding received each year by the faculty and research scientists exceeds the entire state/university-supported budget of the Department. Not only do these grant and contract funds support a large proportion of departmental research, and benefit the University as a whole through the overhead funds they generate, but many graduate students are supported as research assistants by these funds as well (see Part IV). Also, because most of these external funds are expended in the state, they represent a significant addition to New Mexico's economy.

In addition to publications and grant/contract-supported research, the E&PS faculty and research staff also pursued a wide variety of other research projects during 1998-99 that were not externally funded or published upon during the year (see Part III-4).

Other Scholarly Activities

Most of the faculty and research staff participated widely outside the University in various professional activities at the state, national and international levels. These include service on the committees and panels of governmental agencies, as well as participation in professional organizations, such as presenting talks and posters at national meetings, organizing and chairing symposia, leading field trips, and serving as officers. Such activities are a form of service to the profession, but also increase professional recognition, the opportunity for collaborative research, and leads to greater visibility for UNM and the work of its faculty. This participation is summarized in Parts III-5 and III-6 of this report.

The faculty's involvement in professional activities is too lengthy to completely survey here, but some of these contributions were especially important nationally and internationally, and are worth mentioning. Adrian Brearley was a member of the NASA Cosmochemistry Review Panel; Mike Campana was on the Board of Directors of the Association of Groundwater Geologists and Engineers, UNM delegate to the Commission on Food, Energy and Renewable Resources for the National Association of State Universities and Land-Grant Colleges, and was a member of the National Resource Council Water, Science and Technology Board Committee on U.S. Geological Survey Water Resources Research; Kase Klein was Treasurer of the International Mineralogical Association; Les McFadden served as Chair of the Quaternary Geology and Geomorphology Division of the Geological Society of America; Jim Papike had several NASA posts, including Chief of the Cosmochemistry Panel and Chair of the Curation Analysis Planning Team for Extraterrestrial Materials; and Jane Selverstone served on the NSF Tectonics Panel, and was elected Vice-Chair (leading to Chairship) of the Structure and Tectonics Division of the Geological Society of America.

Participation by the faculty and research staff as Editors, Associate Editors, and on Editorial Boards of international journals was substantial in 1998, as indicated by the following list: A. Brearley (American Mineralogist, Mineralogical Magazine); M. Campana (Ground Water; Environmental and Engineering Geoscience); J. Geissman (Chief Editor, Geological Society of America Bulletin; also Journal of Geophysical Research, Geology); K. Karlstrom (Precambrian Research; Rocky Mountain Geology); L. McFadden (Catena); H. Newsom (Geochimica et Cosmochimica Acta); J. Selverstone (Journal of Metamorphic Geology); Z. Sharp (Geology; American Journal of Science; Lithos); G. Smith (Geological Society of America Bulletin, Sedimentology).

Further, several faculty participated in scholarly and professional activities outside the U.S. during 1998, in the countries of Australia, Austria, Canada, China, France, Great Britain, Italy, Netherlands, Switzerland, and the South Pacific (Ocean Drilling Program). Such activities help to advance UNM's reputation world-wide.
Service to the University and to the public is an important component of the Department's activities. During the past year, E&PS faculty participated on numerous College and University committees (see Part III-7), and on the Faculty Senate (L. McFadden and J. Geissman). The faculty also served as a resource of expertise in the geosciences and science in general for individuals, groups and organizations outside the University (see Part III-10). Members of the Department routinely identify rock, mineral, fossil and suspected meteorite specimens for the public, give talks to civic groups and public school classes, judge in science fairs, answer questions for radio, television and newspaper reporters, and participate in socially important issues, such as the selection process for science textbooks in the public schools.

For example, during the past year E&PS faculty and research scientists were featured in newspaper articles and radio and television reports on such subjects as El Niño, summer rainfall, future climate change, the Portales NM meteorite fall last summer, the Leonid meteor swarm of November, Grand Canyon geology, the Proterozoic “snowball Earth” theory, and geological fieldwork in China. John Husler, departmental chemist, appeared nationally on NBC’s “Dateline” program (August 18) to explain how fake turquoise can be distinguished from natural turquoise. Ph.D. student Andy Heckert was featured in a long Albuquerque Journal article on excavations of early dinosaurs and other fossils on UNM land near Ghost Ranch. Several members of the faculty and research staff are affiliated with the Coalition for Excellence in Science Education; Steve Getty was the president of CESE this year, as well as acting as a science advisor for the New Mexico State Department of Education.

An important resource provided by the Department to the University and the public is maintenance (without specified University support) of two public museums, one devoted to geology (rocks, minerals, fossils, New Mexico geology) and the other to meteorites. These museums are open each weekday, are free, and are visited by thousands of school children and adults each year. A free pamphlet provides information for a self-guided tour, and faculty and graduate students on occasion lead tours when arrangements have been made in advance.

More than 4500 recorded (group) visitors toured the Geology Museum in 1998-99; unrecorded (individual) visitors probably doubled that number. These visitors include dozens of elementary, middle, and high school classes from around New Mexico, together with teachers and parents (see Appendix 1 for a complete list). The Geology Museum and collections constantly receive donations of new materials, and donated funds are used to purchase several display-quality specimens each year. The Geology Museum was represented by G. Smith at the Annual Tucson Gem and Mineral Show, the nation’s largest, in February 1999.

The Department also maintains the Harding Pegmatite mine in southern Taos County, donated to UNM by Dr. Arthur Montgomery, as an unusual mineral-collecting locality and outdoor geological laboratory. Mr. Gilbert Griego, a Department staff member, is the long-time caretaker of the property. More than 1700 people visited the Harding property in 1998-99, and they came from all over the country (35 states) (see Appendix 1). Among the visitors were mineralogy and field geology classes from 15 other universities, in addition to students from UNM. Clearly, the Harding mine is very well known to geologists and amateur rockhounds and mineral collectors, and in maintaining and operating it, the University and Department perform a notable service for the public. The Department welcomes visitors, but permission from the E&PS Chair must be obtained before each visit.

GENERAL DEPARTMENTAL ACTIVITIES

Facilities

1. Capital Improvements

As usual, there were no significant capital improvements to Northrop Hall this past year, although some are needed. Little movement on the proposed new Science and Technology building - - which would provide E&PS and three other departments badly needed additional space - - occurred during the past year. This project remains high on
UNM's major capital improvement list, but was not acted upon by the 1999 Legislature. Planning began for renovation of our large lecture hall (Northrop Room 122), together with the Biology Department’s lecture hall and Woodward hall. The intent is to modernize these facilities to allow a wider range of functions and presentation modes, and to integrate them via computer, making use of the most modern available technology.

In response to the Dean's request, the Department submitted its request for new equipment and minor capital improvements in February. The highest priorities for capital improvements are substantial repair and renovation of several heavily utilized classrooms, an upgrade of our radioactive mineral storage area, and replacement of the 55-year old, creaky main elevator.

In Spring 1999, the facilities committee developed and circulated a questionnaire to the faculty concerning space needs, in order to assist in planning space utilization over the next few years in an increasingly cramped Northrop Hall. Without the prospect of additional space becoming available in a new building, the Department must use existing space with maximum efficiency.

2. Analytical Facilities

The Department and Institute of Meteoritics maintains an outstanding array of analytical facilities necessary to advanced research in many areas of the earth sciences. These facilities are also utilized extensively by other departments and high-tech centers on campus, as well as institutions outside UNM (e.g., the national labs, Intel Corp., etc.). Sustaining the operation and maintenance of the Department's analytical laboratories (mainly from grants and user fees) is for the most part successfully accomplished, but in some cases rather precariously. The costs of instructing students in these labs, service contracts and technician salaries is a persistent drain on their budgets, which may be exacerbated by declines in the user base. Relatively little assistance can be provided directly by the Department, and annual University support for the operation of our multi-user analytical labs, which are really university facilities, was nil this past year.

During the 1998-99 AY a new laser-based mass spectrometer system and accessory equipment were installed in the stable isotope lab, based on funding from NSF to Zach Sharp, together with some cost sharing by the University and Department. The completely renovated and outfitted stable isotope lab became fully operational in Spring and is being utilized for a wide variety of research projects. This new laboratory is a fine addition to the Department's array of analytical facilities.

A proposal by Abhaya Datye (Director, Center for Microengineered Materials), Jim Papike and Huifang Xu (Institute of Meteoritics and E&PS) for a new field-emission gun transmission electron microscope was funded by NSF in Fall 1998, with cost-sharing by several UNM offices and departments. This $1.5 million instrument, the latest generation of TEMS, will extend and advance the University's research capabilities in the realm of earth and materials sciences. Evaluation of instrument design, capabilities, and prices by Datye, Adrian Brearley, and Xu occupied the remainder of the year. Installation of this TEM in the analytical wing of the basement of Northrop Hall is expected in Fall 1999, and it will replace the older of the two current TEM instruments in the Department.

Upon joining the faculty in August, Adrian Brearley assumed supervision of the TEM and X-ray diffraction laboratories. Significant use of the TEM lab by Intel Corporation and by UNM's Center for Microengineered Materials continued, and activity in the X-ray lab increased greatly with reconfiguration of the computer software and a more user-friendly approach, engendered by new supervision and management of this lab.

By mutual agreement, the Institute of Meteoritics transferred responsibility for the ICP-Mass Spectrometer lab to the Department.
3. Computing Facilities

The department purchased a new desktop computer for use by Sally Hayes, our bookkeeper, upgraded the memory in the main office computers, and replaced one of the PCs for student use in room 224. The department’s computer-based projection system, use of which is increasing rapidly for instruction and by seminar speakers and students defending theses, was also replaced.

Two new Sun Ultra workstations were added to the department’s Unix cluster, which now includes seven fully cross-linked Unix workstations with approximately 60 Gbytes of total disk storage. Use of these machines is growing rapidly, particularly as more students carry out GIS-based mapping to complement their fieldwork.

Professors Pazzaglia, Gutzler and Fawcett submitted a proposal to the National Science Foundation (currently under review) to fund a major upgrade in the Ethernet backbone in Northrop Hall by replacing the network hubs. This proposal included a major commitment from the department in the form of matching funds.

4. Teaching Facilities

During the year several improvements to our teaching facilities were accomplished. Using equipment funds from the Dean, a petroscope for use in petrology labs was purchased, which allows microscope views of thin sections and other petrographic specimens to be projected onto a large screen, for explanation by the instructor and viewing by the class. A large slab saw was also purchased, allowing cutting of sizable rock samples for teaching and research, to replace the inoperable ancient saw in the basement. The Department added an upgraded computer projection system to its inventory of teaching equipment, to augment the older system acquired several years ago. The new instrument can project images of specimens on to a large screen with excellent clarity, and also project images directly from a linked computer, allowing classes to view internet, CD-rom, and other software programs. All of these additions will enhance the ability of faculty and graduate students to teach earth sciences effectively.

In the Spring the Department purchased a used but relatively low mileage 15-passenger Dodge van from the UNM automotive division for a good price, to augment our aging fleet of vehicles utilized mainly for class field trips. The van was immediately pressed into service in the early summer field courses.

The Department was successful in its request to have two classrooms in Northrop Hall (Rooms 114 and 116) allocated for its exclusive use. For many years, UNM had scheduled classes from other departments together with E&PS classes in these rooms. The faculty decided to keep room 116, for the time being, as an E&PS classroom, and modify room 114 into a facility that would primarily serve the natural science classes. Renovation, with new tables, was accomplished in early summer.

Recruiting Visits

The Department hosted recruiters from Vastar Resources, Conoco, Exxon, and Arco Gas during September and October, 1998. Several undergraduate and graduate students have obtained positions in the petroleum industry as a result of these visits in the past two years. Representatives of these companies generously contributed a total of $4,500 to the Department for student support during their visits. Unfortunately, a severe downturn in petroleum prices last year is expected to curtail additional hiring in the near future.

Outcome Assessment

The Department completed a third year of undergraduate outcomes assessment, adding to the data base begun last year, and continued the initial phase of outcomes assessment for graduate students.
Reception for Professor Bert Kudo

The Department held a reception for faculty member Bert Kudo in the geology museum on May 6, 1999. The gathering honored Bert for 33 years of outstanding teaching, involving dozens of courses and instruction of about 10,000 students in his popular E&PS classes. The Department used the occasion to name room 122, the large auditorium in Northrop Hall, the Albert M. Kudo lecture hall, in his honor.

Guest Lecturers

Each year the Department invites a large number of earth scientists from other institutions to visit and present lectures based on their research to faculty and students. This very important departmental activity is an essential part of educating E&PS students, widens faculty interactions with colleagues, both nationally and internationally, and offers us the opportunity to inform colleagues about our research and facilities. Many of these visitors speak at the weekly Friday colloquium; before each talk, the graduate students typically provide snacks and an opportunity to informally meet the speakers.

Professional lectures given in the Department during the 1998-99 academic year are listed below:

July 24, 1998, Dr. Kate Wright, University of Manchester. “Modeling the Structure and Reactivity of Mineral Surfaces”

September 4, 1998, Dr. Peter Gromet, Brown University. “Contrasts in the Metamorphic Age of a Nappe Pile: Clues to Collisional Events and Geometry in the Scandinavian Caledonides”

September 11, 1998, Dr. Bruce Hart, New Mexico Tech. “3-D Seismic Applications in Sequence Stratigraphy”


October 23, 1998, Dr. Chris Campbell, New Mexico Rural Water Association. “Water Resources Planning in Rural New Mexico”


November 13, 1998, Dr. Peter Molnar, Massachusetts Institute of Technology. “The Role of Mantle Lithosphere in Continental Tectonics”

November 20, 1998, Dr. Gary A. Smith, E&PS, University of New Mexico. “Where the Jemez Mountains Meet the Rio Grande Rift: Tectonics, Volcanology and Ydrostratigraphy”


January 29, 1999, Dr. William Carlson, University of Texas at Austin. “Textural and Chemical Disequilibrium in Metamorphic Rocks: Atomic Scale Processes Revealed by High-Resolution X-Ray Computed Topography”


February 12, 1999, Dr. Arthur Montana, University of California, Los Angeles. “An End to Gold Mining: The Chemistry and Economics of Mining and Mine Reclamation”

February 26, 1999, Dr. Frans Rietmeijer, University of New Mexico. “Comets and Their Dust: A Long Way to Meteorites”
March 5, 1999, Dr. Laszlo Keszthelyi, University of Arizona. "Long Lava Flows: From Continental Flood Basalts to the Moons of Jupiter"

March 12, 1999, Dr. Tobias Fischer, Arizona State University. "Volcanoes and Magmatic Volatiles: Insights into Subduction Zone Processes and Eruptive Activity"


March 25, 1999, Dr. Paul Wallace, Texas A&M University. "From Mantle to Atmosphere: Magma Degassing and Explosive Volcanic Eruptions"

March 26, 1999, Dr. Tracy Rushmer, University of Vermont. "Don't Speak Volumes About Melt Segregation: The Role of Mineral Reactions in Melt Extraction, Melt Geochemistry and Crustal Rheology"

April 2, 1999, Dr. Victor Baker, University of Arizona. Caswell Silver Distinguished Lecture. "Toward a Philosophy of the Earth Sciences"


April 9, 1999, Dr. Bruce Thomson, University of New Mexico, Civil Engineering. "Ground Water Contamination from Unsewered subdivisions: Implications for Future Development in New Mexico"

April 16, 1999, Dr. Andrew Campbell, New Mexico Institute of Mining and Technology. "Evolution of Magmatic Fluids from the Capitan Pluton, New Mexico"


April 30, 1999, Dr. Yemane Asmerom, University of New Mexico. "U-Series Isotope Constraints on Mantle Dynamics"

May 7, 1999, Dr. C. Page Chamberlin, Dartmouth College. "An Isotopic Approach to Assessing the Topographic Development of Mountain Belts"

ALUMNI PROGRAMS AND SUPPORT

The Department is very fortunate in being supported by a large group of active and enthusiastic alumni. Individually and collectively these graduates provide generous financial, advisory and moral support for many departmental activities, which contribute significantly to our success in our educational and research missions.

Caswell Silver Foundation

First among sources of alumni support is the Caswell Silver Foundation. Funds generated by the investments of the Foundation in 1998-99 provided full-time support for the Leon Silver/Vincent Kelley graduate student Fellows (Colin Shaw and Mike Gaud), and subsidized most of the travel of faculty to professional meetings this past year. The Foundation also supports periodically an endowed faculty chair, the Caswell Silver Research Professor; as noted earlier, Dr. Mousumi Roy, began a 2-year appointment as Silver Research Professor in July, 1998.

The Caswell Silver Foundation also supports the Caswell Silver Distinguished Lecturer series, which allows the Department to bring one or two National Academy of Sciences Members for lectures and visits with faculty and students. This year, the faculty chose Professor Victor Baker, Head of the Department of Hydrology and Water Resources at the University of Arizona, and 1998 President of the Geological Society of America, as the Caswell Silver Distinguished Lecturer. Professor Baker presented two lectures during his visit on April 1 and 2, 1999: "Toward a Philosophy of the Earth Sciences," and "Geomorphology and Paleohydrology of Mars" He was honored at a reception in the geology museum and spent much of his visit talking with faculty and students individually. Visits of Distinguished Lecturers are welcomed by the Department both for the opportunities they provide us to interact with some of the most distinguished and influential geologists in the country, and to inform them about our department and the research and other academic activities we are pursuing.

As in previous years, the Silver Foundation made possible two $500 Meritorious Staff Awards, presented to two outstanding non-academic staff members. These awards allow the faculty to express in a tangible way its deep appreciation for the efforts of the staff in contributing to the effective operation, advancement and well being of the
Recipients of these awards, presented at the Department’s May Commencement Ceremonies, were Paula Holub, departmental administrator, and Gilbert Griego, Harding Mine manager.

In addition to these major ways in which the Silver Foundation assisted the Department of Earth and Planetary Sciences during the past year, the Foundation also provided the means to accomplish other important functions, such as advertising and supporting the visits of top potential graduate students to the department, and sponsoring the reception for the Distinguished Lecturer. Support from the Caswell Silver Foundation benefits the Department in many different ways, and thereby strengthens the Department as a whole, as well as assisting individual faculty and students in their scholarly endeavors. The Department deeply appreciates this support.

Alumni Support

Donations and contributions from alumni, faculty and friends of the Department support about a dozen scholarship funds, mostly managed by the UNM Foundation. The interest generated by these funds annually is utilized to award scholarships to undergraduate and graduate students. Such scholarships are augmented by other scholarships awarded by the Department, scholarships and research grants from institutions outside the University, and occasionally fellowship funds from the University. A full summary of scholarships and fellowships received by Earth and Planetary Sciences students is presented in Part IV of this report. Here we note that in 1998-99, scholarships derived from alumni-supported funds amounted to $26,575 awarded to 31 undergraduate students (Leonard, Campbell and Pfeiffer Scholarships), plus $21,800 awarded to 22 graduate students (Alumni Fellowship, Kelley, Miossec, Wanek, Rhodes, Vann and Wengerd Scholarships).

The Department also maintains contact with its alumni through gatherings at professional meetings, newsletters and many personal and professional contacts. Several alumni of the Department advanced significantly in their careers this past year, and we recognize these accomplishments here.

Edmund Deal (Ph.D., 1973) -- became Director and State Geologist, Montana Bureau of Mines and Geology; Lance Cook (M.S., 1979) -- became State Geologist of Wyoming;
Peter Maggiore (M.S., 1982) -- became Director, New Mexico State Environment Department;
Stephen Harlan (Ph.D., 1992) -- tenure-track faculty position, George Mason University, Virginia;
Brad Ilg (Ph.D., 1996) -- post-doctoral research scientist appointment in New Zealand;
Tracey Cascadden (Ph.D., 1997) -- tenure-track faculty position, Emporia State University, Emporia, Kansas;
Brian Horton (B.S., 1992) -- after finishing Ph.D. elsewhere, obtained tenure-track faculty position at Louisiana State University;
Chris Andronicos (B.S., 1994) -- after receiving Ph.D. at Rensselear Polytechnic Institute, obtained tenure-track faculty position at University of Texas at El Paso.
Bruce Harrison (Ph.D., 1991) -- gained tenure in Geology Department, New Mexico Tech. Socorro.

PLANS AND GOALS

Development of specific plans and goals for the 1999-2000 AY is properly the prerogative of the incoming Chair, in concert with the faculty. As outgoing Chair I refrain from enumerating future plans, but instead indicate several general areas that I feel the Department would do well to consider.

1. Assuming approval is received from the Dean, search for and hire a new geomorphologist faculty member to replace Frank Pazzaglia, who is leaving in July. The faculty has agreed that this is of high priority and the request for a search has been submitted.

2. The Department last created a 5-year plan in Fall 1993. Although many objectives have been accomplished, there have also been unexpected changes and transitions, and the Department is significantly different in its personnel from 1993. This coming year would be a good time for the faculty to consider the Department’s next 5 years, and to discuss and construct a new 5-year plan.
3. Continue to pay close attention to enrollments, and to search for and implement practical and effective methods for increasing enrollments. We have received ample indication that a department's enrollments, both in undergraduate courses and in the graduate program, will be a significant factor in the Dean's evaluation of its success, and in the allocation of resources.

4. Determine more clearly the role the natural sciences courses should play in the Department's overall educational program.

5. The Department continues with fewer technical staff positions than is really needed for it to function at its fullest potential, especially in research. Consideration of present needs, compared with current resources and staff line allocations, could be worth while.

6. At present, space availability in Northrop Hall is one of the most severe problems facing the Department and is a factor potentially limiting logical growth and expansion of some programs, as well as basic departmental functions, such as accommodating graduate students and visiting scholars, and providing adequate access to computers. Space utilization in Northrop Hall should be continuously monitored, and consideration given to how existing space might be used more effectively, and what might be done to gain more space.

7. Within the University currently is a tendency towards proliferation of increasingly burdensome rules and regulations, and increasing centralization of control within the central administration. This is eroding the flexibility departments need in order to manage their own affairs, especially in financial matters, and leaving them progressively less authority and ability to determine and implement their own particular destinies. The Department should be vigilant in monitoring and responding to these trends, and should resist unreasonable diminution of its prerogatives.

8. One of the great strengths of the Department is the generally harmonious interactions among its faculty and other personnel, and the ability and desire of the faculty to work together towards common goals that advance the well-being of the Department. Maintenance of this attitude is of the highest importance. It appears to be correlated, among other things, with traditions of democratic decision making and frequent meetings of the entire faculty, which allow all a voice in decisions and the opportunity to understand continuously the concerns and perspectives of colleagues.
III. ACTIVITIES OF THE FACULTY AND RESEARCH SCIENTISTS  
(Calendar Year 1998)
1. TEACHING ACCOMPLISHMENTS

Roger Y. Anderson
Chair, Thesis and dissertation committee
Thomas Loveland, MS

Yemane Asmerom

Courses taught

Spring: Physical Geology
Fall: Environmental Geology 333
Fundamentals of Geochemistry

1B. Put in a great deal of effort training people, both UNM and visitors in the lab: Brian Beirman, Dezbah Tso, Tedros Tesfay, Angela McLain, Maya Elrick, Claudia Lewis (Los Alamos), and Rhawn Denniston (University of Iowa).

Graduate students supervised: Dezbah Tso, Brian Beirman, Tedros Tesfay, Carter Dunaway.
Graduate student committee: Angela McLain, Rebecca, Rich Woodford, Dale Henderson.

Faculty Advisor: Association of Black Student Engineers, Peacecraft Student Organization, Amnesty International.

Adrian Brearley

Courses taught

Spring: E&PS 365 - Exploring the Solar System’ 3 Guest lectures.
Fall: E&PS 302L - Mineralogy Laboratory, Co-taught practical lab (12 enrolled)
E&PS 513 - Planetary Materials and Cosmochemistry, Co-taught with members of IOM (4 enrolled)
E&PS 103 - Guest Lecture, 14 Sept, 1998

Served as Advisor and Ph.D. committee member for Nicolaus Hanowski and Kate Duke.
Thesis Committee member for Tedros Tesfay, Brian Beirman, Nicole Bailey and Justin Hagerty.

Michael Campana

Courses taught

Spring: E&PS 564 - Geological Fluid Mechanics (7 enrolled)
Summer:
PA 572 - (AOA Econ 545) Interdisciplinary Water Resources II: Use of Technical Models and Communications Laboratory (8 enrolled) (with F.L. Brown, R. Heggen, M. Kantrowitz)

PA 573 - (AOA CRP 426/526), Interdisciplinary Water Resources III: Field-Based Problems and Communications Laboratory (12 enrolled) (with C.N. Dahm, O.P. Matthews)

Fall:
PA 571 - Interdisciplinary Water Resources I: Basin Survey and Communications Lab (10 enrolled) (with D. Brookshire, O.P. Matthews)
E&PS 464 - Environmental Mechanics (4 enrolled)

Graduate students:
Student Advisement/Thesis Supervision, Jerry Bird (M.S.); Jeffrey Peterson, Linda I. Gordan, April Fitzner, William McDonald, Debbie Terry (all MWRA); Ivan Thorsos (Ph.D. - co-advisor).

Theses completed (M.S. in Earth and Planetary Sciences):

Professional projects completed (MWRA degree):

Service on Thesis/Dissertation Committees:
Karen Roche (M.S.), Jerry Bird (M.S.), Laura Hagan (M.S.), Claudia Borchert (M.S.), David Mitchell (M.S.), Patrick Florence (M.S.), Michelle Kearney (M.S.), Michael Zoldak (M.A. in Geography), William Hauck (MWRA), Debbie Terry (MWRA), April Fitzner (MWRA), Linda I. Gordan (MWRA), Jeffrey Peterson (MWRA), William McDonald (MWRA), Thomas Krause (MWRA), Richard M. Renn (MWRA), Elaine Brouillard (MWRA), Ivan Thorsos (Ph.D.), Armand Groffman (Ph.D.), Drew Baird (Ph.D. in Civil Engineering), Michelle Baker (Ph.D. in Biology).

Undergraduate Students: (B.S. Honors Thesis Supervision)
Danielle M. Boling, Biogeochemical structure of spring environments and macrophyte assemblage controls on nutrient dynamics in a semi-arid montane stream (Biology student; co-advisor with C.N. Dahm).

Laura Crosse

Courses taught
E&PS 552 - Problems (2 enrolled)
E&PS 495 - Senior Thesis (1 enrolled)
E&PS 599 - Masters Thesis (2 enrolled)
E&PS 699 - Dissertation (2 enrolled)

Fall:
E&PS 599 - Masters Thesis (2 enrolled)
E&PS 699 - Dissertation (2 enrolled)
E&PS 552 - Problems (1 enrolled)

Ph.D. Committees:
Chair: Deborah Bergfeld, Michelle Baker (Biology, 1998), Armand Groffinan, Christy Fellows (Biology), Angela McLain (co-chair), Diana Northup (Biology).

MS Committees:
Chair: Rebecca Gardner, Dezbah Tso, Karen Roche, Anna Snider, Laura Hagen.

Student Grant Support
Graduate:
Armand Groffinan (full), Christy Fellows (partial), Karen Roche (partial), Laura Hagen (partial).

Undergraduate:
Todd Caldwell, Eric Bridgeford, Mike Henderson, Danielle Bolling, Richard Ortiz, Sheila Hutcherson, Lisa Roberts, Ivan Erchak.

Maya Elrick
Courses taught
Spring: No classes taught, Guest Lecturer E&PS 102
Fall: E&PS 102 - Historical Geology (35 enrolled)
       E&PS 304 - Sedimentology-Stratigraphy (25 enrolled)

Graduate Students Advisement: Anna Snider (M.S.), Carol Dehler (Ph.D.), supported by NSF RA Spring semester.

Thesis/exam committees: Andy Heckert (Ph.D.), Chris Herd (Ph.D.), Casey Cook (M.S.).

Wolfgang Elston
Courses taught
Spring: E&PS 101 - Physical Geology (35 enrolled)
Fall: E&PS 491 - Problems (1 enrolled)

Curriculum development:

On-going development of UNM-Los Alamos National Laboratory Volcanology Program.

Peter Fawcett

Courses taught

Spring:
E&PS 103 - Earth’s Environment and Global Change (25 enrolled)
E&PS 439 - Paleoclimatology (35 enrolled)

Fall:
E&PS 400 - Mathematical Modeling in the Geosciences (9 enrolled)
E&PS 552 - Problems (1 enrolled)

Guest Lecture:
2 lectures in E&PS 101 (Spring & Fall)
1 lecture in E&PS 251 (Fall)

Course Development:

Developed new course, Mathematical Modeling in the Geosciences (Taught as E&PS 400).
Developed new course with old catalog number (E&PS 439), Paleoclimatology.

Graduate Students Supervised: Dale Henderson (M.S., supported with NSF and NUCOR funding), Jake Armour (M.S., supported with NSF funding).


John W. Geissman

Courses taught

Spring: E&PS 317 - Structural Geology (28 enrolled)

Summer: E&PS 319L - Introductory Field Geology (36 enrolled)
F. Pazzaglia, co-instructor

Fall: E&PS 523 - Alpine-Himalayan Tectonics (12 enrolled),
J. Selverstone, co-instructor
E&PS 255 - New Mexico Field Geology (8 enrolled), coordinator and
Instructor, M. Elrick, F. Pazzaglia, and J. Selverstone as
co-instructors

Graduate Students Supervised: Tim Wawryzniec, (Ph.D., co-advised), Mike Petronis, (M.S.), Marlo Mikolas, (M.S.), Gordon Keating, (Ph.D.).
Exam committees: Ivan Thorsos, (Ph.D. examination), Laura Hagan, (M.S.) examination.

Graduate Students financially supported: Tim Wawryzniec, Mike Petronis, Gordon Keating, Marlo Mikolas.

Course Development:

Continued to organize, with Roberto Molina-Garza, a non-credit weekly “seminar” meeting for the users of the paleomagnetism laboratory, focusing on laboratory improvements, current research by users of the laboratory, and controversial research topics in paleomagnetism. Continued continue to modify/improve undergraduate field geology course (E&PS319L).

“Guest” lecturer in E&PS 101 sections and E&PS 103.

Undergraduate Research Advising: Anders Lundahl

Graduate Theses Completed:

Mike Petronis, MS, Paleomagnetic data bearing on vertical axis rotation associated with a simple-shear transfer system in the Silver Peak Range, west-central Nevada, 273 p.

Reader: Mary Simmons (MS), Mike Timmons (MS).

Stephen R. Getty

Courses taught

Fall: E&PS 401 – Seminar Series (17 enrolled)

David Gutzler

Courses taught

Spring: E&PS/Geography 452 - Global Climate Change (19 enrolled)
E&PS 492 - Problems (1 enrolled)
E&PS/Geography 570 - Physical Climatology (7 enrolled)

E&PS 103 - 3/23.

Summer: E&PS 492 - Problems (1 enrolled)

Fall: E&PS/Geography 351 - Climatology (34 enrolled)
E&PS 490 - Geologic Presentations (11 enrolled)
E&PS 552 - Problems (1 enrolled)


Supervision of undergraduate students: F. Hren, independent study on patterns of summer rainfall variability, Spring. A. Davidson, independent study on correlation between El Niño events and plague incidence in humans in New Mexico, Summer. M. Duran, analyses of summer rainfall variability, Fall.
Supervision of graduate students: D. Etheredge, M.S. student, R. Woodford, Ph.D. student (entered program Fall 98).

Other thesis committees: C. Finnance (Biology, M.S.), R. Rath (Geography, M.A.).

Other exam committees: D. Henderson (M.S.).

Other activities: I successfully competed for a Teaching Allocation Subcommittee grant ($760) for the purchase and installation of a weather station on the roof of Northrop Hall, plus computer software to download weather instrument readings. This system is now in place and will be used for E&PS 103 and 251 courses, for student research projects, and for my own research.

I made two presentations on El Niño and climate predictions to a summer workshop for high school geography teachers in June.

Stephen Huestis

Classes taught

Spring: E&PS 115 - Geological Disasters (56 enrolled)
E&PS 418 - Statistics and Data Analysis in Earth Science (6 enrolled)

Guest Lectures: E&PS 115 - Geological Disasters (48 enrolled)

Fall: E&PS 101 - Physical Geology (16 enrolled)

Graduate Thesis Committees: Dale Henderson (MS), Timothy Wawrzyniec (Ph.D.).

Exam Committee: Casey Cook (MS).

Rhian Jones

Courses taught

Spring: E&PS 365 - Exploring the Solar System, Three lectures, one lab session.

Student advisement: Research advisor for Sharon Feldstein, Ph.D. student of the University of Michigan.

Karl Karlstrom

Courses taught

Taught MIT fieldcamp in Mojave Desert (January 2-17)

Spring: Sabbatical — University of Adelaide, Australia

Summer: E&PS 420 — Advanced Field Geology (18 enrolled)
Graduate students supervised (supported with NSF funding):

Michael Timmons, defended Fall, 1998 - Title: Proterozoic multistage (~1.1 and ~0.8 Ga) extension in the Grand Canyon Supergroup and establishment of northwest and north-south tectonic grains in the southwestern U.S.

Cynthia Brown, defended Fall, 1988 - Title: Paleoproterozoic deformation, metamorphism and $^{40}$Ar/$^{39}$Ar thermal history of the 1.65 Ga Manzanita pluton, Manzanita Mountains, New Mexico.

Mary C. Simmons, defended Fall, 1988 - Title: Quartz-Kyanite pods in Proterozoic rocks in northern New Mexico: Shear zone formation along an older hydrothermal alteration horizon.

Thesis Committees: Cynthia Brown (Chair), Mary Simmons (Chair), Michael Timmons (Chair), Colin Shaw (Chair), Dan Koning, Carol Dehler.

Exam Committee: Cynthia Brown, Mary Simmons, Michael Timmons, Dan Koning, Carol Dehler, Colin Shaw.

Carmelis Klein

Courses taught

Spring: E&PS 105L - Physical Geology Labs (faculty coordinator, 121 enrolled)
E&PS 204 - Gem Minerals and Gems (16 enrolled)
E&PS 490 - Presentations (did final evaluations of students for outcomes assessment)

Fall: E&PS 301 - Mineralogy (33 enrolled)
E&PS 302L - Mineralogy Labs (26 enrolled)
E&PS 105L - Physical Geology Lab (faculty coordinator, 125 enrolled)

Graduate students:

Ph.D. committee member: Christopher Herd.
M.S. committee member: Christopher Herd, Paul Winniewski, Marcia Jensen.

Barry Kues

Courses taught

Spring: E&PS 101 - (67 enrolled)
E&PS 492 - (2 enrolled)
E&PS 599 - (1 enrolled)

Fall: E&PS 411 - (9 enrolled)
E&PS 491 - (1 enrolled)
Graduate Students

Co-advised:

Ph.D. student (co-advisor with Dr. S.G. Lucas) – Andy Heckert
M.S. student (co-advisor with Dr. S.G. Lucas) – Casey Cook

Exam Committee:

M.S. - Casey Cook, Chris Herd, David Mitchell
Ph.D. - Andy Heckert

Albert Kudo

Courses taught

Spring: On Medical Leave
Summer: Physical Geology 101 - (45 enrolled)
Fall: Physical Geology 101 - (111 enrolled)
Oceanography - (50 enrolled)
493 Independent Study - (1 student, R. Ortiz)
551 Problems - (1 student, A. Groffman)

Ph.D. student, Comprehensive Exam: Carol Dehler, November, 1998, Member.
Ph.D. student, Comprehensive Exam: Ivan Thorsos, November, 1998, Member.
Honors B.S. student advising: Sheila Hutcherson.

Leslie McFadden

Courses taught

Spring: E&PS 101 - Physical Geology (49 enrolled)
E&PS 490 - Geologic Presentations (6 enrolled)

Fall: E&PS 101 - Physical Geology (101 enrolled)
E&PS 485L – Soil Stratigraphy and Morphology (11 enrolled)

Guest Lecturer: E&PS 103 - Geomagnetism and Plate Tectonics
E&PS 400 - Soils and Geoarcheology
Department of Architecture and Planning-Community and Regional Planning 570 - Soil-geomorphic and ecologic studies of arroyos and relationship to grazing, and climate

Curriculum Development:

Seminar - “Environmental Impacts of Urbanization on the Albuquerque Region” for the Albuquerque Teaching Institute.
Graduate Students Supervised or Co-supervised:

Angela McLain (Ph.D.) (Funded, 0.25 R.A., L.A.N.L./B.O.E)
Martha Eppes (Ph.D.) (Funded, 0.5 R.A., U.S.G.S.)
Tim Gere (M.S.), Nicole Bailey (M.S.)

Thesis Committees:
Dan Koning, Karl Wegman, Paul Wisnieski.

Ph.D. Committees:
A. Groffman, A. Oberling (Dept. of Anthropology), J. Pederson.

Roberto Molina-Garza

Courses taught

Spring: E&PS 102 - Historical Geology (29 enrolled)
        E&PS 102 - Historical Geology at UNM Valencia Campus (10 enrolled)
        E&PS 115 - Geological Disasters at UNM Valencia Campus (18 enrolled)

Thesis Reader: Michole Petronis (M.S.)

Horton Newsom

Courses taught

Spring: E&PS 365 - Exploring the Solar System (Co-taught) (19 enrolled)
Summer: E&PS 365 - Exploring the Solar System (38 enrolled)
Fall: E&PS 513 - Planetary Materials and the Evolution of the Solar System (Co-taught) (4 enrolled)

Taught several sections of problem classes

Research advisor for the following students:

M.S. students: Justin Hagerty, Christopher Heil
Ph.D. Student: Ivan Thorsos
Undergraduate: Justin Hagerty

Undergraduate honors thesis supervised:

Justin Hagerty: “The origin of the Martian soil and geochemical constraints from terrestrial impact craters”
Students supported by grants:

M.S. student: Justin Hagerty
Undergraduate student: Justin Hagerty

Committee member for the following graduate student:

Ph.D. student: Ivan Thorsos

Other Teaching

IOM Seminar, February 23, 1998, "Hydrothermal processes and the origin of the Martian soil"

James Paplik

Courses taught

Spring: E&PS 365 - Exploring the Solar System (19 enrolled)
Fall: E&PS 513 - Planetary Materials (4 enrolled)

M.S. Advisor for L. Bowman, Chris Heil, Justin Hagerty
Ph.D. Advisor for C. Herd

Student Graduate Committees served on: K. Duke, G. Keating

Frank Pazzaglia

Courses taught

Spring: E&PS 455 - GIS and computational methods in Geomorph (22 enrolled)
Fall: E&PS 481 - Geomorphology (17 enrolled)

Student Advising:

I advised four M.S. students, Karl Wegmann, Dan Koning, David Mitchell, and Paul Wisniewski and co-advised (with G. Smith) one Ph.D. student, Joel Pederson. Wegmann and Koning have completed their research. They will defend in early 1999. Wisniewski and Pederson will complete their research by the middle of the spring 1999 semester and will defend in May, 1999. Mitchell continues to make good progress and is projected to finish by the Fall, 1999.

I was a committee member for the following students in 1998: Mr. Tim Wawrzyniec, Mr. Colin Shaw, Mr. Steve Dominguez (archeology) all Ph.D., and Ms. Rebecca Gardner, Mr. Michael Gaud, Ms. Jessica Moore, Ms. Nicole Bailey, Ms. Claudia Borchert, Mr. Jake Armour and Mr. Tim Gere, all M.S.

I am the faculty mentor for a Jemez Pueblo student, Mr. Chris Toya. Chris is a full-time field assistant aiding in our field mapping efforts in and around Jemez Pueblo. Chris was supported financially through the STATEMAP.
Support of student research

- Wegmann is fully funded under NSF-sponsored research
- Pederson is fully funded under NSF-sponsored research
- Koning and Pederson have been partially funded under USGS EDMAP support
- Mitchell and Wisniewski have been funded half-time under NSF-sponsored research

Aurora Pun

Courses taught

Spring: E&PS 101 - Physical Geology (87 enrolled)

Frans Rietmeijer

Courses taught

E&PS 513 – Planetary Materials and the Evolution of the Solar System

Spring: E&PS 365 – Exploring the Solar System


Jane Silverstone

Courses taught

Spring: E&PS 303 - Igneous and Metamorphic Petrology (28 enrolled)
E&PS 303L - Petrology lab with optical mineralogy (28 enrolled)
E&PS 401 - Colloquium (18 enrolled)

Fall: E&PS 101 - Physical Geology (56 enrolled)
E&PS 523 - Alpine-Himalayan Tectonics (with J. Geissman; 11 enrolled plus several auditors)
E&PS 255 - Field Geology of New Mexico (with J. Geissman, F. Pazzaglia, and M. Elrick; 8 enrolled)

Course development

E&PS 303 - Developed lectures and new labs for igneous petrology half of the course.
E&PS 523 - New course; developed lectures and handouts and devised group projects.
E&PS 255 - Developed new fieldtrips and assignments for my part of course.

Undergraduates supervised:


Graduate students supervised (* supported by my NSF funding):

*Timothy Wawrzyniec, PhD in progress (coadvisor with J. Geissman)
Mary Simmons, MS (coadvisor with K. Karlstrom) – defended 12/98
Colin Shaw, PhD in progress (coadvisor with K. Karlstrom)

Thesis and dissertation committees (in addition to students listed above):

Michael Petronis, MS - defended 9/98
Cynthia Brown, MS - defended 12/98
Christopher Herd, Ph.D.

Exam committees:

Michael Gaud, MS exam, 4/98
Christopher Herd, MS exam, 4/98; Ph.D exam 11/98

Zachary Sharp

Courses taught

Spring: E&PS 505 - Stable Isotope Geochemistry (8 enrolled)
Fall: E&PS 103 - Earth's Environment and Global Change (32 enrolled)

New courses: Biology 402 - Stable Isotope Seminar

Graduate Students supervised:

Major advisor:

Marcia Jensen, M.S. (UNM) – NSF proposal pending (Sharp)
Raffaele Lucchini, Ph.D. (Uni. Lausanne) – Funded by NSF (to Sharp)
Viorel Atudorei Ph.D., Dec. 1998 (Uni. Lausanne) – Funded by NSF (to Sharp)
"Constraints on the Upper Permian to Upper Triassic marine carbon isotope curve. Case studies from the Tethys"

Exam Committee member:

Carol Dehler, Ph.D.
Michelle Kearney, M.S.
Charles Shearer

Courses taught

Spring: E&PS 365 - Exploring The Solar System (19 enrolled)

Fall: E&PS 513 - Planetary Materials (4 enrolled)
      EPS 551 - Problems (1 enrolled)
      Planetary Problems-Isotopic Solutions (15 enrolled)

Graduate Student Committees: Chris Heil, L. Bowman, and Chris Herd.
M.S. Advisor: Chris Heil.
ICP-MS Instruction: 10 students-faculty-staff.

Gary Smith

Courses taught

Spring: E&PS 450 - Volcanology (6 enrolled)
       E&PS 400 - Geoarchaeology/ Anth 373 (22 enrolled)

Summer: Guest lecture in Summer Archeology Field Session, Anth 375F
       E&PS 451 - Field Studies in Volcanology (16 students enrolled)

Fall: (Sabbatical)

Graduate Students:
* indicates support provided

Ph.D. advisees:
   Gordon Keating (co-advised with G.A. Valentine - LANL)
   Joel Pedersen* (co-advised with F.J. Pazzaglia)

Service on other Ph.D dissertation or examination committees:
   Carol Dehler
   Philip LeTourneau (Anthropology)

M.S. advisees:
   Claudia Borchert
   Jessica Moore
   Michael Gaud
   Patrick Florence*

Service on other M.S. thesis or examination committees:
   Karen Roche
   Michael Timmons
   Karl Wegmann
   Kate Helean

34
Senior Honors advisee:
Kathleen McLeroy

Mike Spilde

Guest Lecture:
- Guest lecture and demonstration on the microprobe and SEM for Anthro 373 "Geoarcheology", April 8, 1998.

Tutorial training on the SEM for 4 UNM graduate students.
Tutorial training on the SEM for 2 UNM faculty/staff and 1 NM Tech faculty.
Tutorial training on the SEM for 1 UNLV 1 graduate student.
Tutorial training on the SEM for 5 people from local businesses and 1 person from Sandia National Lab.

Padinare Unnikrishna

Courses taught
- Fall: E&PS 462 - Hydrogeology (14 enrolled)
  E&PS 474L - Hydrogeology Laboratory (3 enrolled)

Guest Lectures: E&PS 464 - Environmental Mechanics (6 enrolled)

Member of the M.S. Committees of:
- Laura B. Hagan, Department of Earth and Planetary Sciences

Helped graduate student Nicole Nienow with groundwater modeling of Rio Calaveras for M.S. thesis work (Master of Water Resources Administration Program).


Huifang Xu

Courses taught
- Spring: E&PS 538L - Analytical Electron Microscopy (5 enrolled)
2. 1998 PUBLICATIONS
(E&PS Faculty are underlined; ** = research scientists; * = students)

**Books and Monographs Written**

Lunar samples
L.L. Papike, G. Ryder and C.K. Shearer**
Reviews in Mineralogy, v. 36, p. 5-1 to 5-234 (1998)

Chondritic Meteorites
A.J. Brearley and R.H. Jones**
Planetary Materials, Mineralogical Society of America, Reviews in Mineralogy, v. 36, p. 3-1 to 398 (1998)

**Refereed Journal Papers**

Dinosaur skin impressions and associated skeletal remains from the Upper Campanian of southwestern New Mexico: New data on the integument morphology of hadrosaurs

Pb and Os isotopic constraints on the composition and rheology of the lower crust
Y. Asmerom and R.J. Walker

If the strong crust leads, will the weak crust follow?
G.J. Axen, J. Selverstone, T. Byrne and J.M. Fletcher

Hydrothermal uranium deposits containing molybdenum and fluorite in the Marysvale Volcanic Field, west-central, Utah
C.G. Cunningham, J. Rasmussen, T.A. Steven, R.O. Rye, P.D. Rowley, S. Romberger and J. Selverstone

Tectonic geomorphology of the Sierra Nacimiento: traditional and new techniques in assessing long-term landscape evolution in the southern Rocky Mountains
M.L. Formento-Trigilio and Frank J. Pazzaglia

Analytical electron microscopy study of surface layers formed on the French SON68 nuclear waste glass during vapor hydration at 200°C

Kornerupine parageneses in whiteschists and other magnesian rocks: is kornerupine + talc a high-pressure assemblage equivalent to tourmaline + orthopyroxene?
E.S. Grew, N.N. Pertsev, S. Vrana, M.G. Yates, C.K. Shearer** and M. Wiedenbeck
Werdirgite, a borosilicate new to pegmatites

Field classification and paleomagnetic characterization of lithic and scoriaceous breccias at Pleistocene Broken Top
Volcano, High Cascades Range, Oregon
M.J. Grubensky, G.A. Smith and I.W. Geissman

Needle Mountains, southwestern Colorado
S.S. Harlan and I.W. Geissman

First occurrence of Aetosaurus (Reptilia: Archosauria) in the Upper Triassic Chinle Group (USA) and its
biocronological significance
A.B. Heckert* and S.G. Lucas

The continuation inverse problem revisited
S.P. Huestis

Persistent influence of Proterozoic accretionary boundaries in the tectonic evolution of Southwestern North America:
interaction of cratonic grain and mantle modification events
K.E. Karlstrom and E.D. Humphreys

Heterogeneity of the middle crust: implications for strength of continental lithosphere
K.E. Karlstrom and M.L. Williams

An outline of tectonic, igneous, and metamorphic events in the Goshute-Toano Range between Silver Zone Pass and
White House Pass, Elko County, Nevada: a history of superposed contractional and extensional deformation

Mineral oxygen isotope ratios for the Boehls Butte-Goat Mountain metamorphic complex, Idaho: evidence for fast
cooling
P.B. Larson and Z.D. Sharp

Permian-Triassic boundary at El Antimonic, Sonora, Mexico

The vesicular layer and carbonate collars of desert soils and pavements: formation, age and relation to climate
change
L.D. McFadden, E.V. McDonald, S.G. Wells, K. Anderson, J. Quade and S.L. Forman
Carboniferous through Jurassic paleomagnetic data and their bearing on rotation of the Colorado plateau
R.S. Molina-Garza**, G.D. Acton and J.W. Geissman

Paleomagnetic data from Triassic strata, Zuni uplift, New Mexico: further evidence of large-magnitude Triassic polar wander of North America
R. Molina-Garza**, J.W. Geissman, A. Gomez and B. Horton

Comparative planetary mineralogy: chemistry of melt-derived pyroxene, feldspar, and olivine
J.I. Papike
Reviews in Mineralogy, v. 36, p. 7-1 to 7-11 (1998)

Surficial geology of the Delta quadrangle, Harford County, Maryland, and York County, Pennsylvania
F.I. Pazzaglia and E.T. Cleaves

Large-scale geomorphology and fission-track thermochronology in topographic and exhumation reconstructions of the southern Rocky Mountains
F.I. Pazzaglia and S.A. Kelley

Reconciliation of conflicting models for Proterozoic rocks of northern New Mexico
J.M. Pedrick, K.E. Karlstrom and S.A. Bowring

Wet and dry sizes of atmospheric aerosol particles: an AFM-TEM study
M. Posfai, H. Xu** and J.R. Anderson

Kapoeta: implications for the regolith evolution of the HED parent body
A. Pun**, K. Keil, G.J. Taylor and R. Wieler

Continuous self-assembly of organic-inorganic nanocomposite coatings that mimic nacre
A. Sellinger, P.M. Weiss, A. Nguyen, Y. Lu, R.A. Assink, W. Gong** and C.J. Brinker

Interplanetary dust particles
F.J.M. Rietmeijer**
Reviews in Mineralogy, v. 36, p. 2-1 to 2-95 (1998)

Identification of carbon forms in soot materials of astrophysical interest

Evolution of fault systems at a strike-slip plate boundary: a viscoelastic model
M. Roy**
Fossil isotope records of seasonal climate and ecology: straight from the horse's mouth
Z.D. Sharp and T.E. Cerling

The planetary sample suite and environments of origin
C.K. Shearer**, I.I. Papike and F.I.M. Rietmeijer **

Geology along U.S. Highways 197 and 97 between The Dalles and Sunriver, Oregon
G.A. Smith
Oregon Geology, v. 60, p. 3-18 (1998)

Hydrostratigraphic implications of new geological mapping in the Santo Domingo Basin
G.A. Smith and A.J. Kuhle*

Eocene-Oligocene tectonics, volcanism and floral change near Gray Butte, central Oregon
G.A. Smith, S. Manchester, M. Ashwill, W. McIntosh and R. Conrey

Seasonal variation in surface-subsurface water exchange and lateral hyporheic area of two stream-aquifer systems
G.J. Wroblicky, M.E. Campana, H.M. Valett and C.N. Dahm

HRTEM investigation of microstructures in length-slow chalcedony
H. Xu**, P. R. Buseck and G. Luo

Papers in Edited Volumes

The role of geography and atmospheric CO₂ in long term climate change: results from model simulations for the Late Permian to the present
P.I. Fawcett and E.J. Barron

U-Pb and Th-Pb Geochronology in Quaternary rocks
S.R. Getty** and D.J. DePaolo

Late Paleozoic orogeny in southeastern New England: a mid-crustal view
L.P Gromet, S.R. Getty** and E.K. Whitehead

Stratigraphic distribution and age of petrified wood in Petrified Forest National Park, Arizona
A.B. Heckert* and S.G. Lucas
The Oldest Triassic strata exposed in the Petrified Forest National Park, Arizona
A.B. Heckert* and S.G. Lucas

Paleomagnetic evidence against Jurassic left-lateral (southeastward) displacement of the Caborca terrane
R.S. Molina-Garza** and I.W. Geissman

Interstellar and interplanetary grains - recent developments and new opportunities for experimental chemistry
J.A. Nuth, S.L. Hallenbeck and F.J.M. Rietmeijer**

Bedrock fluvial incision and longitudinal profile development over geologic time scales determined by fluvial terraces
F.I. Pazzaglia, T.W. Gardner and D.J. Merritts
American Geophysical Union, Geophysical Monograph 107, p. 207-235 (1998)

Interplanetary Dust
F.J.M. Rietmeijer**

Laser microanalysis of silicates for $^{18}O/^{16}O$ and of carbonates for $^{18}O/^{16}O$ and $^{13}C/^{12}C$ ratios
D. Rumble and Z. Sharp

Application of stable isotope geochemistry to low grade metamorphic rocks
Z. Sharp

Late Cenozoic stratigraphy of the greater Española Basin
G.A. Smith

Maps

Geology of the Placitas 7.5-min quadrangle, Sandoval County, New Mexico
S. Connell, S. Cather, K.E. Karlstrom, A. Read, B. Ilg, B. Menne, C. Andronicus, P. Bauer and P. Johnson

Geologic map and report of the Jemez Pueblo quadrangle, New Mexico
F.I. Pazzaglia, J.L. Pederson*, A. Garcia, D. Koning* and C. Toya
New Mexico Bureau of Mines and Mineral Resources

Geology of the Sandia Crest 7.5-min quadrangle, Bernalillo and Sandoval County, New Mexico
A. Read*, K.E. Karlstrom, K. Kirby, S. Connell, C. Ferguson, B. Ilg*, F.I. Pazzaglia and G. Osburn
Notes, Extended Abstracts, and Other Publications

Ion microprobe investigations of pyroxene and plagioclase from ancient mare basalt Asuka 881757

Dark inclusions in the Leoville CV3 carbonaceous chondrite
A.J. Brearley

Carbonates in CM carbonaceous chondrites: complex zoning revealed by high resolution catholuminescence studies
A.J. Brearley

Magnetite in ALH 84001: product of the decomposition of ferroan carbonate
A.J. Brearley

Microstructures of feldspathic glass in ALH 84001 and evidence for post carbonate formation shock melting
A.J. Brearley

Aqueous alteration of chondritic meteorites: insights from experimental low temperature hydrothermal alteration of Allende
A.J. Brearley and C.L. Duke*

The upper water table: a reactive interface between ground water and surficial biogeochemical processes in a shallow alluvial aquifer
A.R. Groffman*, L.J. Crossey and C. S. Fellows

Potential toxicity of the Martian soil
J.J. Hagerty* and H.E. Newsom**

Quaternary geology
V.T. Holliday and I.D. McFadden

A compilation of olivine and pyroxene compositions in type 4-6 ordinary chondrites
R.H. Jones**

Oxygen isotope analyses of chondrule and isolated olivine grains in the CO3 chondrite, ALHA77307

Introduction to special issues: lithospheric structure and evolution of the Rocky Mountains: (Parts I and II)
K.E. Karlstrom
Acid-sulfate hydrothermal fluids and the origin of the Martian soil
H.E. Newsom**, J.J. Hagerty* and F. Goff

Comparative planetary mineralogy: chemistry of melt-derived pyroxene, feldspar, and olivine
J.J. Papike

Non-chondritic cluster fragments: asteroidal volcanism that escapes recognition in individual IDPs
F.J.M. Rietmeijer**

Looking for order in chaos: metastable eutectics constrain the petrologic phase equilibria in aggregate IDPs
F.J.M. Rietmeijer**

Trace-element constraints on melting and mixing processes affecting IIE silicate inclusions: a reconnaissance SIMS study

Geology of the Cochiti Pueblo area and the Cerrillos uplift based upon geologic mapping, airborne and ground geophysics, and limited subsurface information
D. Sawyer, M. Deszcz-Pan, V.S.J. Grauch, G.A. Smith, D. Dethier, R. Thompson, S. Minor, R. Shroba, B. Rodriguez and A.J. Kuhle*

The origin of olivine in martian meteorite ALH 84001: Part 1, The distribution of olivine
C.K. Shearer** and C. Adcock

The relationship between the carbonate and shock-produced glass in ALH 84001
C.K. Shearer** and C. Adcock

The composition and distribution of shock glass in ALH84001
C.K. Shearer** and C. Adcock

The origin of olivine in martian meteorite ALH 84001; Part 2, The oxygen isotopic systematics of the olivine
C.K. Shearer** and L. Leshin

W-Hf isotopic abundances and the early origin and evolution of the Moon and Earth
C.K. Shearer** and H.E. Newsom**

S and other volatiles in lunar picritic magmas and the lunar mantle: an approach using secondary ion mass spectrometry
Estuarine circulation in the Turonian Western Interior seaway of North America: reply
R.L. Slingerland, L.R. Kump, M.A. Arthur, P.L. Fawcett, B.B. Sageman and E.J. Barron

Hydrogeologic and tectonic implications of geological mapping in the Santo Domingo Basin and southeastern Jemez Mountains, New Mexico
G.A. Smith, A.J. Kuhle* and W.C. McIntosh

Introduction to special section: early Mars
C.S. Treiman, H.E. Newsom** and J. Farmer

Rhenium-osmium isotopic systematics of lunar orange glass

Electron energy-loss spectroscopy (EELS) Ce-oxides in the CeO2 - Ce2O3 system
H. Xu**

HRTEM of interface between GaAs and AlxGa1-xAs semiconductors
H. Xu**

Electron energy-loss spectroscopy (EELS) of nanocrystals of zirconia and sulfated zirconia strong solid-acid
H. Xu** and X. Song

Intergranular boundary and reaction front in biopyribole minerals
H. Xu** and Y. Wang

Technical Reports

Stochastic parameter development for PORFLOW simulations of the Hanford AX tank farm

Magnetic properties of Santa Fe Group sediments in the 98th Street Core Hole, Albuquerque, New Mexico
M.R. Hudson, M. Mikolas*, I.W. Geissman and B.D. Allen

HRTEM study of coating minerals of Fe-Mn oxides and clays
H. Xu**

Abstracts

Ice-core evidence of millennial and slower variability in North Atlantic Ocean heat transport
R.B. Alley, A.M. Agustsdottir and P.L. Fawcett
Response of a large, shallow lake to Late Pleistocene submillenial climate perturbations: Estancia Basin, New Mexico
R.Y. Anderson, B.D. Allen, K.M. Menking and S.W. Hostetler

REE abundances of pyroxene and plagioclase in a pristine eucritic basalt, Yamato 75011,84
T. Arai, H. Takeda, L.L. Papke, C.K. Shearer** and M. Miyamoto

Late Holocene sedimentological and climatic characteristics of the Pecos wilderness, New Mexico, determined from an alpine bog deposit: preliminary results
J. Armour*
New Mexico Geology, v. 20, p. 51 (1998)

$^{231}$Pa/$^{235}$Ur constraints on mantle melting

Brittle fracturing in high-temperature "ductile" shear zones: strain rate, fluid pressure, and shear zone evolution
G.J. Axen, I. Selverstone and T. Wawrzyniec*

2-D thermochronologic analysis of material flux through the Olympics Mountains segment of the Cascadia accretionary wedge

Nitrate-N utilization by macrophyte communities below a perennial spring-fed stream reach
D. Boling, C. Dahm, M. Campana, P. Unnikrishna** and H. Valett

Rare K-bearing mica in Allan Hills 84001: additional constraints on carbonate formation
A.L. Brearley
LPI Contribution No. 956, p. 6 (1998)

Steady-state fluxes in the Olympics segment of the Cascadia accretionary wedge

Microstructural and geochronologic evidence for 1.63 Ga syndeformational plutonism and metamorphism in the Manzanita Mountains, New Mexico
C. Brown*, K.E. Karlstrom, D. Unruh and M. Heizler
New Mexico Geology, v. 20, p. 53-54 (1998)

Atmospheric and hydrologic estimates of evaporation for the Estancia basin playa complex, central New Mexico
N.A. Brunsell*, K.M. Menking, R.Y. Anderson and B.D. Allen
New Mexico Geology, v. 20, p. 58 (1998)

Hyporheic zone residence times in first-order streams
M.E. Campana, K.E. Smith, J.A. Morrice, H.M. Valett, C.N. Dahm, P.V. Unnikrishna** and M.A. Baker
Fossil vertebrates from the Lower Permian Red Tanks Member of the Madera Formation, Lucero uplift, central New Mexico
C.W. Cook* and S.G. Lucas
New Mexico Geology, v. 20, p. 56 (1998)

Declining health of the Middle Rio Grande cottonwood bosque
C.S. Crawford, C.N. Dahm, M.C. Molles and P.V. Unnikrishna**

Geochronological, thermochronological, and geological constraints on Proterozoic midcrustal suturing in the western Grand Canyon, Arizona
K.L. Davidek, S.A. Bowring, K.E. Karlstrom, M.L. Williams and D.P. Hawkins

Facies analysis and environmental interpretation of the middle Chuar Group (Proterozoic): implications for the timing of Rodinian breakup
C.M. Dehler* and M. Elrick

Implications for paleoenvironments and areal extent of the Chuar Basin from facies analysis of the middle Chuar Group (Proterozoic), Grand Canyon
C.M. Dehler* and M. Elrick
Geological Society of America, Abstracts with Programs, v. 30, no. 6, p. 7 (1998)

Correlating speleothem carbon, pollen records from the Southern Midwest: tracking Holocene vegetation changes
R. Denniston, L. González, R. Baker, M. Reagan and Y. Asmerom

Effects of middle Holocene vegetation change on the oxygen and carbon isotopic composition of three midwestern tern speleothems

Combining speleothem carbon and faunal assemblages to examine vegetation change in the Southern Midwest
R. Denniston, L. González, A. Semken M. Reagan and Y. Asmerom

Experimental aqueous alteration of Allende (CV3)
C.L. Duke* and A.L. Brearley

Unraveling soil spatial and temporal complexity: examination of soil landscapes in light of geomorphic process
M.C. Eppes* and J.B.J. Harrison
New Mexico Geology, v. 20, p. 52 (1998)

Soil landscapes of the northern flank of the San Bernardino Mountains in the Transverse ranges of Southern California
M. Eppes*, J. Mattie, R. Powell and L.D. McFadden

Effects of an impact induced ring system on Earth's climate
P.L. Fawcett, M.B.E. Boslough and D.A. Crawford
Paleomagnetic data from Cretaceous redbeds in western Yunnan, PRC: testing spatial variability in large-magnitude intracontinental deformation
J.W. Geissman, B.C. Burchfiel, L. Chen and S.S. Harlan

The upper water table, a reactive interface between ground water and surficial biogeochemical processes in a shallow alluvial aquifer
A.R. Groffinan*, I.I. Cressey and C.S. Fellows
Abstracts, 8th Annual Goldschmidt Conference, Tolouse, France (1998)

The ENSO signal in southwest U.S. precipitation variability
D.S. Gutzler
9th Air-Sea Interaction Conference, American Meteorological Society, Phoenix, AZ.

Daily variability of lower tropospheric winds over the Western Equatorial Pacific
D.S. Gutzler and L.M. Hartten
CLIVAR/GEWEX International COARE98 Conference, Boulder CO.

Temporal and spatial variability of large-scale divergence over the Western Equatorial Pacific
L.M. Hartten and D.S. Gutzler
CLIVAR/GEWEX International COARE98 Conference, Boulder CO.

The "type" Wingate Sandstone (Upper Triassic-Lower Jurassic) and the homotaxial Entrada Sandstone (Middle Jurassic): resolving stratigraphic problems on the southern Colorado Plateau
A.B. Heckert* and S.G. Lucas
New Mexico Geology, v. 20, p. 54 (1998)

Additions to the vertebrate fossil record of the Moenkopi Formation (Middle Triassic: Anisian), northern New Mexico
A.B. Heckert*, S.G. Lucas and J.W. Estep
New Mexico Geology, v. 20, p. 57 (1998)

Estimates of oxygen fugacity in the basaltic shergottites from electron microprobe oxygen analysis
C.D.K. Herd* and I.J. Papike

Estimates of oxygen fugacity in the basaltic shergottites from electron microprobe oxygen analysis
C.D.K. Herd* and I.J. Papike

The crystal shear zone: a paleoproterozoic crustal suture (?) in the Grand Canyon of Arizona
B.R. Ilg and K.E. Karlstrom

Proterozoic lithosphere of southwestern North America
K.E. Karlstrom

Alluvial fan stratigraphy along the southern Sacramento Mountains and paleoseismic interpretations for the Alamogordo fault
D.J. Koning*
Paleoseismicity, fault segmentation and persistence of mountain-front landforms in a continental rift setting, Alamogordo fault, southern New Mexico
D.J. Koning* and F.I. Pazzaglia

Sublacustrine-fan deposits in an ancient caldera lake: origin and comparison to other subaqueous-fan deposits
D. Larsen and G.A. Smith

Neogene asthenosphere-derived volcanism and NE-directed extension in northeastern Spain: constraints on the geodynamic evolution of the western Mediterranean
C. J. Lewis, W S Baldridge and Y. Asmerom

Stratigraphy of the Jurassic Entrada Sandstone in New Mexico
S.G. Lucas, A.B. Heckert* and O.J. Anderson
New Mexico Geology, v. 20, p. 54-55 (1998)

Sr isotopic composition of carbonate in volcanic and alluvial desert soils of New Mexico and California: implications for regional and local dust conditions
A. McLain*, L.D. McFadden, Y. Asmerom, E. McDonald and J. Poths

Preliminary paleomagnetic/rock magnetic study of the Santa Fe Group in the 98th Street core, Albuquerque Basin, New Mexico
M. Mikolas*, J.W. Geissman, M.R. Hudson and B.D. Allen

Tungsten-Hafnium isotopic abundances and the early origin of the Earth
H.E. Newsom** and C.K. Shearer**

Geomorphic evidence for long-term evolution of the Cascadia forecore high, Olympic Mountains, Washington
F.I. Pazzaglia, M.T. Brandon, K. Wegmann* and A.F. Garcia

Bedrock fluvial incision in the tectonically active setting evaluated in the context of the stream power low and the valley-width/channel width ratio
F.I. Pazzaglia, K. Wegmann* and A.F. Garcia

A long-term record of hillslope sediment delivery to basins in southeastern Nevada: sediment from the paleo-Colorado River?
J.L. Pederson*

A six million year record of buried, relict and modern hillslopes: climate and rock-type controls on the production of detritus
J.L. Pederson*, F.I. Pazzaglia and G.A. Smith
Comparing the Quaternary and Neogene record of hillslope sediment production and delivery to basins in southeast Nevada
J.L. Pederson*, G.A. Smith and E.L. Pazzaglia

Paleomagnetic data bearing on vertical axis rotation associated with a simple-shear transfer system in the Silver Peak Range, west-central Nevada
M.S. Petronis*, J.W. Geissman and J.S. Oldow

Testing of a fracture generation model: fluid inclusion and geochemical constraints from the contact aureole of the 1.4 Ga Sandia pluton
L. Pletsch-Rivera*, A. Cavosie*, I.S. Selverstone and Z. Sharp

Insights into stone pavements from cosmogenic helium dates
J. Poths, L.D. McFadden, A. McLain, K. Anderson* and S.G. Wells

Aggregate IDPs: order in chaos before looking at nebular and planetary process
F.J.M. Rietmeijer**, J.A. Nuth and S.L. Hollenbeck

Preliminary hydrologic data and trends in the vicinity of a ground-water-discharge playa, Estancia Basin playa complex, central New Mexico
J.B. Rogers*, B.D. Allen, R.Y. Anderson and T.A. Loveland*
New Mexico Geology, v. 20, p. 57 (1998)

Shear at a strike-slip plate boundary: implications for seismicity, fault interactions, and heat flow
M. Roy**

Constraints on crust and mantle structure beneath the San Gabriel Mountains, Southern California, derived from flexural modeling of gravity and seismic data
M. Roy** and R. Clayton
Abstracts, Annual Meeting of the Southern California Earthquake Center, Palm Spring, CA. (1998)

Don’t speak volumes about melt segregation: The role of mineral reactions in melt extraction and melt geochemistry
T. Rushmer and A.L. Brearley.

The nature of colour of chrysoprase
M. Sachanbinski, A.H. Platonov, F.J.M. Rietmeijer** and J. Janeczek

Proterozoic assembly of the northern Colorado Front Range
I. Selverstone, J.N. Aleinikoff, G.L. Farmer and M. Gabera*
Oxygen isotope analysis of pre-Cenozoic tooth enamel
Z.D. Sharp and V. Atudorei

A comparison between sulfide assemblages in martian meteorites Allan Hills 84001 and Governador Valadares
C.K. Shearer** and C. Adcock

Evidence for a late-stage thermal overprint in Allan Hills 84001 and implications for biomarkers
C.K. Shearer** and A.J. Brearley
LPI Contribution No. 956, p. 45 (1998)

The origin of mantle reservoirs for mare basalts and implications for the thermal and chemical evolution of the lunar magma ocean
C.K. Shearer** and H.E. Newsom**

Rift-basin facies geometry and reservoir heterogeneity: outcrop and subsurface study
G.A. Smith
Reports on Research assisted by The Petroleum Research Fund, American Chemical Society, Year ending August 31, 1997, p. 52 (1998)

Pattern of faulting, volcanism and sedimentation at the junction of the Jemez Mountains and Rio Grande rift, New Mexico
G.A. Smith and A.J. Kuhle*

Hydrostratigraphic significance of new geological mapping in the Santo Domingo Basin
G.A. Smith and A.J. Kuhle*

Oxygenation cycles observed in Middle Cambrian deep-water carbonates, Marjum Formation, House Range, Western Utah
A.C. Snider* and M. Elrick

Corrosion residues from Lechuguilla Cave: cozy home or living hell for microbes?
M.N. Spilde**, D.E. Northup, P.J. Boston and C.N. Dahm

Characterization of archeological ceramics using scanning electron microscopy and electron microprobe analysis
M.N. Spilde**, N.H. Olsen and N.A. Creager

Structure and sedimentary tectonics of the Chuar Basin and Butte Fault, Grand Canyon: evidence for a Neoproterozoic "growth" fault
J.M. Timmons*, K.E. Karlstrom and C.M. Dehler*
Interannual comparisons of stream-groundwater exchange processes in response to spring snowmelt
P.V. Unnikrishna**, M.E. Campana, H.M. Valett** and C.N. Dahm

Relationships among fluid compositions and structural styles beneath the Simplon low-angle normal fault, Central Alps, Switzerland
T. Wawrzyniec*, L. Silverstone and G. J. Axen

Rock uplift and deformation of the Olympic subduction complex determined by fluvial terraces in the Clearwater River Basin, northwest Washington State
K. Wegmann* and F. L. Pazzaglia
3. EXTERNALLY FUNDED RESEARCH GRANTS AND CONTRACTS,
July 1, 1998 to June 30, 1999

Hydrological coupled estimates of decadal to millennial climate variability during the Holocene and Late Pleistocene
R.Y. Anderson, B.D. Allen and S. Hostetler
National Science Foundation (3-47281)
$209,373; 1/1/97 to 12/31/99

Geochemistry and hydrology of the Red River stream system before and after open-pit mining, Questa area, Taos
County, New Mexico
R.Y. Anderson, L.I. Crossey and M.E. Campana
New Mexico Energy, Minerals and Natural Resources Department (3-48431)
$78,800; 4/1/97 to 12/31/98

U-series isotope systematics of continental rift basalts: The Rio Grande rift, USA
Y. Asmerom
National Science Foundation (3-48611)
$127,000; 6/1/97 to 5/31/00

Chronology of submerged speleothems from the Blue Hole, Belize: Implication for sea level and tropical climate
change through time
Y. Asmerom
National Science Foundation (3-49941)
$49,957; 11/15/97 to 10/31/99

The role of mantle plumes in the formation of new tectonic plates
Y. Asmerom
Los Alamos National Lab (DOE) (3-49871)
$24,438; 10/1/97 to 9/30/99

Increasing minority Ph.D.s in geochemistry
Y. Asmerom
Sloan Foundation (3-12941)
$55,000; 10/1/98 to 8/31/02

Scientific research exchange between University of New Mexico, University of Newcastle upon Tyne and Universite
de Paris-Sud
A. Baker, D. Genty and Y. Asmerom
NATO
$6,000; 1998

Use of E&PS TEM lab for research
A. Brarley
Intel Corp. (3-33631)
$77,600; 2/14/97 to 2/14/99
Geochemical signatures of melt segregation in static vs. dynamic environments
A.J. Brearley
National Science Foundation (3-48441)
$42,940; 6/1/97 to 5/31/00

Phase transformations involving olivine, \( \beta \)-phase and spinel in the mantle transition zone: experimental studies of transformation mechanisms in \( \text{Mg}_2\text{SiO}_4 \) and \( \text{(MgFe)}_2\text{SiO}_4 \)
A.J. Brearley
National Science Foundation (3-44811)
$102,175; 8/1/95 to 7/31/99

Microstructural studies bearing on the origin of carbonates and associated minerals in Martian meteorite, ALH 84001
A.J. Brearley
NASA (3-48991)
$78,000; 7/1/97 to 6/31/99

Meteorites and small primitive solar system bodies
A. Brearley
NASA (3-48271)
$100,000; 5/15/97 to 5/14/00

Sustainable water resources development in New Mexico and the Rio Grande Basin
M.E. Campana and O.P. Matthews (Geography)
National Oceanic and Atmospheric Administration
$15,000; 6/1/98 to 1/31/99

A multi-level approach to modeling ground and surface water exchange in agriculturally-dominated settings
M.E. Campana and others
U.S. Geological Survey
$159,890 (UNM share); 4/1/98 - ?

Biogeochemical cycling of redox-sensitive metals during surface-subsurface water exchange in a shallow alluvial aquifer
L.L. Crossey and M. Valett
National Science Foundation (3-46561)
$338,000; 5/15/96 to 7/31/99

REU supplement: Biogeochemical cycling of redox-sensitive metals during surface-subsurface water exchange in a shallow alluvial aquifer
L.L. Crossey and M. Valett
National Science Foundation (3-46569)
$2,000; 4/24/97 to 7/31/99

Geomicrobial Interactions of microbial communities in cave deep subsurface environments: a novel extreme Environment
C. Dahm (Biology), D. Northup (Biology) and L.L. Crossey
National Science Foundation
$292,134; 8/1/98 to 7/31/01

52
Stream/ground water ecotones: hydrology, biogeochemistry and ecology
C.N. Dahm (Biology) and M.E. Campana
National Science Foundation
$610,000; 2/1195 to 8/31/99

Acquisition of a FEG Transmission Electron Microscope for nanostructured materials and for earth sciences research
A. Datye (Center for Microengineered Materials), J. Papka and H. Xu**
National Science Foundation
$997,000; 8/98 to 7/01

Short-term paleoclimate fluctuations expressed in Paleozoic deep-water rhythmites
M. Elrick
National Science Foundation (3-42021)
$93,529; 8/15/94 to 7/31/98

Impact induced climate change
P.I. Fawcett
Sandia – University Research Program (SURP) (3-12361)
$24,999; 10/1/98 to 9/30/99

Nested GCM/mesoscale model studies of large rapid Holocene and late glacial climate changes: synthesis with the Greenland ice core records
P.I. Fawcett
National Science Foundation (3-48771)
$84,514; 6/1/97 to 5/31/00

Modeling the effects of land surface forcing on summer rainfall in southwest North America
P.I. Fawcett and D. Gutzler
Los Alamos National Laboratory, NUCOR Program (3-11871)
$40,593; 8/15/98 to 8/15/99

Collaborative research: assessing the style, evolution of large-magnitude intracontinental deformation, and role of extrusion tectonics, eastern Himalaya syntaxis, Yunnan, China
I.W. Geissman and C. Burchfiel (MIT)
National Science Foundation (3-49031)
$181,103 (UNM component); 7/1/97 to 7/31/00

Hydrothermal processes in pyroclastic rocks: implications for cooling ignimbrites, shallow intrusions and rate of change of geomagnetic field
I.W. Geissman
Los Alamos National Laboratory (3-47451)
$30,322; 10/3/96 to 9/30/99

Temporal trends of airborne pollutants in lichen
S.R. Getty**
Waste-Management Education and Research Consortium (3-12071)
$6,000; 5/1/98 to 1/1/99
U-Pb geochronology in marine carbonates: a new approach for age dating in paleoclimate reconstruction
S.R. Getty** and Y. Asmerom
National Science Foundation (3-48381)
$152,394; 2/15/97 to 1/31/00

Observations and modeling of large-scale controls on summer rainfall in Southwest North America
D. Gutzler and P. Fawcett
National Science Foundation (3-10411)
$130,580; 2/1/98 to 1/31/00

An integrated study of Late Proterozoic (1.2 – 0.7 Ga) extensional tectonism, basin evolution, and biological evolution in the Grand Canyon Supergroup and Apache Group during incipient breakup of Rodenia
K.E. Karlstrom, M. Elrick, L.W. Geissman and Y. Asmerom
National Science Foundation (3-49041)
$140,006; 7/1/97 to 7/31/00

Lithospheric structure and evolution of the Rocky Mountain transect of the western U.S.
K.E. Karlstrom and E.l. Pazzaglia
National Science Foundation (3-48951)
$289,368; 7/1/97 to 12/31/99

Supplement to Continental Dynamics Grant
K.E. Karlstrom and E. Erslev
National Science Foundation
$30,000 (UNM share); 5/98 to 12/98

Supplement to Continental Dynamics Grant – for publication of results in “Rocky Mountain Geology”
K.E. Karlstrom
National Science Foundation
$6,300; 1998

Geochemistry, petrology and geologic setting of the Precambrian Carajás and Urucum iron-formation, Brazil
C. Klein
National Science Foundation (3-27372)
$89,900; 6/1/94 to 5/31/99

Ocean drilling program - Leg 182: the Great Australian Bight
R. Molina-Garza**
Texas A&M Research Foundation (3-11641)
$20,255; 6/10/98 to 2/29/00

Geologic map of the Sky Village, NE Quadrangle, Albuquerque Basin, NM
E.I. Pazzaglia
U.S. Geological Survey (3-11131)
$7,000; 6/1/98 to 5/31/99

Paleoseismicity and associated earthquake hazards of the Alamogordo fault, south-central New Mexico
E.I. Pazzaglia
New Mexico State Department of Public Safety (3-12711)
$4,724.00; 10/13/98 to 9/30/99
Fluvial terraces as a record of long-term deformation for the Cascadia forearc high, Olympic Mountains, Washington State
E.L. Pazzaglia
National Science Foundation (3-48741)
$97,958; 6/1/97 to 5/31/00

Rates of geomorphic processes using cosmogenic He and Ne
J. Poths and L.D. McFadden
DOE/OBES
$175,000; 9/95 to 9/98

Geomorphic and geodynamic response to extension in convergent orogens
M. Roy and J. Selverstone
National Science Foundation (3-14281)
$38,743; 6/9/99 to 6/30/01

PTt and kinematic constraints on Proterozoic tectonism in the northern Colorado Front Range
J. Selverstone
National Science Foundation (3-44871)
$109,306; 8/1/95 to 12/31/98

Collaborative research: Mechanics of footwall uplift during detachment faulting: a field test of kinematic and dynamic models — (renewal)
J. Selverstone, G.J. Axen and J.M. Bartley
National Science Foundation (3-45891)
$91,593, 1/1/96 to 6/30/99

Proterozoic assembly of the northern Colorado Front Range
J. Selverstone
National Science Foundation (3-11251)
$128,505; 6/15/98 to 6/14/00

Acquisition of a stable isotope mass spectrometer and tandem UV-CO₂ laser system
Z. Sharp
National Science Foundation (3-11861)
$221,658; 8/1/98 to 7/31/00

Physiological factors controlling the $δ^{18}O$ values of body water for coexisting endotherms and ectotherms
Z. Sharp
National Science Foundation (3-13811)
$8,029; 4/1/99 to 3/31/00

Oxygen isotope analysis of mollusks from the Petrified Forest
Z. Sharp
Petrified Forest National Park
$2,251.00; 1998

Outcrop and subsurface study of rift-basin facies geometry and reservoir heterogeneity
G.A. Smith
Petroleum Research Fund, American Chemical Society (3-43251)
$50,000; 3/1/95 to 8/31/98

55
Outcrop characterization of heterogeneity: explicit linkage of hydrological and sedimentological properties and testing of stochastic model performance
G. A. Smith and M. E. Campana
National Science Foundation (3-49111)
$119,991; 8/15/97 to 7/31/00

The relationship of textures and depositional structures in pyroclastic-flow deposits to paleomagnetically determined emplacement temperatures
G. A. Smith and J. W. Geissman
National Science Foundation (3-40471)
$94,400; 1/1/94 to 9/30/98

Variable hillslope processes and sediment delivery to tectonically quiescent basins: a late Miocene to Quaternary record of buried, relict, and modern hillslopes and their deposits
G. A. Smith and F. I. Pazzaglia
National Science Foundation (3-48981)
$99,960; 9/15/97 to 12/31/99

HRTEM study of coating minerals of Fe-Mn oxides, clays and zeolites
H. Xu**
DOE (through International Technology Corp.)
$5,000; 1998

Analytical support on microstructure changes of Tl-Ba super conductor under ion-beam irradiation
H. Xu**
Sandia Laboratories (DOE) (3-44211)
$9,000; 11/1/97 to 10/31/98
4. RESEARCH PROJECTS IN PROGRESS

Roger Anderson

In press:

Geomorphic and Hydrology Response in Estancia Basin to Late Pleistocene and Holocene Climate Change: Field Guide
R.Y. Anderson and B.D. Allen
New Mexico Geological Society Guidebook, 1999

In review:

A Continuous, High-resolution Record of Late Pleistocene Climate Variability from Estancia Basin, NM
B.D. Allen and R.Y. Anderson
Bulletin, Geological Society of America

Yemane Asmerom

Other ongoing research activity (unfunded)

Sr isotope systematics of African Lakes
Isotope systematics in Carlsbad speleothems [New seed project]
U-series isotope variation in Philippines arc lavas
Nd and Sr isotope composition in Central American arc lavas
New developmental work, Pa Isotopes at the University of Minnesota

Adrian Brearley

Manuscripts in press:

Mineralogy, Petrography and bulk chemical, I-Xe and oxygen isotopic compositions of dark inclusions in the reduced CV3 chondrite Efremovka.

Manuscripts in preparation:

Graphitic carbon in the Allende CV3 carbonaceous chondrite.

The effect of cooling rate on the protoenstatite to orthoenstatite inversion: an experimental and transmission electron microscope study (with Rhian Jones).

Aqueous alteration of chondrules in the CM carbonaceous chondrites, Allan Hills 81002 (with Nick Hanowski).
A TEM study of chondrules in the CM carbonaceous chondrites, Lewis Cliff 90500 - new constraints for the aqueous alteration of chondrules (with Nick Hanowski).

Iron-rich aureoles in the CM carbonaceous chondrites, Murray, Murchison and ALH 81002 - Evidence for in situ alteration (with Nick Hanowski).

Chondrule serpentines as indicators of aqueous alteration in CM carbonaceous chondrites (with Nick Hanowski).

Michael Campana

**Manuscripts in press:**

Compartment model simulation of ground-water flow systems, to be published as a chapter in an International Atomic Energy Agency TECDOC.

**Manuscripts in progress:**

Water Resources of New Mexico, NMGS Special Publication (with D. Stephens and P. Johnson).

**Unsupported research projects:**

International Atomic Energy Agency Coordinated Research Programme on Use of isotopes for analyses of flow and transport dynamics in groundwater systems (funding provided only for travel to research group meetings).

**Proposals submitted:**

A multi-level approach to modeling ground and surface water exchange in agriculturally-dominated settings

W.A. McKay, E. A. Jacobson, and E.V. McDonald, Desert Research Institute; M.E. Campana, UNM; J. Warwick and G. Vinyard, University of Nevada-Reno

U.S. Geological Survey - Western Regional Competitive Grants Program

9/1/98 - 8/31/01

$741,000 (UNM share: $159,890)

Submitted 4/1/98 (funded)

Sustainable Water Resources Development in New Mexico and the Rio Grande Basin

M.E. Campana and O.P. Matthews

National Oceanic and Atmospheric Administration

6/1/98 – 1/31/99

$15,000 (funded)

Maya Elrick

**Manuscripts in preparation:**

Cyclicity and mud mound development in Middle Cambrian deep-water carbonates, House Range, western Utah

*Snider, A.C. and Elrick, M.B.*
Proposals submitted:

Integrated stratigraphic analysis of Lower Cretaceous platform-to-margin carbonates, northeastern Mexico
Elrick, M., Asmerom, Y., and Montanez, I.P.
National Science Foundation
June '99-June '02; $200,390

Wolfgang E. Elston

Continuing unsponsored research:

Catastrophic origin of the Bushveld Complex, South Africa.

Peter Fawcett

Manuscripts in press:

The linkage between major climatic factors and regional oceanography in the mid-Cretaceous.
Poulson, C.J., E.J. Barron, P.I. Fawcett, and C.C. Johnson
in C.C. Johnson and E. Barrera (eds.) Cretaceous Ocean/Climate Systems, GSA Boulder, CO, in press.

Ice-core evidence of late-Holocene reduction in North Atlantic ocean heat transport
Alley, R.B., A.M. Agustsdottir, and P.I. Fawcett
in R.S. Webb and P.U. Clark (eds.) AGU Monograph: Mechanisms of Millennial-Scale global Climate Change, in press.

Manuscripts submitted or in review:

Chemical weathering over the last 280 Myr: Variations due to changes in paleogeography, paleoclimate and paleogeology.
Gibbs, M.T., G.S. Bluth, P.I. Fawcett, and L.R. Kump
Submitted to American Journal of Science, November 1998

Manuscripts in preparation:

Origin of the Greenland Summit secondary warm peak
P.I. Fawcett, C.A. Shuman, R.B. Alley, and A.M. Agustsdottir
To be submitted to Geophysical Research Letters

Global precipitation minus evaporation (P-E) over the last 280 Myr: A comparison of climate model results with the geologic record
To be submitted to Geological Society of America Bulletin

The climatic evolution of India and Australia from the Late Permian to Recent: A comparison of climate model results to the geologic record
P.I. Fawcett and E.J. Barron
To be submitted to Paleoclimates: Data and Modeling
Unsupported research projects:

Climate-vegetation-landscape evolution in the late Pleistocene and Holocene, Black Mesa, Arizona region.

John Geissman

Proposals in review:

Dating contractional deformation in the Montana thrust belt and adjacent Rocky Mountain foreland with paleomagnetism and Ar/Ar geochronology.
J.W. Geissman, C.J. Schmidt (Western Michigan University), and S.S. Harlan (U.S. Geological Survey, Denver)

National Science Foundation, Tectonics
Two years, $122,795

Manuscripts in review:

Regional correlations of Mesozoic thrusts in central Nevada and ramifications for the Sevier Orogeny


“Proterozoic multistage (~1.1 and ~0.8 Ga) extension in the Grand Canyon Supergroup and establishment of northwest and north-south tectonic grains in the southwestern United States.”


“Paleomagnetic data bearing on style of Miocene deformation in the Lake Mead area, southern Nevada.”

Journal of Structural Geology, in review.

“Mechanism for accommodation of Miocene extension: Low-angle normal faulting, magmatism, and secondary breakaway faulting in the southern Sacramento Mountains, southeastern California.”

Tectonics in review.

Manuscripts in preparation

“Paleomagnetic data from Jurassic through lower Tertiary redbeds in western Yunnan, China: Testing spatial variability in large-magnitude intracontinental deformation.”
J.W. Geissman, B.C. Burchfiel and L. Chen.


Paleomagnetism and rock magnetism of large sandstone pipes in the Middle Jurassic Summerville Formation near Mesita, west-central New Mexico.
J.W. Geissman and S.S. Harlan

For New Mexico Geology
Age and paleomagnetism of contractile structures in the Cottonwood Mountains, Death Valley area, southeast California
J.K. Snow, J.W. Geissman and B.P. Wernicke
Intended for Tectonics

Paleomagnetism of the Mesoproterozoic Pikes Peak batholith, southern Front Range, Colorado, A.D. Feig, J.W. Geissman and S.S. Harlan
Intended for Precambrian Research

Precambrian paleointensity of the geomagnetic field: Examples from the late Archean Stillwater Complex and Mesoproterozoic Laramie Anorthosite Complex
C.J. Hale, J.W. Geissman and S.S. Harlan

On the paleomagnetic signature of crystalline crust in extensional terranes.
J.W. Geissman
Intended for Tectonics

Paleomagnetic data from the Hoover Dam area document approximately 45 degrees of counterclockwise rotation related to slip along the Lake Mead Fault System.
J.W. Geissman
Intended for Tectonics

Applications of Paleomagnetism in the Basin and Range province, western U.S.A., and relevance to models for crustal extension.
J.W. Geissman
Intended for Reviews of Geophysics (invited).

Paleomagnetism of the Hamblin-Cleopatra Volcano and related rocks, Lake Mead area, southern Nevada, Revisited.
Intended for Tectonics.

An example of interacting magnetite grains carrying a Mesoproterozoic magnetization, Laramie Anorthosite Complex, Wyoming.
J.W. Geissman and S.S. Harlan
Intended for Geophysical Research Letters

Paleomagnetism of the Latest Archean Stillwater Complex, Beartooth Mountains, southern Montana.
J.W. Geissman
Intended for Journal of Geophysical Research

Paleomagnetism and geochronology of Proterozoic mafic dikes, southern Tobacco Root Mountains, southwestern Montana.
S.S. Harlan, J.W. Geissman and L.W. Snee
Intended for Journal of Geophysical Research

Tectonic significance of widespread late Paleozoic remagnetization of the western North America miogeoclone and platform.
J.W. Geissman and B.E. Nesbitt
Intended for Geology

61
Paleomagnetism and rock magnetism of late Miocene intrusions, Paiute Ridge, Nevada.
C.D. Ratcliff, J.W. Geissman, F.V. Perry, B.M. Crowe and P. Zeitler
Intended for Journal of Geophysical Research

Partial late Paleozoic remagnetization of the Cambro-Ordovician Ignacio Formation, southwest San Juan Mountains, Colorado.
J.W. Geissman
Intended for Geophysical Research Letters

Paleomagnetism of mafic dikes in the Roberts Mountains and Cortez Range, Nevada: Implications for structural history of the northern Nevada rift.
J.W. Geissman, G.A. Acton and M. Schneider*
Intended for Tectonics

Late Paleozoic magnetizations from Archean and Proterozoic crystalline rocks, Rocky Mountains, and implications for Late Paleozoic remagnetization processes.
J.W. Geissman and S.H. Harlan
Intended for Earth and Planetary Science Letters

The rock magnetic record of silicic magma emplacement, Obidian Domes, California.
J.W. Geissman, J.C. Eichelberger, S.S. Harlan and C. McCabe
Intended for Journal of Geophysical Research

Paleomagnetic and thermochronologic evidence for footwall tilt during extensional core complex development, Mineral Mountains, central Utah.
D.S. Coleman, J.W. Geissman, J. D.Walker, J.M. Bartley and K.V. Hodges
Intended for Geological Society of America Special Paper, invited

Laramide (?) age of remagnetization of Permian and Triassic strata, central and north-central New Mexico.
R.S. Molina-Garza**, J.W. Geissman, and R. Van der Voo

Paleomagnetic results from Cenozoic volcanic rocks in the Walker Lane area, west-central Nevada, and their bearing on mechanics of Basin and Range extension.

Further paleomagnetic results from Mesozoic plutons of the Walker Lane area, west-central Nevada, and tectonic implications.
J.W. Geissman, J.T. Callian* and J.S. Oldow
Tectonophysics

Paleomagnetism of the Jurassic Humboldt Lopolith, west-central Nevada: Results from extrusive equivalent metavolcanic rocks.
M.R. Hudson and J.W. Geissman
Geological Society of America Bulletin

Paleomagnetic and rock magnetic data from plagioclase -- olivine cumulate rocks of the Banded Series, Stillwater Complex, Montana, and their bearing on the age of regional serpentinization and nature of platinum-group element mineralization.
J. Saxton and J.W. Geissman
Econ. Geol.
Non-sponsored research:

"Generic" paleomagnetic and rock magnetic investigations of: Cenozoic volcanic rocks (Arizona, Nevada, California, New Mexico)
Lower Paleozoic plutons (New Mexico, Colorado)
Mesozoic sedimentary rocks (New Mexico, Colorado, West Texas, Nevada)
Paleozoic sedimentary rocks (Nevada, New Mexico, Colorado, Utah)
Meteorite ejecta blankets (West Germany)
Cenozoic intrusions (Utah, Nevada, New Mexico)
Mesozoic intrusions (Nevada, Colorado, California)

Steve Getty

Manuscript currently in review:

Chemical Signals of Epiphytic Lichens in Southwestern North America; Natural versus Man-made Sources for Airborne Particulates
in review, Atmospheric Environment

Unsuccessful grant proposal:

Lichen as Ecological Biomonitor — Sources of Airborne Lead (Pb) and Particulate Matter (PM) Pollutants in the New Mexico Region.
submitted to Environmental Protection Agency

Currently unsupported research:

Biogeochemical Records in Lichens - Sources and Transport of Aeolian Particulates and Pollutants in Arid Ecosystems.
funding currently being sought through several agencies with lichenologist colleague Dr. Tom Nash at Arizona State University

Dave Gntzler

Other research projects:

Collaboration with Z. Sharp on Research Allocation Committee funded project to analyze oxygen and hydrogen isotopes in rainwater.

Manuscripts in press:

Chemical signals of epiphytic lichens in southwestern North America: Natural vs. man-made sources for airborne particles
S.R. Getty, D.S. Gntzler, Y. Asmerom, C. Shearer, and S. Free*
Atmospheric Environment, accepted for publication in 1999.

Temperature and precipitation patterns associated with the 1950s drought in the U.S. Southwest
H.F. Diaz and D.S. Gntzler
Stephen Huestis

Unsupported research:

A Fourier method for calculating the perturbation of two-dimensional electric potentials by conductors of arbitrary shape.

Rhian Jones

Manuscripts in press:

Formation of chondrules and CAIs: Theory versus observation.
In Protostars and Planets IV, University of Arizona Press, in press.

Manuscripts in preparation:

O isotopic compositions of chondrule olivine and isolated olivine grains in the CO3 chondrite, ALHA77307.
In preparation for Meteoritics and Planetary Science

Partial melting experiments on the Leedey L6 chondrite: The textural controls of melting.
S.N. Feldstein, R.H. Jones** and J.L. Panike
In preparation for American Mineralogist

Karl Karlstrom

Manuscripts in press: * = Graduate student co-author


Manuscripts submitted or in review:


Timmons, M.J., Karlstrom, K.E., Dehler, C.M., Geissman, J.W., and Heizler, M.T., in prep, Proterozoic multistage (~1.1 and ~0.8 Ga) extension in the Grand Canyon Supergroup and establishment of northwest and north-south tectonic grains in the southwestern United States: submitted to Geological Society of America Bulletin, in review.


Barry Kues

Manuscript in press:

Dedication to Vincent C. Kelley
B.S. Kues
Revised edition of Albuquerque, Scenic Trips to the Geologic Past (P. Bauer et al., eds.), N.M. Bureau of Mines and Mineral Rescues

Review of "Dinosaurs of Utah", by Frank DeCourten
B.S. Kues
New Mexico Historical Review

Manuscripts in preparation:

Paleobotany of the Red Tanks Member, Madera Formation, at Carrizo Arroyo, central New Mexico
S. Ash, W.D. Tidwell, B.S. Kues, K. Kietzke and S.G. Lucas
New Mexico Geological Society, Guidebook 50
Stratigraphy and Paleontology of the Paleozoic Sequence near Placitas, Sandoval County, New Mexico
S.G. Lucas, M. Rowland, B.S. Kues, J. Estep and G. Wilde
N.M. Geological Society, Guidebook 50

First and Second Day Roadlogs
with S.G. Lucas et al.
N.M. Geological Society, Guidebook 50

Gastropods from the Middle Pennsylvanian Flechado Formation near Taos, New Mexico
B.S. Kues and R.L. Batten
for Journal of Paleontology

Micromolluscs from the Madera Formation (Late Pennsylvanian), Jemez Springs area, New Mexico
B.S. Kues and T. Yancey
for Journal of Paleontology

New species of Early Permian (Wolfcampian) gastropods from central New Mexico
B.S. Kues
for Journal of Paleontology

Late Cretaceous decapod crustaceans from central New Mexico
E.K. Toolson and B.S. Kues
for Journal of Paleontology

Catalogue and bibliography of New Mexico invertebrate and plant fossils
B.S. Kues
for N.M. Bureau of Mines and Mineral Resources Memoir

Alpert Kudo


Les McFadden

Proposal in review:
"IGERT: Freshwater graduate studies link fundamental science with applications through integration of ecology, hydrology, and geochemistry in regions with contrasting climates"; Co-Principal Investigator (at UNM), Cliff Dahm, McFadden L.D. (one of ten collaborators at UNM), National Science Foundation, 1/99 - 1/2004, $2,699, 289.

Manuscripts in press or accepted for publication:

Influence of Parent Material and Grain Size On Carbonate Formation in Gravelly Soils in a Desert Piedmont, Sevilleta LTER, Palo Duro Canyon, New Mexico; Treadwell-Stetz, C. and McFadden, L.D. (accepted for publication, Geoderma).

**Manuscripts submitted or in review:**

The influence of dust and lithology on the origin and evolution of desert pavements on alluvial fans; McDonald, E.V., McFadden, L.D., and Wells, S.G., for Geological Society of America Bulletin (revise and re-submit).

**Manuscripts in preparation:**


Late Quaternary archeology and evolution of soils and landscapes in the area of the Bolack Land Exchange, northern San Juan Basin, New Mexico; McFadden, L.D., and Hogan, P., (for submission to New Mexico Geology).

The impact of Pleistocene-Holocene climatic transition and lithologic control on alluvial-fan deposition along a desert piedmont, Mojave Desert, California, for Quaternary Research (McDonald, E.V., McFadden, L.D., and Wells, S.G.).

Pedogenic iron oxide, clay, organic matter content and accumulation in soils of the Pajarito Plateau, New Mexico: cation exchange chemistry and metal mobility; Watt, P. and McFadden, L. (for Catena).

**Roberto Molina-Garza**

**Manuscripts in press:**

Paleomagnetic data from the Caborca terrane, Mexico: Implications for Cordillera tectonics and the Mojave-Sonora megashear
Molina Garza R.S., and J.W. Geissman
Tectonics, in press.

**Manuscripts in preparation:**

Paleomagnetic data for the upper Permian Dewey Lake Fm., southeast New Mexico.
Molina Garza, R.S., and J.W. Geissman

**Unsupported research:**

Magnetostratigraphy and paleomagnetism of the Moenave Formation, northeast Arizona.
Horton Newsom

Manuscripts in print:

Acid-sulfate hydrothermal systems and the origin of the Martian soil.
H.E. Newsom, J.J. Hagerty* and F. Goff

Manuscripts submitted:

A lake in Gale crater and its formation from a possible Amazonian South transgression of the Elysium Basin, Mars.
N.A. Cabrol, E.A. Grin, H.E. Newsom and R. Landheim
Icarus, (submitted)

W-Hf isotope systematics and the origin and early evolution of the Earth-Moon system
C.K. Shearer and H.E. Newsom
Earth and Planetary Science Letters (submitted)

Unsuccessful proposals:

Impact crater hydrothermal systems: geochemistry and microbiology
H.E. Newsom
NASA, Exobiology Program
Three Years, $179,781

Impact crater hydrothermal systems: aqueous processes and volatile transport on Mars
H.E. Newsom
NASA, Planetary Geology and Geophysics
Three Years, $149,681

Impact crater hydrothermal systems
H.E. Newsom
NSF Life in Extreme Environments
Three Years, $232,731

MODE’01, Mars oxidant and dust experiment for the Mars Surveyor 2001 Lander
Christopher P. McKay and H.E. Newsom
NASA, Office of Space Science
Three Years, $188,860

James Papike

Manuscripts in press:

Systematics of Ni and Co in olivine from planetary melt systems: Lunar mare basalts
American Mineralogist, in press (1999)

Diogenites as asteroidal cumulates: Insights from spinel chemistry
L.E. Bowman*, L.L. Papike and M.N. Spilde**
American Mineralogist, in press (1999)

68
Magmatic evolution of the Moon
Shearer, C.K.* and I.I.Papike
American Mineralogist, in press (1999)

Manuscripts submitted or in review:

Petrogenesis of silicate inclusions in the Weekeroo Station IIE iron meteorite: Differentiation, remelting, and dynamic mixing
Geochimica et Cosmochimica, in review (1998)

Manuscripts in preparation:

Partial melting experiments on the Leedey L6 chondrite: The textural controls of melting
S.N. Feldstein*, R.H. Jones**, and I.I.Papike
(1998)

Frank Pazzaglia

Proposals Pending

National Science Foundation
Geomorphic and geodynamic response of extension in convergent orogens (w/Mousumi Roy and Jane Selverstone); 2 years; $84,901.

National Science Foundation
Processes driving rock uplift and flexural (?) deformation following convergent tectonics determined by fluvial terraces, Ebro Basin, Spain (w/Claudia Lewis and Eric McDonald); 3 years; $210,610.

U.S. Geological Survey EDMAP
University of New Mexico Albuquerque basin mapping initiative, Sky Village NE quadrangles $15,000 for one year.

Frans Rietmeijer

Manuscripts in press:

Nanoscale phase equilibrium in a triggered lightning strike experiment
F.J.M. Rietmeijer, J.M. Karner*, J.A. Nuth III and P.J. Wasilewski
European J. Mineralogy, 1

Metastable eutectics in the Al₂O₃ - SiO₂ system explored by vapor phase condensation
F.J.M. Rietmeijer, J.M. Karner*
Journal Chemical Physics, 110

Interplanetary dust particles, micrometeorites, mesospheric metals, and meteoric dust
F.J.M. Rietmeijer
37th Amer. Inst. Aeronautics Astronautics Meeting & Exhibit Reno, Nevada, January 11-14, 1999), paper #99-0502
Metastable eutectic gas to solid condensation in the FeO - Fe₂O₃ - SiO₂ system
F.J.M. Rietmeijer, J.A. Nuth III and J.M. Karner*  
Journal of Physical Chemistry Chemical Physics

Sodium tails of comets: Na/O and Na/Si abundances in interplanetary dust particles
F.J.M. Rietmeijer  
Astrophysical Journal Letters

Manuscripts submitted:

Mesospheric metal abundances, cosmic dust and meteoric dust: A Petrologist's view.  
F.J.M. Rietmeijer  
Amer. Inst. Aeronautics Astronautics, Reno (NV)

Evolution of condensed pre-solar dust with metastable eutectic smectite dehydroxylate compositions: Truly GEMS  
F.J.M. Rietmeijer  
Lunar Planet. Sci. XXX, Lunar and Planetary Institute, Houston

Energy for dust modification in the solar nebula, and in the first-formed protoplanets and their present-day survivors  
F.J.M. Rietmeijer  
Lunar Planet. Sci. XXX, Lunar and Planetary Institute, Houston

A preliminary analytical electron microscope study of experimentally shocked dolomite with emphasis on neoformed carbon phases  
F.J.M. Rietmeijer, T.E. Bunch and P.H. Schultz  
Lunar Planet. Sci. XXX, Lunar and Planetary Institute, Houston

Non-stoichiometric Ca,Mg-pyroxenes: An occurrence in a flash-heated interplanetary dust particle  
F.J.M. Rietmeijer  
Am. Mineral.

Manuscripts in preparation:

Implications of metastable eutectic condensation of circumstellar dust  
F.J.M. Rietmeijer, J.A. Nuth III  
Astrophysical Journal Letters

Basic size of condensed carbon dust of astrophysical interest  
A. Rotundi, F.J.M. Rietmeijer, L. Colangeli, V. Mennella, P. Palumbo and E. Bussoletti  
Astronomy Astrophysics

Dynamic pyrometamorphism of Fe,Ni-sulfides in IDPs  
F.J.M. Rietmeijer  
Meteoritics and Planetary Science

Unsupported research:

The origin of color in chrysoprase, in cooperation with Prof. M. Sachanbinski, Institute of Geological Sciences, Wroclaw University, Wroclaw, Poland.
Analytical and Transmission Electron microscope analyses of airborne dust in Silesia, in cooperation with Prof. J. Janeczek, Faculty of Earth Sciences, The Silesian University, Sosnowiec, Poland.

Petrology of gas-to-solid condensed carbon phases with Dr. A. Rotundi, Osservatorio Astronomico, Naval University of Naples, Italy.

Analytical and Transmission Electron microscope studies of shock metamorphosed dolomite with Dr. T.E. Bunch, NASA Ames Research Center, California.

**Mousumi Roy**

Flexural uplift of the Sandia Mountains, New Mexico: Assessing the role of Tertiary extension in generating observed topography in the Rio Grande rift. Collaborative research project involving M. Roy (UNM), K. Karlstrom (UNM), Frank Pazzaglia (UNM), and Shari Kelley (New Mexico Bureau of Mines and Mineral Resources). (December 1998 to present.)

Crust and mantle structure in the San Gabriel mountains, California, inferred from modeling gravity, topography, and seismic data. A collaborative project involving M. Roy (UNM) and Robert W. Clayton (Caltech). (September 1998 to present.)

**Proposal to the Southern California Earthquake Center:** Two and three dimensional modeling of gravity, topography, and seismic data in the vicinity of the Los Angeles basin, (PI: M. Roy, UNM; co-PI: Robert W. Clayton, Caltech). (Written December 1998, submitted January 1999.)

**Proposal to the National Science Foundation:** Geomorphic and geodynamic response to extension in convergent orogens, PI: F. Pazzaglia, UNM; co-PI's: M. Roy and J. Selverstone, UNM.

Shear at a strike-slip plate boundary: the stress-heatflow paradox revisited. (November 1998 to present; estimated completion, February, 1999.)

**Jane Selverstone**

**Pending proposals:**

Geomorphic and geodynamic response to extension in convergent orogens
F.J. Pazzaglia, M. Roy, and J. Selverstone
National Science Foundation
$84,901 requested; 6/1/99-5/31/01

**Manuscripts in press:**

Deep burial of the footwall of the northern Snake Range décollement, Nevada
Lewis, C., Wernicke, B., Selverstone, J., and Bartley, J.

Xenolithic evidence for Proterozoic crustal evolution beneath the Colorado Plateau
Selverstone, J., Pun, A.*, and Condie, K.C.
\[^{40}\text{Ar}/^{39}\text{Ar} \text{ thermochronology of Mesoproterozoic metamorphism in the Colorado Front Range}
\]
Shaw, C.*, Snee, L., Selverstone, I., and Reed, J.C.
J. Geol. (1999)

Geochemistry, Nd and Sr isotopes, and U/Pb zircon ages of granitoid and metasedimentary xenoliths from the Navajo Volcanic Field, Four Corners area, southwestern United States
Chem. Geol. (in press)

**Manuscripts in review:**

The crust of the Colorado Plateau: new views of an old arc
Condie, K.C. and Selverstone, I.
Tectonophysics (submitted)

Correlations between fluid composition and deep-seated structural style in the footwall of the Simplon low-angle fault zone, Switzerland
Wawrzyniec, T.*, Selverstone, I., Axen, G.J.
Geology (submitted)

**Manuscripts in preparation:**

Axen, G.J., Selverstone, I., and Wawrzyniec, T.*, in prep., Power-law creep in continental crust - a rule made to be broken?
To be submitted to Science in 2/99

M. Hodgins*, I. Selverstone, and I. Aleinikoff, in prep., 1.4 Ga contractional deformation and strain partitioning in the northern Colorado Front Range
To be submitted to Tectonics

**Unsupported research projects**

Analysis of vein and fracture patterns in contact aureole surrounding Sandia pluton (with undergraduates Laura Pletsch-Rivera and Aaron Cavosie).

**Zachary Sharp**

**Pending Proposals:**

Evaluation dinosaur metabolism using stable isotope geochemistry
National Science Foundation
$107,360 (pending)

Technician support for the stable isotope facility, Department of Earth and Planetary Sciences, University of New Mexico
National Science Foundation
$107,360 (pending)
Manuscripts in press:

Fluid inclusion and stable isotope evidence for fluid infiltration and veining during metamorphism in marbles and metapelites of the O'Kane Canyon (Priestley metamorphic complex, north Victoria Land, Antarctica).
Frezzotti, M.L., Dallai, L., and Sharp, Z.D.
European Journal of Mineralogy (in press).

Fluid Migration Through Thrust Faults in the Helvetic Alps (Western Swiss Alps).
Kirschner, D., Sharp, Z.D., and Masson, H.

Comparison of conventional and garnet-aluminosilicate-quartz O isotope thermometry: Insights for mineral equilibration in metamorphic rocks.
Moecher, D.P., and Sharp, Z.D.

Himalayan inverted metamorphism constrained by oxygen isotope thermometry.
Vanney, J.C., Sharp, Z.D., and Grasemann, B.

Manuscripts submitted or in review:

Sharp, Z.D. Application of stable isotope geochemistry to fluid inclusion studies.
In EMU Notes in Mineralogy (Andersen, Burke, Diamond and Frezzotti, eds).
(in final submission).

The effect of diagenesis on the oxygen isotope ratios of biogenic phosphates.
Sharp, Z.D., Atudorei, V., and Furrer, H.

The La Guitarra Ag-Au low sulfidation epithermal system, Temascaltepec district, Mexico: Physiochemical nature of mineralizing fluids and depositional model.
Camprubí, A., Cardellach, E., Canals, A., and Sharp, Z.D.
Econ. Geol. (submitted).

A carbon isotope excursion across the Lower-Middle Triassic boundary (North Dobrogea, Romania)
Atudorei, V., Baud, A., Gradinarua, E., Sharp, Z.D., Miruta, E.
Geology (submitted).

Unsuccessful proposals:

An oxygen isotope study of aluminum silicate ‘triple point’ rocks, north-central New Mexico
National Science Foundation
$100092
Charles Shearer

NASA "Microbeam Studies of Planetary Materials"
Various Contracts and Grants for the ICP-MS and SIMS Laboratories
NSF Support for an Ion Microprobe Facility
NASA "Deciphering S Isotopic Systematics as Biogenic Markers in Martian Meteorites"
NASA "Planetary Biomarkers"

Gary Smith

Manuscripts in press:

Nature and origin of cone-forming volcanic breccias, Te Herenga Formation, Ruapehu Volcano, New Zealand
G.A. Smith, M.J. Grubensky*, and L.W. Geissman
Bulletin of Volcanology

Sublacustrine-fan deposition in the Oligocene Creede Formation, San Juan Mountains, Colorado
D. Larsen and G.A. Smith
Journal of Sedimentary Research

Geology of the Squawback Ridge quadrangle, Deschutes and Jefferson Counties, Oregon
M.L. Ferns, D.E. Stensland, and G.A. Smith
Oregon Department of Geology and Mineral Industries Geologic Map Series, scale 1:24,000

Geologic map of the Bend 30- by 60-minute quadrangle, Deschutes, Jefferson, Lane, Linn, and Crook Counties, central Oregon.
U.S. Geological Survey Miscellaneous Field Investigations Map, scale 1:100,000

Geologic map of the Santo Domingo Pueblo quadrangle, Sandoval County, New Mexico
G.A. Smith and A.J. Kuhle*

Geologic map of the Santo Domingo Pueblo Southwest quadrangle, Sandoval County, New Mexico
G.A. Smith and A.J. Kuhle*
New Mexico Bureau of Mines and Mineral Resources Digital Open-File Map OFDM 26, scale 1:24,000.

Review of "The Geology of Fluvial Deposits", by Andrew Miall
G.A. Smith
American Journal of Science

Manuscripts submitted or in review:

Geologic map of the Opal City quadrangle, Deschutes and Jefferson Counties, Oregon,
G.A. Smith, M.L. Ferns, D.R. Sherrod, and K. Lite
Oregon Department of Geology and Mineral Industries Geologic Map Series, scale 1:24,000
Basaltic near-vent facies of Vulcan cone, Albuquerque volcanoes, New Mexico
New Mexico Geological Society Guidebook

The nature of limestone-siliciclastic cycles in Middle and Upper Pennsylvanian strata, Tejano Canyon, Sandia Mountains, New Mexico
G.A. Smith
New Mexico Geological Society Guidebook

Geology of the Santo Domingo Pueblo and Santo Domingo Pueblo SW quadrangles, Rio Grande rift, New Mexico
G.A. Smith, and A.J. Kuhle*

J. Bartolino, editor

Manuscripts in preparation:

Sedimentology of a volcanioclastic alluvial fan, Eocene-Oligocene Espinaso Formation, New Mexico
S.B. Taylor, G.A. Smith and D. Larsen
to be submitted to Journal of Sedimentary Research

Paleomagnetic estimation of emplacement temperature of pumice in the Taupo Ignimbrite, North Island, New Zealand.
J.W. Geissman, G.A. Smith, and D. Bahar
to be submitted to Bulletin of Volcanology

Paleomagnetic estimation of emplacement temperature of pumice in the Taupo Ignimbrite, North Island, New Zealand.
J.W. Geissman, G.A. Smith, and D. Bahar
to be submitted to Bulletin of Volcanology

Sedimentological and geomorphological evidence for the late Miocene to Pleistocene subsidence of the Santo Domingo basin, Rio Grande rift, New Mexico
G.A. Smith, A.J. Kuhle*, and W. McIntosh
to be submitted to Geological Society of America Bulletin

Late Miocene tectonics and volcanism in the southern Jemez Mountains and its relationship to rift tectonics and basement structure
G.A. Smith
to be submitted to Geological Society of America Bulletin

Sedimentology of alluvial-slope deposits in the Miocene Skull Ridge Member of the Tesuque Formation, Espanola basin, New Mexico
A.J. Kuhle*, and G.A. Smith
to be submitted to New Mexico Geology
**Padinare V. Unnikrishna**

Proposals submitted:

Flooding Regime and Restoration of Riparian Ecosystem Integrity.
M. C. Molles Jr., C. N. Dahm, P. V. Unnikrishna**, and C. S. Crawford
National Science Foundation - Ecosystems Studies Program
$492,049; 06/01/1999 to 05/31/2002
Submitted: 12/17/98

IGERT: Freshwater Graduate Studies Link Fundamental Science with Applications through Integration of Ecology, Hydrology & Geochemistry in Regions with Contrasting Climates.
National Science Foundation
$2,699,289; 01/01/1999 to 12/31/2003
Submitted 11/23/1998 (following acceptance of pre-proposal submitted on 07/01/98)

**Huifang Xu**

Manuscript in press:

Electron energy-loss spectroscopy (EELS) of nanocrystals of zirconia and sulfated zirconia strong solid-acid.
H. Xu** and X. Song

Oxidative alteration of Ce-rich pyrochlore: HRTEM/EELS investigation
Huifang Xu**, and Yifeng Wang
Scientific Basis for Nuclear Waste Management, vol. XXII

Microstructure evolution and weathering reactions of Synroc samples crystallized from CaZrThO$_7$ melts: TEM/AEM investigation and geochemical modeling
Huifang Xu**, and Yifeng Wang
Scientific Basis for Nuclear Waste Management, vol. XXII

A Linear Free Energy Relationship for Aqueous Ions and Crystalline Solids of MO$_2$ and M(OH)$_4$
Huifang Xu**, Yifeng Wang, and Larry L. Barton
Journal of Nuclear Materials

Manuscripts submitted:

Use of Linear Free Energy Relationship to Predict Gibbs Free Energies of Formation of Perovskite and Ilmenite Phases.
Huifang Xu**, and Yifeng Wang
American Mineralogist
Use of Linear Free Energy Relationship to Predict Gibbs Free Energies of Formation and Dissolution Rates of $\text{M}^+$SiO$_4$ phases
Huifang Xu**, and Yifeng Wang
Chemical Geology

TEM and SFM of exsolution and twinning in an alkali feldspar.
American Mineralogist

Manuscripts in preparation:

A Linear Free Energy Relationship for Aqueous Ions and Metal Complexes.
Huifang Xu*, and Yifeng Wang**

Use of Linear Free Energy Relationship to Predict Gibbs Free Energies of Formation of Uranyl-bearing Phases.
Huifang Xu**, and Yifeng Wang

Coffinitization of uraninite: SEM/AEM investigation and geochemical modeling.
Yifeng Wang and Huifang Xu**

Unsuccessful proposals for grants:

TEM and AFT investigation of feldspar dissolution
NSF

DOE
5. ACTIVITIES IN PROFESSIONAL SOCIETIES

Roger Anderson

Invited Speaker, American Geophysical Union, Fall Meeting, Special Session (OS41G05) on Large Lake Records and New Perspectives for Continental Paleoclimate Archives. Title: Response of a Large, Shallow, Lake to Late Pleistocene Submillennial Climate Perturbations: Estancia Basin, New Mexico.

Geological Society of America, member
Geological Society of America, Invited Application for Fellow
American Geophysical Union

Yemane Asmerom

The Geochemical Society Goldschmidt Conference, France
Fall AGU
Proposals reviews: NSF

Susan Barger

Professional meetings attended:

Western Association of Art Conservators, Annual meeting, Mt. Hood, OR, October 4-7, 1998.

Committee memberships:

Abstractor, Art and Archaeology Technical Abstracts

Adrian Brearley

Professional meetings attended

Workshop on Martian Meteorites: Where do we stand and where are we going? LPI, Houston, TX, Nov 2-4, 1998

Talks presented:


Other activities:

Associate Editor, American Mineralogist (1994-1999).
Associate Editor, Mineralogical Magazine (1998-2000).
Abstractor for Mineralogical Abstracts, abstracted papers from Analytical Chemistry.
Member, Meteoritical Society Meteorite Nomenclature Group.
Member, NASA Cosmochemistry Review Panel.

Michael Campana

Presented paper:


Board of Directors, Association of Ground-Water Scientists and Engineers (reelected to a second term - expires 12/31/2000).


Board of Directors, Ground Water Publishing Company (publishes the journals Ground Water, Ground Water Monitoring and Remediation, and Water Well Journal).

UNM Delegate, Commission on Food, Energy and Renewable Resources, National Association of State Universities and Land-Grant Colleges (NASULGC).

Lead UNM Delegate, Universities Council on Water Resources.
Chair, Membership Committee, Association of Ground Water Scientists and Engineers.
Member, Credentials Committee, National Ground Water Association.

Laura Crossey

Meetings attended/Talks presented:

Geological Society of America Annual Meeting; Denver, CO, 1996.

Society committees:

American Association of Petroleum Geologists, Membership Committee (since 1989)
Association for Women Geoscientists (lecturer (since 1989))
Society for Sedimentary Geology, Academic Liason (since 1991)
Society for Sedimentary Geology, Research Committee (since 1996)
Geochemical Society, Clark Medal Selection Committee (1997-99)
Maya Elrick

Meetings attended:


Wolfgang Elston

Member, Working Group on Explosive Volcanism, International Association for Volcanology and Chemistry of the Earth’s Interior.

Peter Fawcett

American Geophysical Union:

Presented a poster at the Fall 1998 AGU Meeting, San Francisco, CA.

Geological Society of America:

Attended the 1998 Annual GSA Meeting in Toronto, Canada.

John Geissman

Talks given:

"Paleomagnetic Data from Cretaceous redbeds in western Yunnan, PRC: Testing spatial variability in large-magnitude intracontinental deformation."

American Geophysical Union Fall Meeting, San Francisco.

Editor, Bulletin, Geological Society of America
Member, Publications Committee, Geological Society of America
Associate Editor, Journal of Geophysical Research
Associate Editor, Geology
Member, American Geophysical Union "Committee of 50"
University of New Mexico representative, DOSECC, Inc.
Geoscience "consultant", Albuquerque Petroglyphs, U.S. Park Service
Science Advisor, New Mexicans for Science and Reason
Vice President, New Mexico Academy of Sciences

Co-Chairperson, New Mexico Geological Society 1999 (Golden Anniv.), Fall Field Conference
Member, New Mexicans for Science and Reason, and Technical Consultant
Member, Coalition for Excellence in Science Education
Member, AGU Public Affairs Committee, Creationism/Evolution Policy Statement
Steve Getty


Dave Gutzler

Talks given:

Presentation to American Meteorological Society Air-Sea Interaction Conference, Phoenix AZ:
"The ENSO signal in Southwest U.S. precipitation variability"

Session chair:

American Meteorological Society Air-Sea Interaction Conference, Phoenix AZ.
American Meteorological Society Namias Symposium, January, Phoenix AZ.

I provided an invited written contribution to GEWEX 2000 Science Plan on critical areas for research on hydrometeorological problems in the next decade.

John Hustler

Geostandards/International Working Group (IWG) round robin analysis of geologic rock standards

Member, American Chemical Society.

Rhian Jones

Presented talk:

"Oxygen isotope analyses of chondrule and isolated olivine grains in the CO3 chondrite, ALHA77307."

Houston, TX. March, 1998.


Fellow of Mineralogical Society of America and Meteoritical Society.

Member of Mineralogical Society of Great Britain and American Geophysical Union.

Karl Karlstrom

Talks given:


Co-covenor and invited speaker of GSA National meeting Pardee Symposium entitled: Tectonic Evolution of Precambrian North America: A Synthesis of Recent Results.

Covenor of workshop and fieldtrip on Lithospheric Evolution of the Rocky Mountains, Young Ranch, New Mexico, August, 1988, 30 participants.

Cornelis Klein

Treasurer, 1995-2002 of the International Mineralogical Association

Member of the Commission on History and Teaching, International Mineralogical Association 1985-2002.

Consultant, Merriam Webster Encyclopedia on Geology, Mineralogy and Meteorology, 1997 –

Reviewed proposals for the National Science Foundation, and the Foundation for Research Development, Pretoria, South Africa.


Albert Kudo

Meetings attended:

American Geophysical Union Annual Meeting, San Francisco, December 6-10, met with applicants for Volcanology position and with two potential graduate students.

Barry Kues

Attended Annual N.M. Geological Society Field Conference, Las Cruces, NM, Nov. 4-7.
Roadlog committee for 1999 field conference.

Les McFadden

Talks given:

Some impacts of soil geomorphologic research on studies of surficial processes in deserts; McFadden, L.D.; Army Research Office-Desert Research Institute Conference - New Research Directions in Desert Surficial Processes and Landscape Dynamics on Military Lands, Desert Studies Center, Zzyzx, California, April 26, 1998.

Professional Meetings Attended:

Friends of the Pleistocene Meeting, Rocky Mountain Cell, Sevilleta LTER area, September 11-13, 1998.


Other:

Co-chair, 1999 New Mexico Geological Society Field Conference.

Horton Newsom

Presentations:


Meetings attended:

Attended the workshop on using in situ resources for construction of planetary outposts, Albuquerque, NM, and gave an oral presentation “Availability of natural materials of Mars at the Lunar and Planetary Institute, Houston, TX, April 30-May 1, 1998.


Attended and chaired one session the Mars Meteorites Workshop, Houston, TX, November 2-4, 1998.


James Papike

Meetings attended:

Participated in the Mars Sample Handling Requirements Panel (MSHARP), Jet Propulsion Laboratory, Pasadena, CA., January 8-10, 1998.


Attended the combined MOWG-CAPTEM meeting, Lunar and Planetary Institute, Houston, TX, March 20-22, 1998.

Presented two seminars at the University of Texas, Austin, TX, April 1-3, 1998.

Participated in the Mars Sample Handling Requirements Panel (MSHARP), Lunar and Planetary Institute, Houston, TX, April 15-17, 1998.

Presided as Chair for the Curation and Analysis Planning Team for Extraterrestrial Materials (CAPTEM) meeting, Lunar and Planetary Institute, Houston, TX, June 1-3, 1998.


Participated in the Mars Sample Return Workshop #1, Jet Propulsion Laboratory, Arcadia, CA, July 9-10, 1998.


Participated the Mars Sample Return Workshop #2, Jet Propulsion Laboratory, Arcadia, CA, August 11-12, 1998.


Attended the CPMOWG meeting, NASA Headquarters at the Smithsonian Museum of Natural History, Washington, DC, October 5-6, 1998.

Participated in the Mars Meteorite Workshop, Lunar and Planetary Institute, Houston, TX, November 2-4, 1998.

Presided as Chair for the CAPTEM meeting, Lunar and Planetary Institute, Houston, TX, November 3-6, 1998.


National Committees and Offices in Societies:

1997 - 1998  Member, NASA Mars Sample Handling Requirements Panel (MSHARP)
1997 - 1999  Member, NASA Mars Expeditions Strategy Group (MESG)
1997 - 1999  Chair, NASA Curation and Analysis Planning Team for Extraterrestrial Materials (CAPTEM)
1998 - 1999 Member, NASA, Cosmochemistry, Management and Operations Working Group (MOWG)
1998 - 2000 Member, NASA/JSC, Astromaterials Working Group. Reports to Center Director
1998 - 2000 Member, NASA Mars 2001 Site Selection Committee

Frank Pazzaglia

Active member of the American Geophysical Union, Geological Society of America, National Association of Geology Teachers, and New Mexico Geological Society.

Co-chair and co-editor of 1999 NMGS 50th Anniversary Meeting.

Frans Rietmeijer

Professional Papers Read:

Looking for order in Chaos: Metastable eutectics constrain the petrologic phase equilibria in aggregate IDPs, 29th Lunar and Planetary Science Conference, Houston, Texas.

Aggregate IDPs: Order in chaos before looking at nebular and planetary process, 17th General Meeting International Mineralogical Association, Toronto, Canada.

Atmospheric Dust: Good or Bad, and What's up there?, Geosciences Department, Free University of Amsterdam, the Netherlands.

4.6 Gyrs-old Dust Captured in the Stratosphere, Institute of Earth Sciences, Rijksuniversiteit- Utrecht, the Netherlands.

Amorphous, metastable eutectic, cometary dust, MIDAS workshop, ESTEC/European Space Agency, Noordwijk, the Netherlands.

Common presolar dust in cosmic dust aggregate particles, Osservatorio Astronomico, Naval University of Naples, Italy.

Implications of metastable eutectic condensation for presolar dust evolution, Osservatorio Astronomico, Naval University of Naples, Italy.

Professional meetings attended:


17th General Meeting International Mineralogical Association, Toronto, Canada, August 9-14.

MIDAS workshop, ESTEC/European Space Agency, Noordwijk, the Netherlands, October 5 and 6

Mousumi Roy

Meetings attended:


Workshop on Rocky Mountain Continental Dynamics Program, Young Ranch, NM, August 1998.
Annual Meeting of the Southern California Earthquake Center, Palm Springs, CA, October 1998. Abstract presented: Constraints on crust and mantle structure beneath the San Gabriel Mountains, Southern California, derived from flexural modeling of gravity and seismic data, authors: M. Roy, and R. Clayton.


Jane Selverstone
Vice-Chair, GSA Structure and Tectonics Division.
Member, AGU publications committee evaluating the journal Tectonics.
Presented talk: “Proterozoic assembly of the northern Colorado Front Range: Evidence from disparate crustal fragments” at GSA Annual Meeting in Toronto, 10/98.

Zachary Sharp
Reviewed papers for international refereed journals:
14 papers
Reviewed Proposals
1) Australian Research Council
2) NERC proposal
3) NSF Proposal

Editorships:
Geology
American Journal of Science
Lithos

Charles Shearer
Meetings attended:

Presented 3 seminars at the Canadian Geological Survey. Ottawa, Canada, 10/22/98 - 10/24/98.

Astrobiology Institute meeting, Ames Research Center, Moffett Field, CA., 11/4-6/98.
National Committes and Offices in Societies.
Mineralogical Society of America representative to the American Geological Institute. AGI Ian Campbell Medal Committee.

USRA member of the review committee for the Lunar and Planetary Institute.

**Gary Smith**

Vice-President, New Mexico Geological Society.  
Associate Editor, Geological Society of America Bulletin.  
Associate Editor, Sedimentology (International Association of Sedimentologists).

**Talks presented:**


**Mike Spilde**

**Talks presented:**


Elected President of the New Mexico Microbeam Users Group, April 1998.

**Padinare Unnikrishna**

Member of American Society of Civil Engineers (ASCE).  
Member of the American Geophysical Union (AGU).  
Member of the American Water Resources Association (AWRA).  
Professional Engineer (P. E. - Civil), State of Utah.

Interannual Comparisons of Stream-Groundwater Exchange Processes in Response to Spring Snowmelt  
P. V. Unnikrishna**, M. E. Campana, H. M. Valett and C. N. Dahm  
Huifang Xu

Talks presented:

Presented talk, "Oxidative alteration of Ce-rich pyrochlore: HRTEM/EELS investigation"
MRS Fall Meeting, Boston, MA, Dec. 1998

Presented talk, "Microstructural evolution in a Synroc sample crystallized from CaZrTi2O7 melt: TEM/AEM investigation"
MRS Fall Meeting, Boston, MA, Dec. 1998
6. OTHER PROFESSIONAL ACTIVITIES

Roger Anderson

Consultation on design of field sampling program and equipment related to reconstruction of paleoclimatic records from New England Lakes. Vassar College, Spring, 1998.


Consultation with public interest groups and individuals on geological conditions at the WIPP site, NM.

Susan Barger

Proposals reviewed:


Consultancies:

Acequia Exhibition Advisory Committee for Ghost Ranch Living Museum, Abiquiu, NM, now transferred to New Mexico Farm and Ranch Heritage Museum, Las Cruces, NM.

Analysis of/or consultation on daguerreotypes and/or photographs for: the Center for American Studies, Barker Library, University of Texas at Austin; the Dutch National Museum (The Hague)

Completed transfer of papers of Jean Margaret Hill to The Bancroft Library, University of California, Berkeley, CA.

Other:

Immediate Past President, and member of the Board of Directors, Graduate and Research Alumni Society, The Pennsylvania State University.

Attended spring board meeting, Great Valley, PA, 7-9 May, 1998 and Fall board meeting, University Park, PA, 12-14 November 1998.

Member of committee on Graduate Fellowships.

Adrian Brearley

Reviewed scientific papers submitted to Meteoritics (2), Nature (2) and Earth and Planetary Science Letters (2).

Reviewed 11 proposals submitted to NASA Planetary Materials and Geochemistry Program.

Reviewed 3 proposals submitted to NSF Petrology and Geochemistry Program.

Reviewed 1 proposal submitted to U.K. Particle Physics and Astronomy Research Council.

Reviewed 1 proposal submitted to LLNL IGPP UCR program.
Michael Campana


Invited talk, “Hydrogeoecology of forested watersheds in New Mexico”, Colby College Geology Department seminar, February 27, 1998.


Associate Editor, Environmental and Engineering Geoscience.

Associate Editor, Ground Water.

Guest Co-Editor, E.S. Simpson Memorial Issue, Hydrogeology Journal, v. 6, no. 1.

Reviewed manuscripts for Journal of the North American Benthological Society (1); Hydrogeology Journal (2); Hydrological Processes (1); Water Resources Research (2); Journal of Hydrology (2); Environmental and Engineering Geoscience (1); Journal of Hydraulic and Drainage Engineering (1)


Member, National Research Council-Water Science and Technology Board Committee on U.S. Geological Survey Water Resources Research.

Reviewed textbook Hydrogeology in Practice, Prentice Hall.

Reviewed proposals for: National Science Foundation (3); Los Alamos National Laboratory (1).

Participant, International Atomic Energy Agency Coordinated Research Programme on Use of isotopes for analyses of flow and transport dynamics in groundwater systems.

Member, Program Review and Development Board, New Mexico Water Resources Research Institute.

Campus Coordinator, U.S. Environmental Protection Agency National Network for Environmental Management Studies (NNEMS) Fellowship Program.

Steering Committee, National Water Initiative Task Force. This is a group of about 12 academicians seeking to increase Federal sponsored research on water resources by $500,000,000 per year (organized under the aegis of NASULGC).

Laura Crossey

**Reviews manuscripts:**

- Geological Society of America Bulletin (2).

**Proposals:**

- American Chemical Society/Petroleum Research Fund (1).
- National Science Foundation (2).

Maya Elrick

**Invited talks:**

- Invited talk University of Arizona 11/23/98
- Invited talk Texas Tech 11/13/98

**Journal reviews**

- Journal of Sedimentary Research (2)
- Geological Society of America (1)

**Proposal reviews:**

- National Science Foundation (1)
- RMS-SEPM student scholarships (14)

**Tenure review:**

- Franklin and Marshall College

Wolfgang Elston

**Reviews:**

- Reviewed candidate for professional advancement, Foundation for Research and Development, South Africa.
- Reviewed paper for journal of Volcanology and Geothermal Research.

Peter Fawcett

**Reviews:**

- Reviewed scientific manuscripts submitted to Paleoceanography (1).
- Journal of Climate (1), Geophysical Research Letters (1).
- AGU Monograph: Mechanisms of Millennial-Scale Climate Change (1).
- Reviewed 2 proposals submitted to the National Science Foundation.
John Geissman

Professional talks:

Organized Journal Science Editors forums at the Geological Society of America Annual Meeting (Toronto) and the Fall American Geophysical Union Meeting (San Francisco). Each forum focussed on the manuscript review process and what can be done to improve the timing and overall quality of manuscript reviews.

Paleomagnetism and Applications in the Geological Sciences, Univ. of Texas at El Paso, August.

Intracontinental Deformation along the Eastern Syntaxis of the Indian Subcontinent; a Paleomagnetic Perspective, University of Idaho, February.

Late Paleozoic Remagnetization of Precambrian Crystalline rocks, Central and Southern Rocky Mountains, a link to Ancestral Rocky Mountain deformation, University of Idaho, February.


Reviews of manuscripts and proposals:

Reviewed proposals for National Science Foundation (11), American Chemical Society (1), U.S. Geological Survey (1), The Third World Academy of Sciences (2), Lithoprobe, Canada (1), Australian Research Council (1).


Consultancies:

Earth Sciences Research Institute, Univ. of Utah, Azerbaijan Magnetostratigraphy project, September, 1995.

Adjunct or associate-type positions at other institutions.

Adjunct Full Professor, University of Michigan, Ann Arbor.

Other:

Technician (half-time), UNM Paleomagnetism and Rock Magnetism Laboratory.

Steve Getty


Brown University, Providence, RI, October, 1998: Delivered colloquium for Department of Geological Sciences: "U-Pb Dating in the Age Range 1-10 Ma; Applications to Igneous, Metamorphic, and Marine Environments."
Brown University, Providence, RI, October, 1998: Delivered monthly lecture for the Santa Fe Geological Society, Santa Fe, New Mexico: “K-12 Earth Sciences Education in New Mexico; Content for Students, Challenges for Teachers.”

Manuscripts reviewed:


David Gutzler

Invited presentations:


Invited presentation at Sandia National Lab, “Global warming”, June 24.

Numerous interviews for newspaper (USA Today, ABQ Journal and Tribune) and television regarding summer rainfall, El Niño, and other climate-related topics.

Reviews:

Reviews: Journal of Climate: 5 Manuscripts Science: 1 manuscript
Journal of the Atmospheric Sciences: 3 manuscripts
Atmosphere-Ocean: 1 manuscript
Journal of Geophysical Research: 2 manuscripts
Monthly Weather Review: 2 manuscripts
Geophysical Research Letters: 2 manuscripts.
International Journal of Climatology: 1 manuscript
National Science Foundation: 3 proposals.

Stephen Huestis

Reviewed 2 papers for Inverse Problems

John Husler

Installed new XRF and ICP instruments.
Analyzed Native American jewelry for Channel 7 News
Analyzed Native American jewelry for Dateline NBC

Rhian Jones

Review Manuscript:

Reviewed 1 manuscript for “Geochimica et Cosmochimica Acta”.

93
Karl Karlstrom

Invited talks:
University of Adelaide, Adelaide Australia, Western Australia University, Perth Australia.

Editorial Board - Precambrian Research.
Editor for Special Issues: Rocky Mountain Geology: Lithospheric Structure and Evolution of Rocky Mountains, Fall 1988, Spring Issues.

Review activities:
GSA Today - 1
Geology - 1
Journal Geophysical Research - 1
Precambrian Research - 2
Tectonics - 1
NSF Proposal - 2

Newspaper articles:
ABC News - Secrets of the Grand Canyon 10/15/98
ABQ Journal: Snowball Earth - 12/98

Cornelis Klein

Adjunct Curator, New Mexico Museum of Natural History, Albuquerque, New Mexico.

Barry Kues

Reviewed 1 NSF proposal, 2 papers for Journal of Paleontology; 1 paper for the Veliger; Adjunct Curator, N.M. Museum of Natural History and Science.

Les McFadden

Off-Campus Talks or Seminars:
"Soil-geomorphic studies and uses in archeology", presented at Ghost Ranch Conference Center, NM, July 24, 1998.

"Geologic concepts and activities for middle schools", presented at the Ghost Ranch Teacher Institute, August 1, 1998.

Peer Reviews of Articles and Proposals:
Reviewed 1 paper for Geoderma
Reviewed 1 paper for Paleo-3
Reviewed 1 paper for the Geological Society of America Bulletin
Reviewed 1 paper for Geomorphology

94
Reviewed 3 papers for Catena
Pre-Submission Review of paper for Ecological Monographs
Reviewed 1 chapter for the CRC "Handbook of Soil Science"
Reviewed 1 proposal to the National Geographic Society

Editorial Activity
Editorial Board Member, Catena

Roberto Molina-Garza

Reviewed: 3 proposal for the National Science Foundation (EAR-Tectonics); 1 manuscripts for Journal of Geophysical Research; 1 manuscript for Earth and Planetary Science Letters; 2 manuscripts for Geofisica Internacional.

Horton Newsom


Reviewed six (6) grant proposals submitted to NASA.

Quoted in an Albuquerque Journal article about the discovery of water ice on the Moon, March 6, 1998.


Quoted in an Albuquerque Journal article about the Portales meteorite fall, June 18, 1998.

Quoted in an Albuquerque Journal article about the Portales meteorite fall, June 24, 1998.

Quoted in an Associated Press nationally distributed article by R. Benke about the Portales meteorite fall, June 24, 1998.

James Papike

Reviewed ten (10) proposals and seven (7) papers.

Frank Pazzaglia

Professional (reviews):

Four NSF proposals
Six papers for Geology
One for Geological Society of America Bulletin
I am an editor of New Mexico Geology, a publication of the New Mexico Bureau of Mines and Mineral Resources
Invited presentations:

University of Nebraska
Kansas State University

Aurora Pun

Adjunct Assistant Professor, Dept. Earth and Planetary Sciences, University of New Mexico.

Frans Rietmeijer

Peer review Scientific Papers:

Icarus
The Mineralogical Magazine
Meteoritics and Planetary Science
Journal Geophysical Research - Atmospheres
Geophysical Research Letters

Proposal Review:

National Aeronautics and Space Administration, Cosmochemistry Program (1).

National Aeronautics and Space Administration, Planetary Instrument Definition and Development Program (1).

National Aeronautics and Space Administration, Origins of Solar Systems Program (1).

Panel Memberships.

National Aeronautics and Space Administration, Cosmic Dust Allocation Committee.

Professional Services:

Volunteer Editor for the American Geophysical Union.

Hosted Dr. S.L. Hallenbeck, National Research Council Fellow, NASA Goddard Space Flight Center, Greenbelt, Maryland, February 24 and 25.

Hosted Prof. J. Janeczek, Faculty of Earth Sciences, The Silesian University, Sosnowiec, Poland, May 1-31.

Jane Selverstone

Member of the Tectonics review panel for the National Science Foundation; attended panel meetings in Washington DC in March and September.

Editorial board member, Journal of Metamorphic Geology.
Manuscripts reviewed:

- Geological Society of America Bulletin
- Geological Society of America Special Paper
- Journal of Metamorphic Geology (2 manuscripts)
- Geochimica Cosmochimica Acta (2 manuscripts)
- Understanding Earth CD-ROM for W.H. Freeman

Proposals reviewed:

- NSF Tectonics panel - approximately 170 proposals as a panel member.


Zachary Sharp

Invited Lectures:

- Society of Vertebrate Paleontology Annual Meeting, New Mexico Tech.

Charles Shearer

(1) Interviews given to numerous news media. These include interviews with the Associated Press, BBC, NPR, local affiliates for NBC, CBS, and ABC, Albuquerque Journal.


(3) Organizer and Chair for P. Robinson Symposium at Spring 1999 AGU meeting.

Gary Smith

Manuscripts reviewed:


Reviewed proposals for the National Science Foundation (3).

Adjunct Curator, New Mexico Museum of Natural History and Science.

Field Geologist, New Mexico Bureau of Mines and Mineral Resources.

Technical Staff (Faculty Sabbatical), Sandia National Laboratories.


**Michael Spulde**


Interviewed by UNM Lobo newspaper for article published November 23, 1998.

**Padmapriye Unnikrishna**

Reviews:

- Proposals
  - National Science Foundation (NSF) (1)

Journal Articles:

- Water Resources Research (1)
- American Water Resources Association (AWRA) (2)

Participation in Hydrogeoecology reading group

**Huifang Xu**

**Talks presented:**


Reviewed one manuscript for the “Journal of Sedimentology Research.” Samples identification and interview for NBC Dateline.
7. NON-TEACHING UNIVERSITY SERVICE

Yemane Asmerom

Department:
- Facilities committee
- Graduate Committee
- Search committee Volcanology position

University:
- Centennial Library Ad-hoc committee
- Library Representative

Adrian Brearley

Hosting visitors:
- Dr Sasha Krot, University of Hawai‘i, 11 – 25 May, 1998

Departmental service:
- Curator of the Meteorite Museum and Collection, Institute of Meteoritics engaged in cataloging, acquiring and loaning of meteorites. Developed Institute Home Pages and Catalog for the World Wide Web.
- Member, Department of Earth and Planetary Sciences Facilities Committee

Michael Campana

University:
- Director, Water Resources Program
- Member, Steering Committee, Water Resources Program
- Member, Faculty Senate Curricula Committee (Co-chair, December 1998–)
- Member, Senior Promotion Committee, College of Arts and Sciences
- Member, J. Rivera Promotion Committee (full professor), Anderson Schools of Management

Departmental:
- Committees
- Graduate Committee
Laura Crossey

Department:

Associate Chairman
Alumni Relations Committee
Scholarship Committee
Sigma Gamma Epsilon (National Honorary Geological Society) - Faculty Advisor
Undergraduate Geology Club - Faculty Advisor
Department Representative to the Minority Engineering, Math, and Science Program
College
Associate Dean, Student Academic Affairs

Maya Elrick

Departmental committees:

Co-chair Graduate Committee

Graduate Advisor:

Chair Scholarship Committee

University committees:

Chair of KUNM Radio Board
Research Allocations Committee
Arts and Science Tenure and Promotion Committee

Community:

Reviewed science text books for New Mexico public schools.

Wolfgang Elston

Coordinated, UNM-Los Alamos National Laboratory Volcanology Program

Conducted negotiations with UNM Earth and Planetary Sciences Department and LANL Administration toward permanent staffing and funding of the Volcanology Program.

Administration of Volcanology Program
Correspondence with potential graduate students.

Peter Fawcett

Department:

Member, Computer committee
Member, Graduate committee
John Geissman

University service and activities:

- Member, Faculty Senate, 1998-
- Member, Faculty Senate Budget Committee, 1997-
- College of Arts and Sciences Graduate Committee
- Provost's Task Force, Staff and Administrative Structure
- Athletic Council, 1997-
- University North Central Association Steering Committee Member

Departmental service:

- Department Graduate Committee, Co-Chair, Fall, 1998-
- Department Facilities Committee, Chair, Fall, 1996-

Special Projects

Administrative Positions

Steve Getty

Department:

Host for departmental visit by Dr. L. Peter Gromet, Brown University, through Fall speakers' series - topic: “Contrasts in the metamorphic age of a nappe pile: Clues to collisional events and geometry in the Scandinavian Caledonides”.

Host for departmental visit by Mr. Chris Campgell, New Mexico Rural Water Association, through Fall speakers' series - topic: “Water Resource Planning in Rural New Mexico”.

Host for departmental visit by Dr. Andrew Cohen, University of Arizona, through Fall speakers' series - topic: “Lake Tanganyika: New Reflections On An Old Rift Lake”.

David Gutzler

Departmental committees:

- Computer Committee (Chair).
- Undergraduate Committee.

University committees:

- Faculty Senate Computer Use Committee (Chair).
Stephen Huestis

University service and activities:

Committees:

- Arts and Sciences Undergraduate Committee
- Arts and Sciences Curriculum Committee
- UNM Scientific and Engineering Computation Program Associated Faculty

Other university activities:

- Virginia Creepers String Band university performances:
  - CSEL 10th anniversary – March 12
  - American Studies course 313, "American Folklore and Life" April 16
  - UNM new faculty event, Dixon Apple Orchard – May 3
  - Presidential retirement party for Richard Peck – August 13
  - Dane Smith Hall dedication ceremony – August 28
  - English course 660, "ST/Whitman and Dickinson", Dec. 9

Departmental service:

Committees:

- Library Liaison (Spr. 98 only)
- Undergraduate Scholarship
- EPS Undergraduate Advisor
- UNM Geology Club advisor

John Busler

Department:

- Planning committee for chemical purchase, handling, and waste removal
- Chemical Safety Officer.

Rhian Jones

Departmental service:

- Manager of Experimental Petrology Laboratory
- Curator of Meteorite Collection

Karl Karlstrom

Department service:

- Undergraduate Committee Spring 98
Host for 401 speaker Matt Heizler, Spring 98
Helped organize Young Ranch department party, Aug. 22/98.

Cornelis Klein

Departmental service:

- Member, search committee for Mineralogy/Materials Science position
- Member of the Undergraduate Committee
- Member of Collections Committee
- Chair, Ad Hoc Committee on textbook selection for E&PS 101 sections

Bert Kudo

University:

- Member of Advisory Council for International Programs and Services.
- Member of the Advisory Council for the NW Regional Science and Engineering Fair (which is administered and partially funded by UNM).
- Served again as Master Judge Chair of the Science Fair in March.

College:

Member of Dean’s Advisory Council for the Albuquerque Teachers’ Institute Council: wrote grant proposal to Yale-New Haven Teachers Institute and the De Witt Wallace-Reader’s Digest Fund (got funded for a thirce-year period).

Department:

- Chair of the Scholarship Committee.
- Member of the Volcanologist Search Committee.

Barry Kues

University:

Faculty Senate Library Committee: Office of Research Services Advisory Committee and review panel for educational instrumentation proposals; Science-Technology Building advisory committee; Provost’s ad hoc committee on Library funding.

College:

- Chair, ad hoc committee to create annual evaluation form for Arts and Sciences Dean

Department:

- Chair of Earth and Planetary Sciences.
Leslie McFadden

Department:

Chair, Undergraduate Committee
Chair, Volcanology Position Search Committee

College:

Member, Junior Promotion and Tenure Committee, College of Arts and Sciences, UNM

University:

Member, University of New Mexico Academic Freedom and Tenure Committee

Hosted Visits to Department:

Dr. John Bezy, National Park Service
Dr. Carol Treadwell, SUNY Plattsburgh, NY
Informal On-Campus Interviews with four prospective students applying to Graduate Program.

Horton Newsom

Department:

Member, New Mexico Space Grant Faculty Advisory Board (Facilitated successful application of student Justin Hagerty).
Educational Outreach Coordinator, Institute of Meteoritics
College of Arts and Sciences CCLI proposal committee

James Papike

University Service and Activities:

Director, Institute of Meteoritics
Chair, Arts and Sciences Committee "Committee for Analytical Laboratory Coordination" (CALC)
Member, Arts and Sciences Senior Promotion and Tenure Committee

Departmental Service:

Member of EPS Facilities Committee

Frank Pazzaglia

Department Service:

I served on the Department computer committee
Chair of UNIX computer facility committee
Aurora Pun

Departmental:

Assisted Geology Museum Curator at Tucson Gem and Mineral Show and Albuquerque Gem and Mineral show

Jane Silverstone

Departmental committees:

Graduate committee (spring semester)
Volcanology faculty search committee (fall semester)

University committees:

Research Allocations Committee
Gunter Starkey Teaching Award committee

Other service:

Hosted visits by 401 speakers David Rowley (Univ. of Chicago, 2/98), Carol Frost (Univ. of Wyoming, 4/98), Roger Bilham (Univ. of Colorado, 4/98), Peter Molnar (MIT, 11/98).

Zachary Sharp

Committees:

Building Safety Coordinator
Instrumentation and Facilities
Mineralogical Society of America Awards Committee

Charles Shearer

University service and activities:

Manager ICP-MS laboratory
Manager SIMS laboratory
Department Facilities Committee

Gary Smith

Departmental Service:

Assistant Department Chair, Spring 1998
Chair, Collections Committee, Spring 1998
Chair, Mineralogy/Materials Science Search Committee, Spring 1998
Scholarship Committee, Spring 1998

**Michael Spilde**

**University and activities:**

Manager of the Electron Microprobe and Scanning Electron Microscope Labs.
Presented IOM research Seminar "Corrosion Residues from Lechuguilla Cave: Possible Analogs for Life on Mars?" April 20, 1998.
Performed microprobe and SEM analyses for 2 Department, 10 out-of-department faculty, staff, and students and 1 UNLV faculty.

**Huifang Xu**

**Department service and activities:**

Facilities Committee
8. SCHOLASTIC HONORS AND FELLOWSHIPS

Adrian Brearley

Elected Fellow of the Meteoritical Society.

Wolfgang Elston


Les McFadden

Invited Group Leader and Speaker, Desert Research Institute-U.S. Army Research Office Workshop

Jane Selverstone

Named UNM Regents' Lecturer, 1998-2000

Attended continuing education course on "Deformation Mechanisms and Microstructures", sponsored by GSA (1.6 continuing education credits awarded).

Zachary Sharp

Life Fellow, Mineralogical Society of America Awards Committee – MSA Award
9. SABBATICALS AND TRAVEL

Yemane Asmerom

University of Minnesota [to do collaborative research on Pa isotopes].

Adrian Brearley

- August 11-16, 1998 NASA Cosmochemistry Review Panel, LPI Houston, TX.
- August 19, 1998 - Arizona State University for demonstration of Emitech EDS system.
- November 2-4, 1998, Workshop on Martian Meteorites: Where do we stand and where are we going? LPI, Houston, TX.

Michael Campana

- February 27-28, 1998, Waterville, ME, to present invited talk, "Hydrogeocology of forested watersheds in New Mexico", Colby College Geology Department seminar.
- June 25-27, 1998, Columbus, OH, to attend mid-year meetings of the Board of Directors, Ground Water Publishing Company and the Board of Directors, Association of Ground Water Scientists and Engineers.
- November 13-17, 1998, Atlanta, GA, to represent UNM at the National Association of State Universities and Land-Grant Colleges annual meeting and to participate in the National Water Initiative Task Force meeting.
- December 12–17, 1998, Las Vegas, NV, to attend annual conference and Board of Directors meetings, National Ground Water Association and Association of Ground Water Scientists and Engineers; and Board of Directors meeting, Ground Water Publishing Company.
Peter Fawcett

Professional travel:

- January 26, Los Alamos National Lab, research meeting
- February 16-18, Boulder CO, NCAR Paleoclimate Working Group meeting
- June 4-7, Black Mesa, AZ, Field research
- June 13-18, Snowbird UT, AGU Chapman Conference
- June 21-24, Breckenridge, CO, NCAR CSM Meeting
- June 30, Los Alamos National Lab, research meeting
- July 16-19, Black Mesa, Az, Field research
- August 3-15, London, England; Munich, Germany; Bern, Switzerland, travel and meeting with PAGES paleoclimate group (Bern)
- October 24-29, Toronto, Canada, Annual GSA meeting
- November 8-9, Chinle AZ, field research
- December 5-9, San Francisco, CA, fall AGU meeting

John Geissman

Summer teaching:


Travel:

- January 6-February 3, Yunnan, People’s Republic of China, field sampling
- January 26-January 28, guest lecturer, University of Idaho
- February 19-February 21, Boulder, Colorado, GSA Hq. For Publication Committee meeting
- April 16-18, Boulder, Colorado, GSA Hq. for Bulletin planning
- April 24-April 26, field work, southern Colorado
- May 10-May 13, field work, west-central Nevada
- May17-June 6, New Mexico, southern Colorado, UNM Introductory Field Geology course
- June 22-July 4, Wyoming, University of Michigan, Field Camp
- July 10-July 14, lab work, University of Michigan, Ann Arbor
- July 21-August 10, Wyoming, University of Michigan, Field Camp
- August 17-August 19, Interview and Lectures, University of Texas at El Paso
- September 11-13, Washington D.C., International Conference of Science Editors/Association of Earth Science Editors
- October 16-October 18, field work, southern Colorado
- October 24-28, Toronto, Ontario, Geological Society of America, Annual Meeting
- December 5-9, San Francisco, AGU Meeting
David Gutzler

Travel:
- January 12-16, Attendance at AMS Annual Meeting, Phoenix AZ.
- January 26, Visit to Los Alamos National Lab for discussion and to present seminar.
- May 14-16, Fieldwork in northeastern AZ.
- October 6-8, Attendance at NOAA PACS workshop on Southwest climate, Tucson AZ.

Rhian Jones

Travel:

Karl Karlstrom

Travel:
- Jan. 2-17 - Taught MIT field camp in Mojave Desert
- Jan. 20 - May, 1998 - Sabbatical in Adelaide Australia
- June 1998 – EPS 420 teaching and field work
- July 20-24 – Research in Park Range, Colorado
- August 14-16 – Continental Dynamics workshop and field trip, Young Ranch, NM
- Sept. 4-19 – Grand Canyon Research trip
- Sept. 25-28 – GAC Nuna Conference, Calgary Alberta
- Oct. 3-28 – GSA National Meeting, Toronto, Ontario
- Nov. 16 – Fieldtrip with Ph.D. candidate, Chris Herd
- Nov. 20-23 – Grand Canyon Research

Cornelis Klein

Travel:

Barry Kues

Professional travel:
- February 20 - 22, El Paso area, fossil collecting
- March 20 - 22, Lubbock TX area, fossil collecting
- July 12 - Taos area, fossil collecting
- July 21 - Manzano Mountains, NMGS road logging
Les D. McFadden

**Travel:**

- February 12: Fieldwork, Pena Blanca, New Mexico
- February 24: Fieldwork, Pena Blanca, New Mexico
- February 26: Attend N.M. Tech Geology Department Symposium, Socorro, NM
- March 12: Fieldwork, Canoncita area, New Mexico
- April 9: Fieldwork, Canoncita area, New Mexico
- April 15: Fieldwork, Pena Blanca, New Mexico
- April 25-30: Participant, Desert Research Institute-U.S. Army Research Office Workshop, Zzyzx, California
- May 11: Fieldwork, Pena Blanca, New Mexico
- May 14, 16, 18: Fieldwork, Canoncita area, New Mexico
- May 21: Fieldwork, Pena Blanca, New Mexico
- May 28, 29: Fieldwork, Gallup area, New Mexico
- June 11-12, 18: Fieldwork, Pena Blanca, New Mexico
- June 23: Fieldtrip (with Dept. of Biology Faculty, State of New Mexico Officials), Mesa del Sol, Albuquerque, NM
- July 16-21: Fieldwork in northeastern Arizona
- July 24: Presentation of lecture to Archaeology Program students, Ghost Ranch, New Mexico
- August 3: Participant, Ghost Ranch Teachers Institute, Ghost Ranch, New Mexico
- September 11-13: Participant, Rocky Mountain Cell Friends of the Pleistocene Field Conference, central New Mexico
- September 25: Travel to Cuba Elementary School to present geology lecture to 4th Grade class, Cuba, New Mexico
- October 24-29: Presentation of paper and Chair of Quaternary Geology and Geomorphology Division meetings, Geological Society of America Annual Meetings, Toronto, Canada

Horton Newsom

**Travel:**

- April 30 - May 1, 1998, Workshop on using in situ resources for construction of planetary outposts, Albuquerque NM.
Aurora Pun

- July 5-8, Ries Crater Germany, Field excursion and sampling expedition with Dr. Jack Farmer.
- July 19, 1998 Max-Planck-Institute Mainz, Germany, visit with several staff.

Frans Rietmeijer

- August 9-14, 17th General Meeting International Mineralogical Association, Toronto, Canada.
- September 30, Geosciences Department, Free University of Amsterdam, the Netherlands.
- October 1 and 2, Institute of Earth Sciences, Rijksuniversiteit-Utrecht, the Netherlands, ESTEC/European October 4-7 Space Agency, Noordwijk, the Netherlands.
- October 9-14 Osservatorio Astronomico, Naval University of Naples, Italy.

Jane Selverstone

Travel:

- March 10-13, Washington, D.C., to attend NSF panel meeting.
- May 11-14, Boston, to present talks at MIT.
- June 8-18, Colorado, to conduct fieldwork (trip was cut short by family emergency).
- July 27 – August 12, Switzerland, Austria, Italy, to conduct fieldwork.
- September 15-18, Washington, D.C., to attend NSF panel meeting.
- October 23-29, Toronto, to attend GSA annual meeting and continuing education class.
- November 5, Picuris Mountains, New Mexico, assisted with visiting Princeton University field class.

Zachary Sharp

Short course, GSA veins
Short course, Siena, fluid inclusions

Gary Smith

- April 9, 1998, Attended New Mexico Geological Society Annual Meeting, Socorro, NM.
• May 23-26, 1998, Attended Geological Society of America Rocky Mountain Section Meeting, Flagstaff AZ.
• June 1998, Geologic mapping and field research in the Española Basin.
• July 1998, Geologic mapping at Zia Pueblo.
• September 1, 1998-June 15, 1999, Sabatical appointment to the Geohydrology Group, Sandia National Laboratories.
• September 1998, Participated in multi-agency field trips to discuss stratigraphic relationships in the northern Albuquerque basin.
• November 5-7, 1998, Attended New Mexico Geological Society Fall Field Conference, Las Cruces, NM.

Michael Spilide

Travel:

• July 12-16, 1998, Attended 56th Annual Meeting of the Microscopy Society of America/Microbeam Analysis Society, Atlanta, GA.
• October 15-18, 1998, Traveled to Carlsbad, NM for research and sample collection in several caves in Carlsbad National Park.
• November 7-8, 1998, Attended 19th Annual New Mexico Mineral Symposium, Socorro, NM.
10. PUBLIC SERVICE

Roger Anderson

Presentation of information about geology and geological explorations to 3rd Grade Class, Mill Valley, Ca., December, 1998.

Yemane Asmerom

Outside Activity: Amnesty International; The Sierra Club.

M. Susan Barger

Talks given:


Established with Jack Falk, The Frank Teruggi Memorial Fund at Caltech, a scholarship fund in memory of Frank Teruggi, one of the two Americans murdered during the Chilean coup in 1973.

Adrian Brearley

Devised and participated in meteorite display for Astronomy Day at Winrock Mall, Albuquerque, April, 1998.

Identified numerous suspect meteorites and provided information on meteorites for members of the public from both within and outside New Mexico.

Interviewed numerous times by local papers and press (TV and Radio) regarding the Portales Valley meteorite that fell on June 13, 1998.

Michael Campana

Occasionally provided water resources and related information to the general public.
Volunteer, Lifewater International, and Team Leader - Panama Project, which seeks to develop potable water supplies for the Embera Indians.
Member, Intel Corporation Community Advisory Board
Member, ACDI/VOCA (Agricultural Cooperative Development

International, (Volunteers in Overseas Cooperative Assistance)
Member, VITA (Volunteers In Technical Assistance)
Member, Partners of the Americas
Laura Crossley
Albuquerque North Science Center, Parent Co-ordinator representing Montezuma Elementary.

Wolfgang Elston
Responded to requests for information from the public on volcanoes and mineral resources.

Peter Fawcett
Interviewed by Science reporter for the Albuquerque Journal.

John Geissman
Geoscience Advisor, Albuquerque Petroglyphs National Monument committee.
Geologic field excursion leader, miscellaneous Girl Scout and Elementary school groups.
Participant, Jefferson Middle School, Special Educational Events Day.
Three public interest talks, Elks Club, Rio Grande Civitan Club, Manzano del Sol Retirement Center.
Member, Project Dragonfly, National Forum for Young Investigators.

Steve Getty
Member, Science Advisory Committee, New Mexico State Dept. of Education; tasks at April and July meetings: developing new Performance Standards for K-12 science education in New Mexico.
Director, Partners Enhancing Science Content, Joint Professional Development program in earth sciences with Inez Elementary Science and Technology Magnet School, Albuquerque, New Mexico, begun August, 1998.

Dave Gutzler
Invited presentation to Albuquerque Rotary Club on El Niño, January 5.

Steve Huestis
Virginia Creepers String Band volunteer performance:
Albuquerque Mennonite Church retreat – September 11.
John Husler

Coordinated judges for four middle school (science fairs).
Judge NW Regional Science Fair.
Performed three chemical demonstrations for an outreach program.
Analyzed rocks and ores for prospectors and rock hounds (5-6).
Helped three high school students with class science projects/papers.
Helped four mid-high students with science fair projects.

Rhian Jones

Co-ordinated and gave tours of Meteorite Museum for visiting school students, UNM classes, and community groups.
Identified numerous suspect meteorites and answered enquiries about meteorites for members of the public.

Cornelis Klein

Member of the Albuquerque Rotary Club.
Member of the Program/Speakers Committee of the Albuquerque Rotary Club.
Introduced Dr. David Gutzler for his Rotary presentation, January 5, 1998,
Talk entitled “El Niño and Climate Prediction: Big Science or Chicken Little?”

Introduced Dr. Lokesh Chaturvedi for his Rotary presentation, February 23, 1998,
Talk entitled “Why is WIPP still not open”.

Bert Kudo

Visited Whittier Elementary School to give a geology demonstration.
Tutored a 9th grader on his science fair project.
Identified rocks and minerals for numerous people.

Barry Kues

Identified geological specimens and answered questions for public.

Leslie McFadden

Volunteer Coach, Garfield Middle School, Fall, 1998.

Participation as member, Coalition for Excellence in Science Education (CESE).

Responded to several requests for advice and assistance from the public concerning issues related to soils and geology.
Horton Newsom

Developed educational initiatives for the Institute of Meteoritics. We have received funding from the Space Telescope Science Institute, and the Minority University Education and Outreach Division of NASA.
Assisted with Astronomy Day activities at Coronado Mall, May 2, 1998.

James Papike

Numerous discussions with the media concerning planetary issues.

Frank Pazzaglia

Community:
Continued relationship with Zia and Jemez Pueblo councils.
Mentorship of Chris Toya.
Once-a-month geological presentations at APS elementary schools.
Formal participation in the visiting scholars program.

Aurora Pun

Provided tours of the Meteorite and Geology Museums, Department of Earth and Planetary Sciences.

Frans Rietmeijer

Volunteer Exhibit at the "Astronomy Day at the Mall", May 2.

Advised Dr. S. James, School of Physics, Canberra, Australia, on a class project to collect micrometeorites.

Public lecture, titled "the Leonid Storm", at the Planetarium of the Santa Fe Community College, November 16.

Answered many phone calls on the Leonid meteor storm, November 16-18.

(Broadcasted) Interview on the Leonid Storm, KRQE Channel 13, November 16.

(Broadcasted) Interview on the Leonid Storm, KOB Channel 4, November 17.

Jane Selverstone

Led fieldtrip to UNM Geology Museum and my laboratory ofr Manzano Day School, 4th grade class, February 2, 1998.

Zachary Sharp

Calibrated new NBS gas for the National Institute of Standards and Technology Science teaching at Dennis Chavez Elementary School.
Charles Shearer

Board of Directors for Eastdale Little League.
Player Agent for Eastdale Little League.

Gary Smith

Identification of mineral and fossil specimens for department visitors.
Provision of rock and mineral specimens to Albuquerque Public School teachers.

Michael Spilde


Conducted Microprobe and SEM lab tours and demonstrations for several elementary and high school groups.

Conducted SEM demonstration for tour group from convention of Criminal Justice Scientists, March 12, 1998.

Conducted SEM demonstrations for Southwestern Junior Science and Humanities Symposium, May 1, 1998.

Examined potential meteorite specimens for the public.

Huiyang Xu

Judging in science fair at Hodgin Elementary School.
Field trip and museum tour for Hodgin Elementary School.
IV. GRADUATE PROGRAMS AND STUDENT SCHOLARSHIPS
SUMMARY OF GRADUATE PROGRAM

Introduction

The Department of Earth and Planetary Sciences regards the education and training of graduate students, as modern geoscientists, as important and integral teaching and research functions. Through classroom, laboratory, and field experiences, graduate students acquire the mentoring, expertise, and skills required to become successful professional geoscientists in a spectrum of employment opportunities, including industry, environmental and geological consulting companies, governmental organizations, and academia. Individualized teaching opportunities in a broad range of undergraduate courses (from introductory physical geology laboratory sections to advanced field geology), participation in graduate level seminars, and the opportunity to present the results of their graduate research at professional geoscience meetings and in numerous publications all further enhance interpersonal skills and abilities of graduate students to discuss their knowledge of and research in geoscience in a range of settings and situations.

During the Fall 1998 term, a total of 45 students (30 M.S., 15 Ph.D.) were working towards graduate degrees in the Department, including 14 new students (Table 1). Of the M.S. students in Fall, 43% were women, and of Ph.D. students, 33% were women. During Spring 1999, the graduate population numbered 28 M.S. and 15 Ph.D. students.

The total number of graduate students, around 45 in 1998-99, is lower than has been typical during much of the past decade; in Fall, 1993, for example, 70 students were pursuing graduate degrees in the Department. Mainly, this is due to an unusually high rate of students completing graduate degrees recently; (21 in 1995-96; 14 in 1996-97); and a lower number of new students beginning in the program the past three years. Changes in the admissions procedures, so that we generally admit only those students to whom we can offer 2 years (M.S.) or 3 years (Ph.D.) of financial support, also has played a role in the decline. The present number of graduate students is probably optimal, both from the perspective of quality of attention from advisors and committees, and because there is little additional good office space to accommodate many more than the present number.

Graduate Admissions

Twenty five applicants to the graduate program for Fall 1998 and Spring 1999 were offered admission out of 66 total applicants; of these, 14 new students actually enrolled - 12 in the M.S. program and 2 in the Ph.D. program. The stated disciplinary interests of these new students were: Climatology/Paleoclimatology = 3; Stratigraphy/Sedimentology = 2; Geomorphology/Soils = 2; Planetary Sciences = 2; Geochemistry = 2; Structure/Tectonics = 2; Hydrology = 1. In addition, 14 new students will be entering our graduate program in Fall, 1999.

Information on graduate admissions for the past 3 semesters is given in Table 2. For several years, the Department has maintained an aggressive recruitment effort involving funding visits to UNM by top applicants, offers of one-time $1,000 scholarships in addition to TA- or RA-ships, and offers of multi-year assistantships to top potential students. Competition for excellent prospective students in the geosciences remains keen across the country. The national visibility and excellence of the faculty and their programs, high admissions standards, and recruitment efforts have successfully attracted many excellent students to the Department this year as in the past, but the relatively low assistantship salaries at UNM have somewhat hindered this effort, although the salary situation has been improving.

M.S. students

<table>
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<tr>
<th>Master's Students</th>
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<tbody>
<tr>
<td>Armour, Jake</td>
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<tr>
<td>Bailey, Nicole</td>
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<td>Biernan, Brian</td>
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<tr>
<td>Borchert, Claudia</td>
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<td>Brown, Cynthia</td>
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<td>Cavosie, Aaron</td>
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<td>Etheridge, Devon</td>
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<td>Florence, Pat</td>
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<td>Gardner, Rebecca</td>
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<td>Gaud, Michael</td>
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<td>Gere, Tim</td>
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<td>Hagan, Laura</td>
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<td>Hagerty, Justin</td>
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<td>Helean, Kate</td>
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<td>Henderson, Dale</td>
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<td>Jensen, Marcia</td>
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<td>Kearney, Michelle</td>
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<td>Koning, Dan</td>
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<td>Mikolas, Marlo</td>
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<td>Mitchell, David</td>
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<td>Moore, Jessica</td>
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<td>Petronis, Michael</td>
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<td>Tesfay, Tedros</td>
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<td>Timmons, Mike</td>
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<td>Tso, Dezbah</td>
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<td>Wegmann, Karl</td>
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<td>Wisniewski, Paul</td>
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Doctoral Students

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<tr>
<td>Bergfeld, Deb</td>
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<td>Dehler, Carol</td>
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<td>Eppes, Martha</td>
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<td>Gods, Michael</td>
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<td>Groffman, Armand</td>
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<td>Heckert, Andy</td>
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<td>Keating, Gordon</td>
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<td>Shaw, Colin</td>
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<td>Thorsos, Ivan</td>
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<td>Wawrzyniec, Tim</td>
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<td>Woodford, Richard</td>
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<tr>
<th></th>
<th>Fall 1998</th>
<th>Spring 1999</th>
<th>Fall 1999</th>
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<tbody>
<tr>
<td>Total Applicants</td>
<td>61</td>
<td>5</td>
<td>83</td>
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<tr>
<td>Number Admitted</td>
<td>22</td>
<td>3</td>
<td>25</td>
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<tr>
<td>% of Total Applicants Admitted</td>
<td>36%</td>
<td>60%</td>
<td>30%</td>
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<tr>
<td>Number Actually Enrolled</td>
<td>12</td>
<td>2</td>
<td>14</td>
</tr>
</tbody>
</table>

Of these enrolled:

- Average Grade-point Average: 3.36 (UG), 3.27, 3.24; 3.65 (G), 3.36
- GRE score - Verbal (percentile): 64, 54, 69
- GRE score – Quantitative (percentile): 71, 79, 65
- GRE score - Analytical (percentile): 67, 91, 65
- GRE score - Geology (percentile): *, *, *

*Very few of the enrolled students took the Geology GRE.
<table>
<thead>
<tr>
<th>Type of Support</th>
<th>Amount of Support ($ x 1000)</th>
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<tbody>
<tr>
<td>1. University</td>
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<tr>
<td>Office of Graduate Studies Fellowships</td>
<td>$ 16</td>
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<tr>
<td>Departmental Teaching Assistantships (salary*)</td>
<td>136</td>
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<tr>
<td>Tuition Waiver (T.A.'s)</td>
<td>19</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td>171</td>
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<tr>
<td>2. Department</td>
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<td>Research Assistantships (Salary **)</td>
<td>182</td>
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<td>TA Tuition</td>
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<tr>
<td>Silver/Kelley Fellowships and Research Support</td>
<td>40</td>
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<tr>
<td>Alumni Fund and other Fellowships</td>
<td>21</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>265</td>
</tr>
<tr>
<td>3. External Professional awards, Fellowships, etc.</td>
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</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>$ 435+</td>
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Support for Graduate Students

Over the past decade, the Department has considerably increased its ability to provide support for students enrolled in its graduate program. In 1998-99, nearly all active graduate students in residence were supported to some extent, mainly through research and teaching assistantships and by fellowships from various sources. Salaries for full-time TAs were $10,207 for the academic year. Total University support for E&PS graduate students amounted to an equivalent of 15.0 students fully supported by TA-ships each semester, and full-time Departmental support (RA-ships and Silver/Kelley Fellowships) was provided to the equivalent of an additional 18 students.

Table 3 indicates the sources and approximate amounts of support that were provided to graduate students during the past year; such support totalled about $435,000. Of this, about 61% was derived from the Department (faculty grants and contracts and departmental fellowships), 39% from University sources (mainly TA-ships), and an unknown amount probably between $5-10,000, from external sources (e.g., awards from professional organizations). Of the 14 entering new students in 1998-99, 6 were supported by RA-ships, 5½ by TA-ships, and two were employed by Sandia and Los Alamos National Labs. Strong support is not only essential in providing graduate students the means to pursue and complete their studies in a timely manner, but also is instrumental in attracting excellent students into our program.

Outcomes

Study in the Department's graduate programs prepares students for a wide variety of careers in the geosciences and related fields. Below are listed the positions obtained by Ph.D. and M.S. students who graduated in 1998-99:

Ph.D.
Joel Pederson
Tenure-track faculty position, Utah State

M.S.
Cynthia Brown
Unknown

Dan Koning

Michael Petronis
Petroleum Geologist, Houston, Texas

Karen Roche
Unknown

Mary Simmons
Editorial Assistant, Geological Society of America

Mike Timmons
UNM Ph.D. Program

Karl Wegmann
Sitting out a year; looking for job with U.S. Forest Service

124
Graduate Degrees Awarded

The following students received M.S. and Ph.D. degrees in Earth and Planetary Sciences, between Fall 1998 and Summer 1999. Thesis/dissertation titles and faculty advisors are also indicated.

Master of Science

Cynthia L. Brown, Fall, 1998 – Paleoproterozoic Deformation, Metamorphism, and $^{40}Ar/^{39}Ar$ Thermal History of the 165 Ga Manzanita Pluton, Manzanita Mountains, New Mexico. (Dr. Karl E. Karlstrom, Advisor).


Michael S. Petronis, Fall, 1988 – Paleomagnetic Data Bearing on Vertical Axis-Rotation Associated with a Simple Shear Transfer System in the Silver Peak Range, West Central Nevada. (Dr. John W. Geissman, Advisor).


Mary C. Simmons, Fall, 1998 – Quartz-Kyanite Pods in Proterozoic Rocks in Northern New Mexico; Shear Zone Formation Along an Older Hydrothermal Alteration Horizon. (Dr. Karl E. Karlstrom and Dr. Jane Selverston, Advisors).

J. Michael Timmons, Fall, 1998 – Proterozoic Multistage (~1.1 and ~0.8 Ga) Extension in the Grand Canyon Supergroup and Establishment of Northwest and North-South Tectonic Grains in the Southwestern United States. (Dr. Karl E. Karlstrom, Advisor).

Karl W. Wegmann, Spring, 1999 – Late Quaternary Fluvial and Tectonic Evolution of the Clearwater River Basin, Western Olympic Mountains, Washington State. (Dr. Frank J. Pazzaglia, Advisor).

Doctor of Philosophy

Joel L. Pederson, Spring, 1999 – A Long-Term Record of Climate-Controlled Hillslope Sedimentation (Dr. Frank J. Pazzaglia and Dr. Gary A. Smith, Advisors).
STUDENT SCHOLARSHIPS AND OTHER AWARDS

Many Graduate and Undergraduate students were supported by scholarships, fellowships, and other awards during the 1998-99 year. Many scholarships are derived from various funds that have been established for this purpose by alumni and other friends of the Department. The Department augments these awards with travel scholarships that partially offset the expenses of travelling to professional meetings (and often provides free use of vehicles to these meetings), and other scholarships supporting use of the analytical instruments and other research expenses. Recipients of such awards are listed below.

Undergraduate Scholarships and Awards

Harry and Mabel Leonard Scholarships

James Ashby - $900
Linda Brown - $750
Justin Christofferson - $750
Paulo de Sa'Rego - $1100
Kathleen Dotson - $750
Eileen Embid - $750
Ivan Erchak - $900
Sheila Hutcherson - $1100
David Johnson - $1100
Sally Johnson - $750
Todd Lopez - $900

Anders Lundahl - $900
Nancy Natek - $1100
Richard Ortiz - $900
Joan Otahal - $900
Douglas Raszewski - $900
Jason Ray - $750
Marisa Salazar - $900
Leigh Shean - $900
Diana Stickland - $1100
John Whalen - $900

General Thomas Campbell Scholarships

Catalina Bryant - $725
Kelly Clayton - $725
Meaghan Duran - $725
Adam Erenstein - $725
Shawna Hollen - $725
Elizabeth Lagenburg - $725

Kenneth Marshall - $725
Serenity Nehring - $725
Christopher Purcell - $725
Angie Smigelski - $725
Eric Wilkins - $725

James Drew Pfeiffer Scholarship

David Johnson - $350

Outstanding Student of Year Awards

Stuart A. Northrop, Outstanding Senior – (Brunton Compass); Sheila K. Hutcherson
Sherman A. Wengerd Award – (Hand Lens); Diana B. Strickland
J.P. Fitzsimmons Award – (NMGS Guidebook); Paulo de Sa'Rego
V.C. Kelley Outstanding Field Geologist – (Estwing Hammer); Sheila K. Hutcherson

Department Travel and Equipment use Award

Sheila Hutcherson - $110
Other Undergraduate Student Awards:

- Albuquerque Gem and Mineral Club: Anders Lundahl, $500
- NMGS Lucille Pipkin Book Award: Eben Crawford, Nancy Natele, Diana Strickland, $50 each
- NMGS Lucille Pipkin Undergraduate Scholarship: David Johnson, $500
- NMGS Lucille Pipkin Grants in Aid: Doug Raszewski $275; Diana Strickland, $300
- Los Alamos Geological Society-NMGS Field Conference Award: Sheila Hutcherson, $300
- American Geological Institute-Minority Scholarship: Kathleen McLeroy ($1200)
- NMGS Field Conference Scholarship: Aaron Cavosie ($185)

Several undergraduate students graduated with departmental Honors, which requires original research, an Honors thesis on this research, and a presentation to the Department. These students are:

**Aaron J. Cavosie, Fall, 1998** – Geochemical Constraints on the Origin of Quartz Veins in the 1.4 Ga Sandia Pluton Contact Aureole, New Mexico: Implications for a Fracture Generation Model. (Dr. Jane Selverstone, Advisor).

**Sheila K. Hutcherson, Spring, 1999** – A Geochemical Comparison of Topaz Rhyolite to Other Mount Taylor Volcanic Field Rhyolites. (Dr. Albert M. Kudo, Advisor).

**Kathleen E. McLeroy, Spring, 1999** – Characteristics of Melted Xenoliths at Vulcan Cone, Albuquerque Volcanoes. (Dr. Gary A. Smith, Advisor).

Graduate Student Scholarships and Awards – Departmental

**Caswell Silver Foundation V.C. Kelley/L.T. Silver Fellowship and Research Support**
- Colin Shaw - $18,591
- Michael Gaud - $21,862

**Geology Alumni Fund Scholarship:**
- Jake Armour - $800
- Nicole Bailey - $800
- Claudia Borchert - $800
- Aaron Cavosie - $800
- Patrick Florence - $700
- Tim Gere - $700
- Andy Heckert - $900
- Dale Henderson - $700
- Michelle Kearney - $800
- Tom Loveland - $500
- David Mitchell - $900
- Jessica Moore - $250
- Michael Timmons - $800
- Dezbah Tso - $700
- Paul Wisniewski - $800

**Jean-Luc Miossec Memorial Scholarship:**
- Martha Eppes - $900

**Vincent C. Kelley Scholarship**
- Colin Shaw - $3000
Richard P. Vann Scholarship
Marcia Jensen - $1000

Rodney Rhodes Scholarship
Jessica Moore - $650

Alexander and Geraldine Wanek Scholarship
Carol Dehler - $1500
Anna Snider - $900
Karen Roche - $900

Sherman A. and Florence Wenger Travelling Fellowship
Laura Hagan - $1000

Department Travel and Equipment use Scholarships
Andy Heckert - $356
Mike Petronis - $400
Karen Roche - $130
Mary Simmons - $150

Teaching Assistant Resource Center (TARC) award – best T.A.s of 1998-99
Carol Dehler

Graduate Student Awards – Professional Organizations

Albuquerque Petroleum Association Award
Aaron Cavosie - $500

New Mexico Geological Society Grant-in Aid
Nicole Bailey - $475
Andrew Heckert - $600
Jake Armour - $500
Time Gere - $475

New Mexico Geological Society Fall Field Conference Scholarship
Aaron Cavosie - $185
Anna Snider - $185
New Mexico Space Grant Consortium Fellowship
Justin Hagerty - $2000

Sigma Xi, UNM Chapter, Excellent Graduate Research Award
Gordon Keating - $50

New Mexico Geological Society, Outstanding Senior Award
Eben Crawford (Guidebook)

Geological Society of America, Research Grants
Kate Duke - $2250
Jessica Moore - $2000

Colorado Scientific Society Research Grant
Carol Dehler

Los Alamos National Laboratories, Field Conference Award
Sheila Hutcherson - $300

Association for Women Geoscientists Award
Sheila Hutcherson
Mary Siminons

UNM Graduate Student Fellowship
Martha Eppes - $7200
### DONATIONS TO DEPARTMENT, 1998-99 FISCAL YEAR

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<th>Date</th>
<th>Geology Chair's Account</th>
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<td></td>
<td>Mr. Jack W. House</td>
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<td>Dr. Bill P. Lovejoy</td>
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<td>Mrs. Susan H. Fullas</td>
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<td>Mr. Eben G. Crawford</td>
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<td></td>
<td>Mrs. Florence Wengerd</td>
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<td>12/16/98</td>
<td></td>
<td>Mr. Harry F. Pomeroy</td>
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<td>Mr. Eugene R. Caprio</td>
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<td>Mr. DeWayne A. Miller</td>
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<td>7/20/98</td>
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<td>Ms. Patricia Lewis</td>
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APPENDIX I

MUSEUM AND HARDING PEGMATITE LOG

1998-1999
# GEOLOGY MUSEUM LOG

**JULY 1, 1998 – JUNE 30, 1999**

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<tr>
<th>DATE</th>
<th>ORGANIZATION</th>
<th>GRADE</th>
<th># OF STUDENTS</th>
<th># OF ADULTS</th>
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<tbody>
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<td>7/1/98</td>
<td>UNM, College Enrichment</td>
<td></td>
<td>60</td>
<td>10</td>
</tr>
<tr>
<td>7/16/98</td>
<td>Bright Beginnings</td>
<td>Pre-school</td>
<td>25</td>
<td>2</td>
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<tr>
<td>7/23/98</td>
<td>Explorer Science Center</td>
<td>2nd-3rd</td>
<td>15</td>
<td>3</td>
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<tr>
<td>7/30/98</td>
<td>Mountain View Academy</td>
<td>6th</td>
<td>30</td>
<td>2</td>
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<tr>
<td><strong>JULY, 98 TOTAL</strong></td>
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<td></td>
<td><strong>130</strong></td>
<td><strong>17</strong></td>
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No Organization Visits in August, 1998

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<tbody>
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<td>9/02/98</td>
<td>UNM, American Studies</td>
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<td>35</td>
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<tr>
<td>9/10/98</td>
<td>Freedom High</td>
<td>11th-12th</td>
<td>25</td>
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<tr>
<td>9/11/98</td>
<td>Taft Middle School</td>
<td>6th</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>9/14/98</td>
<td>Montessori</td>
<td>pre-school</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td>9/14/98</td>
<td>Kids Castle</td>
<td>pre-school</td>
<td>15</td>
<td>3</td>
</tr>
<tr>
<td>9/21/98</td>
<td>YDI Headstart</td>
<td>pre-school</td>
<td>20</td>
<td>5</td>
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<tr>
<td>9/30/98</td>
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<td>6th</td>
<td>16</td>
<td>12</td>
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<td><strong>AUGUST, 98 TOTAL</strong></td>
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<td>Colinas del Monte</td>
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<td>Monte Vista Elem.</td>
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<tr>
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<td>Tohajale Community School</td>
<td>6th</td>
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<tr>
<td>10/16/98</td>
<td>Kennedy Middle</td>
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<tr>
<td>10/23/98</td>
<td>Pine Hill Elementary</td>
<td>4th</td>
<td>20</td>
<td>8</td>
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<td>10/27/98</td>
<td>St. Mary's</td>
<td>4th-5th</td>
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<td>6</td>
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<td><strong>SEPTEMBER 98 TOTAL</strong></td>
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<td>Garfield Middle School</td>
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<td><strong>OCTOBER, 1998 TOTAL</strong></td>
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#### Department of Earth and Planetary Sciences
#### Harding Pegmatite Mine

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1998 – 1999 252 (RED DOES NOT INCLUDE JUNE '99) COLLEGE / UNIVERSITY VISITORS

TOTAL 137
The Annual Report of

THE INSTITUTE OF METEORITICS

JULY 1, 1998 THROUGH JUNE 30, 1999

James J. Papike, Director

Institute of Meteoritics
Department of Earth and Planetary Sciences
University of New Mexico
Albuquerque, NM 87131-1126, USA
INTRODUCTION

The Institute of Meteoritics (IOM) was founded in 1944 and is one of the oldest institutions of its kind in the world. The Institute continues its role as a leading center in research relating to planetary materials and processes. Charter goals of the IOM are:

1. To carry out research in the detailed laboratory analysis of meteoritic and other planetary materials and in other fields of planetary and geologic sciences.

2. To provide materials, facilities, and supervision for research by candidates for advanced degrees in geology and in other fields. To offer instruction in these areas as may be approved through the appropriate academic procedures and channels.

3. To promote the identification and acquisition of meteorites. To participate in exchange programs as may enhance the representative scope and scientific value of the Institute's collections of meteorites. To preserve and place on public exhibition both meteorites and related meteoritic materials and to make these materials available to scientists working in fields closely allied to meteoritics.

Research at the Institute of Meteoritics covers a wide range of problems, including studies of geological processes on meteorite parent bodies (asteroids), the Moon, Mars, and Earth. Our research is aided by collaborations with investigators at other universities and at national laboratories. Microbeam analytical techniques, including electron microprobe (EMP), scanning electron microscope (SEM), transmission electron microscope (TEM), and ion microprobe (SIMS) constitute the most important tools for this research and state of the art facilities are available at UNM.

Teaching activities of the staff of IOM consist of both formal courses and informal meetings with graduate and undergraduate students. We emphasize the direction and supervision of both graduate and undergraduate student research and encourage presentation and publication of the results of this research at national and international levels. The Meteorite Museum continues to play an important role in our educational efforts, including organized programs for school groups with tours of the Museum and research laboratories.
INSTITUTE OF METEORITICS FACULTY AND STAFF
(FY 98-99)

Director, Institute of Meteoritics
Dr. James J. Papike, Regents' Professor of Earth & Planetary Sciences

Research Professors
Dr. Horton Newsom
Dr. Frans Rietmeijer
Dr. Charles Shearer

Senior Research Associates
Dr. Lars Borg
Dr. Adrian Brearley
Dr. Rhian Jones
Dr. Michael Wiedenbeck

Research Associates
Michael Spilde

Support Personnel
Christopher Adcock, Laboratory Technician
Jim Karner, Laboratory Technician
Sarah Lentz, Administrative Assistant III
Mary Marcilla, Administrative Assistant I

Graduate Students
Kate Duke
Justin Hagerty
Chris Heil
Christopher Herd
Jim Karner

Additions to Staff
Dr. Lars Borg, May 1, 1999
Jim Karner, June 15, 1999

Separations from Staff
Chris Adcock, April 13, 1999
Dr. Adrian Brearley, August 16, 1998
Dr. Michael Wiedenbeck, November 3, 1998
Organization Chart
Institute of Meteoritics
Department of Earth and Planetary Sciences
University of New Mexico
FY 1999/2000

Director
JAMES J. PAPIKE

Administration
S. Lentz, Admin. Assistant
M. Marcilla, Staff Assistant

RESEARCH

Director
J. Papike

Research Professors
H. Newsom
F. Rietmeijer
C. Shearer

Senior Research Associates
L. Borg
R. Jones

Research Associate
M. Spilde

Lab Tech
J. Karner

Graduate Students
PH.D
C. Herd
J. Karner

M.S.
J. Hagerty

RESPONSIBILITIES

Curator
R. Jones

Experimental Petrology Lab
R. Jones, Manager

Ion Microprobe Facility
C. Shearer, Manager

Microprobe/SEM Labs
M. Spilde, Manager
J. Karner, Assistant

Planetary Materials TIMS Operations
L. Borg, Coordinator

Educational Outreach
H. Newsom, Coordinator
I. RESEARCH

Research activities of staff and students of the Institute of Meteoritics cover a wide range of topics, mostly aimed at understanding the origin and early history of our solar system and the evolution of the planets. More specifically, we have major research initiatives to investigate the igneous evolution of chondrite meteorites, martian meteorites, and the Moon, and research into an understanding of early solar system processes through the study of interplanetary dust particles (IDPs) and chondritic meteorites.

Our research during the report period has resulted in the publication of scientific articles in major national and international journals (p. 18), as well as in the publication of abstracts of papers presented at national and international conferences (p. 20). The extensive involvement of students in original research projects in the Institute of Meteoritics is particularly important for their education and advanced training.

We continue to be very successful in attracting research grants and contracts to the Institute of Meteoritics in support of the research activities of staff and students. Details are provided in Tables I-II (pp 16-17). Funding was provided by the National Aeronautics and Space Administration (NASA), and the National Science Foundation (NSF).

1. Specific Projects

a. Circumstellar and Interstellar Dust in Primitive Solar System Materials (Funded by NASA)

Interplanetary Dust Particles (IDPs) are routinely collected in the Earth's stratosphere between 17-19 km altitude using high-flying NASA aircraft. The 2-40 micrometer sized objects survived atmospheric entry with recognizable levels of thermal alteration. These IDPs include both chondritic aggregates and non-chondritic materials, such as iron-nickel sulfide and Mg, Fe-silicate particles, but both particle types are related to each other. They are the solid debris from asteroids and short-period comets. The unique chondritic aggregate IDPs, typically 10-15 micrometers in size, still show the original accretion texture acquired 4.56 Gyrs ago. These IDPs consist of a matrix of principal components with embedded iron-nickel sulfides, Mg,Fe-silicates, Ca,Al(Ti)-phases and iron oxides. These constituents are about 1 to <5 micrometers in size. The chemical and mineralogical properties of the principal components (90 - 3000 nm in size) indicate that they are presolar dusts that accreted in the nebula and that today survive in comet nuclei. The ferromagnesiosilica PCs include two genetically distinct types that formed by aggregation and fusion of
metastable eutectic dusts that condensed in the outflows of AGB stars and in the solar nebula. Each component in aggregate IDPs has a non-chondritic composition but shows a richness of nanometer-scale detail that is studied by transmission and analytical electron microscope techniques. Experimental analog studies that are part of this electron microscope study include condensed ‘silicate’ and ‘carbon’ dust analogs. These analog studies show the original condensed dust properties and serve as the starting point to unravel the complex and chaotic histories of individual IDPs. They thus define the nature of the solids and processes during solar nebula evolution and proto-planet modifications in the early solar system. The study of IDPs provides a unique window to the onset of mineralogical evolution in the solar system and an opportunity for fundamental research in petrology.

b. Chondritic Meteorites (Funded by NASA)

Our studies of chondritic meteorites emphasize petrologic studies of individual chondritic components, particularly chondrules and isolated grains. Our goals are to investigate the early history of the solar system by determining the nature of events that took place in the solar nebula, as well as on chondrite parent bodies after accretion. We include studies of primitive nebular material such as chondrules from carbonaceous chondrites, as well as a study of the nature of thermal metamorphism on ordinary chondrite parent bodies. Our petrologic studies emphasize microbeam techniques (EPM, SEM, TEM, and SIMS) that enable us to interpret the detailed petrography of complex objects occurring in chondrites. In addition, we have initiated several collaborations with other laboratories that enable us to combine isotopic data with petrographic information. This provides powerful insights into the chondrite record of early solar system events.

Specific research topics we are currently addressing include the following projects. (1) Mineralogical, isotopic and experimental studies of plagioclase in chondrules from carbonaceous chondrites. Although chondrules typically contain a feldspathic mesostasis, plagioclase rarely occurs as a primary mineral, particularly in chondrules from ordinary chondrites. When plagioclase is present, its properties can potentially provide important insights into chondrule formation. (2) Measurement of oxygen isotopic compositions of individual chondrite components. The ability to measure three oxygen isotopes in situ for individual grains in CAIs and chondrules, as well as for isolated grains, enables us to investigate the complexity of oxygen isotope evolution in the solar nebula. (3) A comprehensive chemical, mineralogical and
I. RESEARCH

isotopic survey of a suite of chondrules disaggregated from the CV3 chondrite, Mokoia. Combined with bulk compositional data obtained previously, this survey should provide an extremely interesting insight into the formation conditions of chondrules as well as alteration that has taken place on the CV parent body. (4) A study that will document progressive changes in major, minor and trace element compositions of pyroxene in thermally metamorphosed ordinary chondrites. We hope that this will provide a quantitative scale for the degree of equilibration that has taken place throughout the metamorphic sequence for the ordinary chondrites, and lead to a better understanding of the thermal history of asteroids.

c. Microbeam Studies of the Martian Meteorites (Funded by NASA)

This study involves the analysis of spinel group minerals and olivine in the SNC (martian) group of meteorites with Electron Microprobe (EMP), Transmission Electron Microscopy (TEM) and Secondary Ion Mass Spectrometry (SIMS) techniques. The objective of the study is to gain insight into martian igneous processes, particularly with regards to oxygen fugacity, trace element distribution, and melt character. Complementary experimental work is being carried out at NASA’s Johnson Space Center in Houston.

The primary focus of the research so far has been determining the oxygen fugacity of equilibration of the basaltic shergottites. Oxygen fugacity is important because variations in oxygen fugacity affect the composition of the melt and coexisting phases, as well as the pressure and temperature of melting, for example in the Earth’s mantle. Models for determining oxygen fugacity are based on mineral equilibria that commonly involve spinels. There are two such models applicable to the lithologies represented by the martian meteorites. The first involves spinel and ilmenite, and the distribution of Fe and Ti between them. The second involves spinel, olivine and pyroxene. EMP analysis is the primary means by which compositional information is obtained for these minerals for the purpose of determining oxygen fugacity.

The largest uncertainty in measurement, regardless of the model used, is the activity of the magnetite, Fe$_3$O$_4$, component in spinel ($a^\text{Fe}_{3}\text{O}_4$). In order to best determine this value, we have developed an EMP routine that includes oxygen, such that the ferric iron content can be determined by charge balance, not by assuming stoichiometry (that is, 3 cations per 4 oxygen atoms). Nonstoichiometry up to
several percent is possible due to defects in the structure. Application of the
technique to the basaltic shergottites has proven promising, indicating that
nonstoichiometry does indeed affect estimates of oxygen fugacity. Future work will
put the technique through several rigorous tests, including analysis of Fe$^{3+}$-zoned
spinel. Independent estimates of ferric iron content will be made using the TEM-EELS (Electron Energy Loss Spectroscopy) technique. TEM sections will also allow
for the study of spinels at the nanometer scale, where it is possible to observe
structural defects directly.

Additional projects in progress include crystallization experiments under controlled
oxygen fugacity with Dr. John Jones (Johnson Space Center), SIMS analysis of Co
and Ni in olivine in the martian meteorites, and development of the SIMS technique
for analysis of trace elements such as Co, Ni, V and Ga in spinels.

d. Lunar Studies

Our current lunar studies focus upon the use of basaltic magmas to decipher lunar
mantle processes. We are currently working in several areas: high pressure studies of
potential sources for high-Ti mare basalts, Hf-W and Re-Os systems of mare mantle,
and the origin of Mg-suite lithologies.

We are currently examining the melting of hybridized, ilmenite-bearing, mantle
cumulates through a quantitative, high-pressure experimental approach. Initial results
tie together the relationships among depth of melting, degree of melting, liquidus
phases, and melt composition. We will extend this study by examining the relationship
between these variables and the trace element composition of the melt and compare
trace element characteristics of the experimental melt with trace element characteristics
of the lunar volcanic glasses that have been reported in our manuscripts.

In contrast to the W-isotopic signature of the Earth's mantle, the lunar mantle is
heterogeneous with regards to radiogenic W. $^{182}$Hf has a half life of approximately
nine million years and would have totally decayed soon after the Moon accreted.
Because of the dynamic nature of the lunar magma ocean (LMO), it appears highly
unlikely that the W-Hf isotopic heterogeneities recorded by mare basalts were inherited
during accretion or are due to variable core formation.

One major question concerning the notion that the LMO is responsible for the Hf/W
fractionation on the Moon is the uncertainty regarding the partitioning of these elements into the phases involved in LMO crystallization. Our preliminary observations suggest ilmenite and clinopyroxene are potential candidate phases that may account for the fractionation of Hf from W. The extent of fractionation is important in truly evaluating the origin of the radiogenic W anomaly in the lunar mantle and calculating the duration of LMO crystallization, if ilmenite-clinopyroxene fractionation is responsible for the anomaly.

Determining the ratio of highly siderophile elements (HSE) to one another in planetary mantles (Moon, Earth, Mars) may provide valuable information regarding core segregation, crustal evolution, and late accretionary processes. The most precise way to assess relative siderophile abundances is to determine the Re/Os ratio of mantle material via the measurement of the Os isotopic composition of mantle-derived materials with known and variable ages. We are examining the Re-Os isotopic systematics of lunar orange and green glasses. From this, it is hoped the Os isotopic evolution of deep lunar mantle reservoirs can be constrained. The ultimate objective of this work is to gain a better understanding of early planetary mantle development and evolution, specifically with respect to core formation and late accretionary processes.

After the early anorthositic lunar crust formed and consolidated, it was intruded episodically by slightly younger magmas. One of the products of this younger magmatism is referred to as the Mg suite. This suite has long been a puzzle for lunar petrologists because it contains rocks with contrasting primitive and evolved magmatic chemical signatures. Our study of these rocks focuses upon defining the primitive (Mg’ and Ni content in olivine) and evolved (REE in pyroxene and plagioclase) magmatic chemical signatures in mineral phases in a wide range of pristine Mg suite rocks. This should allow us to address their perplexing origin.

e. Integrated SIMS/TIMS Studies of Martian Meteorites and Lunar Samples (Funded by NASA)

The results of geochronological studies are sometimes ambiguous because many samples, such as Martian meteorites and lunar highland rocks, have undergone impact metamorphism that may have disturbed their isotopic systematics. As a result, the meaning of ages determined on these samples are often uncertain. It is therefore important to assess the effects of shock metamorphism and secondary alteration on
individual samples that have been analyzed for Rb-Sr, Sm-Nd, and U-Pb. We will be using secondary-ion mass spectrometry (SIMS), electron microprobe (EM) analyses, and thermal-ionization mass spectrometry (TIMS) in concert on identical mineral fractions of Martian meteorites and lunar samples in order to assess the effects of impact metamorphism and secondary alteration on individual Rb-Sr, Sm-Nd, and U-Pb isochrons. From these analyses, we hope to better constrain the timing of volcanism on Mars and the formation of the earliest lunar crustal rocks.

Comparison of Sm and Nd concentrations, determined by in situ SIMS analysis of a thin section, to the concentrations determined by TIMS analysis of mineral fractions has been used to confirm the purity of some of our recent mineral separations. We plan to take this approach one step further by directly comparing the geochemical compositions of representative mineral grains to the isotopic composition determined on corresponding mineral fractions. These analyses will elucidate the effects of shock metamorphism and secondary alteration on mineral isochrons by 1) permitting the heterogeneity of the mineral fractions to be assessed, 2) more precisely constraining the phases that are analyzed isotopically, and 3) allowing the potential for geochemical equilibrium between various mineral fractions to be determined.

In order to complete this research we plan to augment the state of the art thermal ionization and clean laboratory facilities currently in place at the University of New Mexico with additional equipment that would permit geochronological studies of planetary materials to be conducted. In order to accomplish this goal three components must be put in place: 1) a mineral separation facility, 2) an oxygen bleed system and an optical pyrometer for the VG Sector 54 thermal ionization mass spectrometer, and 3) the hardware or Rb-Sr and Sm-Nd chemical separations. Until these facilities can be put in place we will continue collaborations with Dr. Larry Nyquist at the Johnson Space Center.

f. Planetary Biomarkers (Funded by NASA)

Carbon, sulfur, hydrogen, and nitrogen isotopes may be used as biomarkers for both Martian and terrestrial samples. We are undertaking a multi-disciplinary program of assessing isotopic biomarkers in well-characterized terrestrial material. Critical to any study of martian materials will be the ability to determine isotopic heterogeneities at the sub-millimeter scale and to place these within a geological and biological context. We
I. RESEARCH

will exploit our world class stable isotope laboratory and SIMS facility to assess heterogeneities in the products of laboratory experiments and in natural materials. Low temperature, kinetic processes can cause extreme isotopic heterogeneities, and ion probe and laser microprobe techniques are invaluable for assessing their fine-scale variability. A less frequently addressed question is the degree to which heterogeneity occurs in rapidly-heated, high temperature chemical breakdown reactions. Can heterogeneities similar to those found in biological materials be produced under rapid, kinetic, high-T conditions? Can isotopic signatures attributed to biogenic activity be preserved in these types of environments? These questions will be addressed using a range of experimental approaches. Our plan of research entails studying natural materials and synthetic analogs in order to determine characteristic isotopic signals of biomarkers and methods by which such signals may be mimicked by non-biologic processes. The natural sample suite will be coordinated with the Johnson Space Center.

g. Space Science Education for New Mexico MESA Students (A project funded by NASA’s Pre-College Awards for Excellence in Mathematics, Science, Engineering, and Technology (PACE/MSET) program.)

The “Space Science Education for New Mexico MESA Students” project provides a large population of under-represented students and their teachers in NM MESA (New Mexico Math Engineering and Science Achievement) with access to space science resources at the University of New Mexico. NM MESA is a well-established and highly successful program for students of middle and high school-age, which encourages them to pursue the pre-college track in math and science.

The project involves both classroom activities and a trip to UNM or access to UNM equipment. The interaction with the students occurs in two primary ways. The first is the Outreach and Laboratory Visit Program for classes that can come to UNM, and the second is the Space Technology Academy for students in outlying regions of the state. In the Outreach and Laboratory Visit (OLV) program, UNM scientists and university students, preferably minority science or engineering students, present and lead inquiry-based activities at the students’ schools to teach important concepts and research skills in space science. The classroom activities culminate with a trip to UNM. Teachers receive training during MESA meetings on activities and science content. They learn how to include additional activities and possible extensions in areas such as Math, which can be applied to their regular classes, as well as their
I. RESEARCH

MESA groups. In the Space Technology Academy, students receive training similar to the class visits in the OLV program. This aspect includes transporting university equipment such as robots and meteorite and lunar sample microscope investigations to the outlying portions of the state. Parent involvement includes content based programs at the Fall open house meetings at individual schools, and involvement in the Space Technology Academy programs. Both the curriculum and pedagogy in this project follow the national science (NRC) standards.

h. Impact Cratering, Volcanism, and Volatile Transport on Mars (Funded by NASA, JPL).

This project will provide support for the further development of the Mars Oxidation Experiment. This experiment consists of thin film sensor assemblies that will provide unique information about the chemistry and the reactivity of the martian atmosphere and soil and is being developed for further flight opportunities. Extensive work on volatile transport involving volcanic and impact crater processes suggests that the Martian soil may be a sink for a large number of volatile elements, including trace metals of great health concern to future human exploration. On Mars, hydrothermal systems driven by heat from impacts and volcanism concentrate volatile elements at the surface. In contrast to the Earth, these enriched elements will not be transported to the oceans by extensive fluvial action and erosion. This project involves creating a model of the expected enrichments of minor elements in the Mars soil from impact and volcanic processes. The different components include chondritic material, fumarolic deposits, and mobile elements released by chemical alteration and transported into the martian surface. This approach will allow the use of the available Martian and terrestrial analog data to constrain the abundance of elements not directly measured.

i. Exploring the Solar System Course for Teachers (Funded by NASA, Space Telescope Science Institute)

The major focus of this proposal is teacher resources and training. We will present and develop a course entitled “Exploring the Solar System”. The course will be a partnership between a planetary scientist with educational outreach experience, Dr. Horton E. Newsom, and a professional educator, Dr. Kathryn Powell. The audience for the course is pre-service and in-service science teachers. The course will be presented in the summer, which will allow in-service teachers to attend easily. The goals of the project are to provide both content regarding planetary science, and
I. RESEARCH

curriculum materials in the form of active learning activities which emphasize investigation and inquiry. We will evaluate the success of this project by using pre- and post-tests of science knowledge and knowledge of activities appropriate for a K-12 audience. The results of the project will be disseminated through the Institute of Meteoritics education web page.

j. Site Selection Studies, Parana Basin, Margaritifer Sinus Region of Mars (Funded by NASA, SETI institute)

This project represents the work on the completion of mapping of hydrothermally influenced impact craters near Parana Vallis, Margaritifer Sinus region of Mars, with Dr. Jack Farmer. We will provide information about the potential for hydrothermal activity involving impact craters in potential Mars landing sites. Impact craters have the potential to be important sources of near-surface hydrothermal deposits that are key sites for the search for life on Mars. The most likely time frame for looking for evidence of life on Mars is during the earliest Noachian period on Mars, dating back to the period of heavy bombardment prior to 3.5 By ago, when water was more abundant. During this time when small valley networks formed, surface erosion occurred at a rate of 10 to 1,000 times greater than present. A warmer climate and a denser atmosphere are usually assumed for this time period. During this ancient period, the formation of impact craters was a major source of heat for hydrothermal systems. In addition to impact melt, the central uplift provides a source of geothermal heat, and may represent the best location to obtain deep mantle samples. The combination of hydrothermal systems and impact crater lakes, where turbidite sedimentation can preserve evidence of life, will be an important environment for future exploration. These hydrothermal systems and lakes will be supplied by ground water that could carry in preexisting organisms from deep aquifers. Thus, the impact craters could represent Petri dishes for the culturing and preservation of life on Mars.

k. "Geomicrobiological Interactions of Microbial Communities in Cave Deep Subsurface Environments: A Novel Extreme Environment (Funded by Life in Extreme Environments (LEXEN) Program)

Caves offer accessible subterranean environments in which to study the diversity of microbial life. These ecosystems are exposed to extreme environmental stresses and may be based on inorganic energy sources rather than sunlight. An excellent example of subterranean microbial life is found in Lechuguilla Cave (New Mexico), the deepest cave in the continental United States. Lechuguilla Cave, an immense, ancient cave in
near pristine condition, contains sulfur, iron, and manganese deposits and extremely low nutrient environments harboring diverse microbial life. The carbonate wallrock and overlying corroded limestone provide an excellent model for studying how life has survived, adapted, and altered this rock environment. Preliminary evidence suggests that the diverse community of microorganisms inhabiting corrosion residues includes fungi and bacteria that live by using manganese and iron. As collaborators with Professor Clifford Dahm of the Biology Department, we are investigating the nature of the unusual microorganisms present, the means by which they adapt to their extreme environment, the energy sources that they use, and the overall level of biological activity of the communities. Because of the potential for subsurface life on other planets and possible chemical similarity to Lechuguilla Cave, our research also explores the relevance of cave communities to those that may exist elsewhere.

2. Grants and Contracts

Table 1 documents that IOM was well funded by NASA and NSF during FY 98/99. Grant contract expenditures totaled $543,300. Table 2 lists grants and contracts that are already in effect or have already been approved. A total of $594,100 remains in these grants and contracts. In summary, IOM continues to enjoy healthy grant/contract support in these times of rigorous competition and limited budgets in the major funding agencies.
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<td>F. Rietmeijer</td>
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<td>NASA</td>
<td>Space Science Education for New Mexico Mesa Students (NAG9-1017)</td>
<td>H. Newsom</td>
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<td>Microbeam Studies of Planetary Materials. (New SEM) (NAG5-424253)</td>
<td>J. Papike et al.</td>
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<td>J. Papike/Shearer</td>
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<td>NASA</td>
<td>Spinels as Recorders of Planetary Basalt Evolution: Martian Samples (NGT 9-31)</td>
<td>J. Papike/Herd</td>
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<td>NASA</td>
<td>Deciphering Sulfur Isotopic Systematics as a Potential Biomarker in ALH 84001. (NAG5-6105)</td>
<td>C. Shearer/Papike</td>
<td>19K</td>
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<td>JPL/NASA</td>
<td>Impact Cratering, Volcanism and Volatile Transport on Mars. (961100)</td>
<td>H. Newsom</td>
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<td>SETI Inst.</td>
<td>Mars Landing Site Studies (CHK 23740)</td>
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<td>NASA</td>
<td>Exploring the Solar System for Teachers. (ED-90160.01-97A)</td>
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### TABLE 2: GRANTS AND CONTRACTS THAT WILL BE IN EFFECT FOR FY 1999/2000

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<td>NASA</td>
<td>Institute for the Study of Biomarkers in Astromaterials (NAG9-1111)</td>
<td>J. Papike/Sharp, Shearer</td>
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<td>NASA</td>
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<td>Geomicrobiological interactions of microbial communities in deep cave subsurface environments: a novel extreme environment. (DEB-980906)</td>
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3. **Papers Published (and in Press) in Peer Reviewed Journals and Books (1998-1999)** (Members of IOM in bold print; an asterisk [*] used for Student authors).


4. Abstracts of Papers Presented at Professional Meetings

(Members of IOM in bold print; student authors indicated with an asterisk [*])


I. RESEARCH


I. RESEARCH


Shearer, C.K. (1999) From central Massachusetts to the Moon: Understanding the evolution of early planetary crusts using the crystal chemistry of the rock forming minerals. EOS, 80 (Supplement), S360


I. RESEARCH


5. Professional Travel by IOM Personnel

**July 5-8, 1998.** Cooperative field excursion and sampling expedition with Dr. Jack Farmer at Ries Crater, Germany. H. Newsom.


**July 19, 1998.** Visited with staff members of the Max-Planck-Institute, Mainz, Germany. H. Newsom.


**August 9-14, 1998.** Attended the 17th General Meeting International Mineralogical Association, Toronto, Canada. F. Rietmeijer.

**August 10-12, 1998.** Participated in the Mars Sample Return Workshop #2, Pasadena, CA. J. Papike.


**September 18-20, 1998.** Attended “Moon 98” Workshop at the Lunar and Planetary Institute, Houston, TX. J. Papike, C. Shearer.


**September 30, 1998.** Visited the Geosciences Department, Free University of Amsterdam, The Netherlands. Gave talk titled, “Atmospheric dust: Good or bad, and what’s up there?” F. Rietmeijer.


November 3-6, 1998. Presided as Chair for the Curation and Analysis Planning Team for Extraterrestrial Materials (CAPTEM) at Houston, TX. J. Papike.

November 4-6, 1998. Attended Astrobiology Institute meeting at the Ames Research Center, Moffett Field, CA. C. Shearer.


December 7-10, 1998. Attended the MSHARP meeting and Mars 98 Launch, Cape Kennedy, FL. J. Papike


January 23, 1999. Invited talk (co-presented with Drs. Penny Boston and Diana Northup) at Carlsbad Environmental Monitoring and Research Center, New Mexico State University, Carlsbad, NM. M. Spilde


March 19-21, 1999. Presided as Chair for CAPTEM meeting, Houston, TX. J. Papike.


May 7, 1999. Attended meeting of the external review panel for the "New Mexico Collaboration for Excellence in Teacher Preparation" (CTEP) project, Shiprock, NM. H. Newsom.


May 8, 1999. Gave presentation to the Northern New Mexico Regional Meeting of New Mexico MESA middle school and high school student clubs at the San Juan Community College, Farmington, NM. H. Newsom.


May 20-21, 1999. Attended the 125th anniversary of the Department of Geology and Geophysics, University of Minnesota, and received the Outstanding Achievement Award of the University of Minnesota. J. Papike.


June 1-4, 1999. Attended the AGU Spring Meeting, Boston, Robinson + Morse Symposiums. C.K. Shearer chaired the Robinson symposium.


SECTION II

FACILITIES
II. FACILITIES

1. Curation and Meteorite Museum
   As in previous years, the Meteorite Museum has been an important educational and recreational attraction on campus and has been visited by many school groups and tourists. Public interest in the museum and meteorites received considerable stimulation as a result of the announcement in August, 1996, of evidence for putative life on Mars and this high level of interest continues. Local interest in meteorites also greatly increased following the fall of the Portales Valley meteorite on June 13, 1998, in Eastern New Mexico. The number of visitors to the museum increased as a result. Our faculty, staff, and students conducted tours for elementary and high schools and other interest groups. The continuing popularity of the Museum and our tours emphasizes the important educational role of this facility for the local community.

   The Institute's collection has continued to be a very important resource for researchers worldwide, and we have been quite active loaning and providing samples to a number of scientists. In addition, the research agenda and teaching activity within the Institute continues to make extensive use of samples from the collection.

   During 1998-1999, the Institute was fortunate to obtain samples of several new meteorites that were not previously represented in the Institute's collection. Several of these samples have been purchased with Institute funds and public donations to the museum. Others have been obtained through exchanges. The Institute's collection now contains samples of approximately 580 meteorite falls and finds from around the world. IOM participated in a consortium of universities that collectively purchased one of the large Portales Valley stones.

2. Experimental Petrology Laboratory
   The experimental petrology laboratory includes two vertical muffle tube high-temperature furnaces: a Deltech furnace and an Astro furnace. Both have gas-mixing capabilities and programmable temperature control, and are operational up to 1600°C under a wide range of oxygen fugacities. Several different types of experiments are being conducted, including 1) an investigation of pyroxene microstructures formed at different controlled cooling rates, and during various annealing conditions, 2)
II. FACILITIES

measurement of diffusion coefficients, 3) a kinetic study of olivine reduction reactions and 4) a study of partial melting of an ordinary chondrite.

3. Electron Microprobe and Scanning Electron Microscope Laboratories

Our JEOL 5800LV scanning electron microscope (SEM), which was purchased new in 1997, continues to enjoy heavy use. The SEM provides high magnification imaging of samples in both high and low vacuum modes, along with quantitative energy dispersive x-ray analysis, cathodoluminescence imaging and sophisticated software for quantitative image analysis. The SEM lab and the JEOL 733 electron microprobe lab provide analytical and imaging services for Institute, Departmental, University and non-academic clients. The labs also provide training for academic and non-academic users. The probe currently has 9 Departmental and IOM users, 2 users from the University of Nevada, Las Vegas and 1 from the University of Silesia, Poland. The SEM has 22 users from UNM, NM Tech, Sandia, NM Museum of Science and Natural History, along with a number of trained commercial users. Eight new users were trained on the microprobe and SEM this year.

IOM personnel provided analytical services for a number of academic and non-academic clients in 1998-99. C. Adcock or M. Spilde performed analyses and other work for the following academic clients:

S. Burt, Biology Department, UNM (SEM)
T. Cail, University of Nevada-Las Vegas (SEM & microprobe)
J. Cline, University of Nevada-Las Vegas (SEM & microprobe)
P. Crown, Anthropology Dept., UNM (microprobe)
N. Dhaval, Center for Microengineered Ceramics, UNM (SEM)
H. Fan, Chemistry & Nuclear Engineering Dept., UNM (SEM)
J. Husler, Dept. of Earth & Planetary Science, UNM (SEM)
K. Kim, Mechanical Engineering Dept., UNM (SEM)
V. King, Anthropology Dept., UNM (SEM)
C. Klein, Dept. of Earth & Planetary Science, UNM (SEM)
B. Klemme, Dept. of Physics & Astronomy, UNM (microprobe)
B. Kues, Dept. of Earth & Planetary Science, UNM (SEM)
T.D. McCarson, Dept. of Physics & Astronomy, UNM (SEM)
O. Mills, Michigan Technical University (microprobe)
NM Engineering Research Institute, UNM (SEM)
H. Newsom, Institute of Meteoritics, UNM (SEM)
L. Ruedos, Biology Department, UNM (SEM)
C. Shearer, Institute of Meteoritics (SEM & microprobe)
II. FACILITIES

A. Steffen, Anthropology Dept., UNM (SEM)
A. Tsai, Center for Microengineered Ceramics, UNM (SEM)
D. Vaughn, Anthropology Dept., UNM (SEM)
J. Zhang, Chemistry & Nuclear Engineering Dept., UNM (SEM)
H. Xu, Dept. of Earth & Planetary Science, UNM (SEM)

Analyses were conducted for the following commercial clients and government agencies:

B. Allen, NM Bureau of Mines & Mineral Resources (SEM)
Environmental Robotics, Albuquerque (SEM)
Innovative Technology Solutions Corp., Albuquerque (SEM)
R. Gehringer, SiNaF, Inc., Albuquerque (SEM)
H. Hawkins, Los Alamos National Laboratory (microprobe)
V. Lueth, NM Bureau of Mines & Mineral Resources (SEM)
KOB TV, Albuquerque (SEM)
NBC Dateline, Burbank, CA (SEM)
NM Attorney General’s Office, Santa Fe (SEM)
NM Office of Mineral Trustee, Santa Fe (microprobe)
NM Water Lab, Albuquerque (SEM)
P. Noll, Los Alamos National Laboratory (microprobe)
QM Technologies, Albuquerque (SEM)
P. Provencio, Sandia National Laboratory (SEM)
Solv-Ex, Inc., Albuquerque (SEM)
Superior Micropowders, Albuquerque (SEM)
Sumner Associates, Albuquerque (SEM)
TPL, Inc., Albuquerque (SEM & microprobe)

In addition to providing analytical services to the community and training for graduate student and faculty/staff users, the labs are also involved in educational classes and public outreach programs. Presentations of general science interest were given to middle and high school classes and other groups. Throughout the year, we hosted school groups from Ernie Pyle, Garfield, Polk, Van Buren, and Washington Middle Schools and Valley and Hogaress High Schools. Most of these groups were part of the MESA Program; groups were also hosted from the Southwestern Junior Science and Humanities Symposium, Space Science Class, and Pace.

Information on modern analytical techniques is also provided for University classes. Two classes, Anthropology 570 "Ceramic Analysis Class" and Biology 402/502 "Geomicrobiology" were hosted for lectures and demonstrations in the probe and SEM labs.
4. The UNM/SNL Ion Microprobe

A CAMECA IMS 4f Secondary Ion Mass Spectrometer (SIMS), originally purchased by Sandia National Laboratories (SNL) in 1989, is located in the Advanced Materials Laboratory on the UNM South Campus. This instrument is used primarily for trace level (ppb range) chemical analyses on small (< 30 μm) areas. In addition, it is also used for determining the isotopic signatures of small domains within geochemically significant specimens. This machine is also used for determining high resolution (< 10 μm) chemical depth profiles within geological and engineered materials. This instrument is jointly operated and managed by IOM and SNL Department 1823. The IOM operator is Charles Shearer.

Since mid-1993 the Facility has been funded by the National Science Foundation as an external user facility (Facilities and Instrumentation Program). A request for an extension was submitted to NSF in December 1996 (PIs: Papike and Shearer). This application was successful and the current arrangement is funded through July 1999.


Brearley, Adrian, UNM  
Dyer, M. Darby, Mount Holyoke College  
Grew, Ed, University of Maine  
Heikoop, Jeff, Los Alamos National Lab  
Hickmont, Don, Los Alamos National Lab  
Jones, Rhian, UNM  
 McKay, Gordon, Johnson Space Center  
Meurer, Bill, Duke University  
Nielsen, Roger, Oregon State  
Schwandt, Craig, Johnson Space Center  
Selverstone, Jane, UNM  
Sours-Page, Rachel, Oregon State  
Spilde, Mike, UNM  
Taylor, Larry, University of Tennessee
SECTION III

TEACHING

Institute of
International Studies
UNIVERSITY OF NEW MEXICO
III. TEACHING

1. Courses Taught

Fall 1998


Spring 1999


Anthro 570 “Ceramic Analysis.” Guest lecture and probe/SEM demonstrations by M. Spilde

Summer 1999


2. Fall 1998 IOM Research Seminar Series
organized by C.K. Shearer. “Planetary Problems: Isotopic Solutions?”

September 14: “Moon.” C. Shearer/J. Papike
September 21: “Moon.” Discussion.

October 5: “Mars.” Discussion.

October 19: “Asteroidal Magmatism.” Discussion

October 26: “Oxygen isotopes in chondritic components.” R. Jones/A. Brearley
November 2: “Oxygen isotopes in chondritic components.” Discussion


November 30: “Iron Meteorites and Core Formation.” Discussion
III. TEACHING

3. **Spring 1999 IOM Research Seminar Series**

January 25: "Educational Outreach Activities and Update on Mars Soil Formation Studies." H. Newsom

February 1: "Experiments on Metastable Eutectics: Lessons for Interstellar Dust." F. Rietmeijer

February 8: "Understanding Eruptive Mechanisms Using Stable Isotopes." C. Shearer

February 15: "Formation of chondrules and CAIs: Observations and models." R. Jones


March 8: "Co-Ni Systematics in Olivine from Lunar Mare Basalts." J. Papike


April 19: "Corrosion Residues: Cozy Home or Living Hell for Microbes?" M. Spilde

April 26: "Oxygen Fugacity of the Basaltic Shergottites: Post-LPSC Insights and an Update on Johnson Space Center Experimental Work." C. Herd

4. **Student Committees**

Graduate Student Advisement

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<tr>
<th>Student</th>
<th>Committee</th>
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<td>Justin Hagerty</td>
<td>M.S.</td>
<td>J.J. Papike (Academic Advisor)</td>
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<td>H.E. Newsom (Research Advisor)</td>
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<tr>
<td>Chris Heil</td>
<td>M.S.</td>
<td>J.J. Papike (Academic Advisor)</td>
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<td>H.E. Newson, C.K. Shearer (Research Advisors)</td>
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<td>Christopher Herd</td>
<td>Ph.D.</td>
<td>J.J. Papike (Advisor)</td>
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<td>C.K. Shearer (Committee)</td>
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</table>
III. TEACHING

Jim Karner  Ph.D.  J.J. Papike (Advisor), C.K. Shearer  
(Committee)

Gordon Keating  Ph.D.  J.J. Papike (Committee)

5. Progress of Earth and Planetary Sciences Department Graduate Students Supported by IOM

Justin Hagerty completed the first year of his Master's degree program, which included passing the comprehensive oral exam. He also worked with Dr. Newsom to create and implement inquiry-based activities for students (grades 6-12). This program introduces students to planetary science, the scientific method, and the high technology instruments used in our research. This work is funded through PACE, which is managed by the Equal Opportunity Programs Office at the Johnson Space Center.

Justin’s poster presentation, “Introducing planetary science and technology to students from grades 6-12,” was presented at the 30th Lunar and Planetary Science Conference, Houston, Texas.

Chris Heil began his M.S., but has now left the program.

Chris Herd is actively pursuing his Ph.D. with emphasis on thermodynamic phase equilibrium models for oxygen fugacity determination, continued testing of the microprobe oxygen technique, TEM work focusing on independent ferric/ferrous ratios, and SIMS work on martian olivines. With funding from the NASA Graduate Student Researchers Program, he traveled to Houston to work with Dr. John Jones at the Johnson Space Center for two weeks, carrying out crystallization experiments on a synthetic martian melt composition. He plans to return in the near future to continue more experiments.

Poster presentations titled, “Estimates of oxygen fugacity in the basaltic shergottites from electron microprobe oxygen analysis.” were given at The Geological Society of America 1998 Annual Meeting and the Workshop on the issue Martian Meteorites: Where do we stand and where are we going?
An oral presentation was given at the 30th Lunar and Planetary Science Conference titled, “Nonstoichiometry in SNC spinels: Implications for the determination of oxygen fugacity from phase equilibria.”

Jim Karner has recently begun working as a Laboratory Technician in the Microprobe lab while he begins to pursue his Ph.D. degree. Jim obtained his M.S. from Earth and Planetary Sciences at UNM in 1997.
SECTION IV

DEPARTMENTAL AND UNIVERSITY ACTIVITIES

Institute of Meteoritics
1944

UNIVERSITY OF NEW MEXICO
IV. DEPARTMENTAL AND UNIVERSITY ACTIVITIES

R.H. Jones

Manager of Experimental Petrology Laboratory

Curator of Meteorite Collection

H.E. Newsom

Member, New Mexico Space Grant Faculty Advisory Board

Educational Outreach Coordinator, Institute of Meteoritics

J.J. Papike

Director of IOM

Member of Earth and Planetary Sciences Facilities Committee

Member, Arts & Sciences Senior Tenure Committee

Chair, Arts and Sciences Committee for Analytical Laboratory Coordination (CALC)

Earth & Planetary Sciences Search Committee for a New Mineralogist.

Earth & Planetary Sciences Search Committee for a New Volcanologist.

C.K. Shearer

Manager, ICP-MS Laboratory

Manager, SIMS Laboratory

Member of Earth and Planetary Sciences Facilities Committee
M.N. Spilde

Manager, Electron Microprobe and Scanning Electron Microscope Labs.

Member, Department of Earth and Planetary Sciences Computer Committee.

Visitors to IOM

February 1, 1999. Dr. Alan Binder, Principal Investigator on Lunar Prospector, presented a talk, "Lunar Prospector Update."


February 24-25, 1999. Dr. S.L. Hallenbeck, National Research Council Fellow, NASA Goddard Space Flight Center, Greenbelt, Maryland, presented talk to IOM staff and guests.

April 12, 1999. Dr. Victor Baker, University of Arizona, met with IOM personnel.

May 1-31, 1999. Professor J. Janeczek, Faculty of Earth Sciences, The Silesian University, Sosnowiec, Poland.

May 20, 1999. Dr. Conel Alexander, Department of Terrestrial Magnetism, Carnegie Institution of Washington, presented a seminar, "Searching for geochemical clues to conditions in the early solar nebula."
SECTION V

PROFESSIONAL ACTIVITIES
V. PROFESSIONAL ACTIVITIES

In addition to the activities listed below, members of IOM reviewed numerous manuscripts for international journals and proposals submitted to federal funding agencies.

R.H. Jones

Abstractor of “Meteoritics” for Mineralogical Abstracts

H.E. Newsom

Associate Editor, Geochemica et Cosmochimica Acta, Journal of the Geochemical Society and the Meteoritical Society

J.J. Papike

Chair, NASA Curation and Analysis Planning Team for Extraterrestrial Materials (CAPTEM) 1997 - 1999
Member, NASA Mars Expeditions Strategy Group (MESG) 1997 - 1999
Member, NASA Cosmochemistry Management and Operations Working Group (MOWG) 1997 - 1999
Member, NASA/Johnson Space Center, Astromaterials Working Group (AWG). Advisory to Center Director 1998-2001
Member NASA Mars Sample Handling Requirements Panel (MSHARP) 1997-1998
Member, NASA Working Group to define Mars Exploration Architecture 2000-2010
Member, NASA Working Group for Mars Sample Return Architecture
Member NASA Lunar Data Analysis Review Panel (LDARP)
Member NASA Mars 2001 Site Selection Committee 1999-1000
Member NASA (SScAC) 1999-2002 Space Science Advisory Committee

F.J.M. Rietmeijer

Panel Member, NASA Johnson Space Center Cosmic Dust Working Group, 1999
Panel Member, 30th Lunar and Planetary Science Conference Program Committee, 1999
English Language Volunteer Editor for the American Geophysical Union

40
C.K. Shearer

Mineralogical Society of America Representative to American Geological Institute
AGI Ian Campbell Medal Committee
USRA member of the review committee for the Lunar and Planetary Institute
Organizer for AGU theme session, “Peter Robinson Symposium”
Keynote Speaker for Meteorites and Impacts Advisory Committee.
Convener for Moon II Workshop to be held in Flagstaff, Arizona, September, 1999.

Mike Spilde

President of the New Mexico Microbeam Users Group.
SECTION VI

EDUCATIONAL OUTREACH

AND

PUBLIC SERVICE

Institute of
Meteoritics
1941

UNIVERSITY OF NEW MEXICO
VI. EDUCATIONAL OUTREACH AND PUBLIC SERVICE

1. Meteorite Museum

The Meteorite Museum is the most important focus of the Institute of Meteoritics' educational outreach. Several thousand people of all ages visit the Museum each year and many school parties visit the Museum to enhance scientific projects in Earth Sciences and Solar System studies. IOM personnel commonly volunteer to give guided tours of the Museum and laboratories to groups of visiting students. Some of the groups given tours include: Menaul School, Monte Vista Elementary, Santo Domingo School District; and we hosted an open house for the Albuquerque Gem and Mineral Club.

Several members of IOM have visited schools in the area to give talks on various aspects of planetary sciences. IOM participated in Astronomy Day held at Coronado Center on May 22, 1999, and the exhibit generated considerable interest. In addition to the public education provided by the Museum, we are routinely consulted by members of the public to help identify suspect meteorites and to provide information on meteorites and associated phenomena. During the period of this report, we have examined over 100 samples, two of which have proved to be meteorites. We have met and corresponded with numerous people from all over the world in providing this service.

2. Public Service

C. Herd

Coordinated and conducted tours of the Meteorite Museum for visiting elementary, middle, and high school students.

Assisted with Astronomy Day activities at Coronado Mall, May 22, 1999.

R.H. Jones

Coordinated and conducted tours of the Meteorite Museum for visiting elementary, middle, high school, and UNM students, as well as other interested groups.

Identified numerous suspect meteorites received in the mail from members of the public and answered telephone and e-mail queries. Also, met with people who personally brought in samples for examination.

Set up and coordinated the IOM meteorite exhibit at Astronomy Day, Coronado Mall, on May 22, 1999.
VI. EDUCATIONAL OUTREACH AND PUBLIC SERVICE

H.E. Newsom
Member, New Mexico Space Grant Faculty Advisory Board
Educational Outreach Coordinator, Institute of Meteoritics
College of Arts and Sciences Course, Curriculum, and Laboratory Improvement (CCLI) Proposal Committee.
Developed educational initiatives for the Institute of Meteoritics. We received funding from the Space Telescope Science Institute and the Minority University Education and Outreach Division of NASA.
Represented IOM at the College of Arts and Sciences Alumni Reunion, October 9, 1998, Geology & Meteorite Museums, University of New Mexico.
Met with members of the public who brought in suspect meteorite samples for examination.
Assisted with Astronomy Day activities at Coronado Mall, May 22, 1999.

F.J.M. Rietmeijer
Guided tours for middle school students visiting the Meteorite Museum.
Participated in an investigation of a putative meteorite recovered from a fireball event that occurred over Colorado Springs, Colorado.
Advised Dr. S. James, School of Physics, Canberra, Australia, on a class project to collect micrometeorites.
Hosted Dr. S.L. Hallenbeck, of the National Research Council Fellow, NASA Goddard Space Flight Center, Greenbelt, Maryland, February 24-25, 1999.
Hosted Professor J. Janeczek, Faculty of Earth Sciences, The Silesian University, Sosnowiec, Poland, May 1-31, 1999.

C.K. Shearer
Board of directors for Eastdale Little League.
Conducted tours of ICP-MS and SIMS labs.
Assisted with science programs in Albuquerque middle schools.

M.N. Spilde
Conducted SEM demonstrations for the Southwestern Junior Science and Humanities Symposium and other school groups from throughout the State of New Mexico.

Conducted microprobe and SEM lab tours for several elementary and high school groups.

Examined potential meteorite specimens for the public.
VII. PUBLICITY
VII. PUBLICITY

1. Departmental Activities

During the year, IOM has seen a substantial increase in the amount of inquiries concerning suspect meteorites and/or general information concerning the composition of meteorites, where to search for meteorites, and our public service for identifying meteorites. This in turn has created media attention toward our department. Our staff participates and cooperates with the various newspapers, periodicals, radio and television requests to the best of our ability and resources.

Justin Hagerty

Mentioned in the article, “Data shows Mars was once wet,” New Mexico Daily Lobo, May 5, 1999

Rhian Jones
Interviewed by Channel 4 News about the Portales Valley meteorite.

Horton Newsom

Interviewed by The Santa Fe New Mexico for the article, “LANL scientists find more water on moon,” September 3, 1998.

Interviewed by the New Mexico Daily Lobo for the article, “Data shows Mars was once wet,” May 5, 1999.

E.J.M. Rietmeijer
Broadcast interview on the Leonard Storm, KRQE Channel 13, November 16, 1998.

Broadcast interview on the Leonid Storm, KOB Channel 4, November 17, 1998.

M.N. Spilde
In January, newspapers affiliated with the Associated Press News Service published an article concerning the ongoing research at Spider Cave, Carlsbad Caverns National Park, NM.


Received photo credit for electron micrograph used in the article, “In the Jaws of Caves,” *Science World Magazine*, 55(12):15-17.

Interviewed and photographed by *National Geographic* staff for an article covering life on other planets as it pertains to the research at the Cueva de Villa Luz, Tapihulapa, Tabasco, Mexico. Publication expected in the January, 2000, issue.

**C.K. Shearer**

Provided background information for several science articles that appeared in the *Albuquerque Journal*. 
Mysterious organism eats cave walls, vexes scientists

Researchers descend to find source of corrosion

by Mike Spilde
Daily Lobo

Northup said he wants to replicate the bacteria in a lab and, ultimately, discover the organisms' DNA. Dahm also said many types of bacteria may live in the cave.

Mike Spilde, a research scientist in the UNM Geology Department, will examine the rocks in the cave to discover what the bacteria are eating and what the spongy residue is. The strange thing about the residue, Spilde said, is that within a few feet, it ranges from being extremely basic to extremely acidic.

The study is funded for three years through a $292,000 grant from the National Science Foundation. The grant, called "Life in Extreme Environment," funded 19 proposals this year and that have been developed in the cave.

"On a given team, the limit is six," Northup said of researchers allowed in the cave.

organisms continued from page 1

focus is to encourage interdisciplinary work.

Another goal of the work done through the grant is to discover what organisms on Earth might be representative of life forms on other planets, Spilde said the conditions deep in Lechuguilla Cave may be similar to subterranean environments on Mars, and the organisms may also be similar.

At the very least, Northup said, "there's a huge potential to find new organisms."

Lechuguilla Cave was discovered in 1986 and has so far yielded 89 miles of passageways. A very limited number of researchers are allowed in the cave at one time so they won't disturb the specialized life forms that have developed in the cave.
MESA: Many Success Stories

Program celebrates 15 years of encouraging students to excel in math, science and engineering

BY BARBARA CHAVEZ
Journal Staff Writer

The pictures on the wall in Evangelina Sandoval's office are more for inspiration than decoration.

The photos show smiling teens — some working with scientific tools or observing experiments — who have been involved with New Mexico MESA. The nonprofit group, which this year is celebrating its 15th anniversary, promotes math, engineering and science studies for minority students from sixth grade through high school.

Sandoval is the state executive director of MESA. From her office near the University of New Mexico, she and her 13-member staff run a program that serves more than 3,000 students. It provides tutoring, special projects, field trips and counseling on colleges and careers.

According to Sandoval, a recent survey found that 97 percent of MESA graduates go on to colleges and universities. Of those students, more than 70 percent choose math, engineering or science majors.

"We emphasize increasing the numbers of women, Black, Native American and Hispanic students in these fields," Sandoval said.

Francisco Doñez is among the thousands of MESA graduates who are putting their college degrees to work.

Doñez, a 1987 graduate of West Mesa High School, is a regulatory impact analyst at the Environmental Protection Agency in Washington, D.C.

"MESA makes it cool to be smart," said Doñez, who graduated from the Massachusetts Institute of Technology then earned a master's degree at Georgia Institute of Technology.

Sandoval said Doñez "is a good example of what MESA graduates are like. They're motivated, energetic and over-achievers."

The MESA program, which won a Presidential Award for Excellence in Education last year, offers tutoring by professionals in various fields. There are community service projects, study groups and field trips. The program offers counseling about careers and college. In addition, it awards college scholarships to some participants. In 1997, the scholarships totaled $75,300.

Sandoval said she is proud of the fact that most MESA students succeed in college.

"If you look at the reasons why students drop out of college and why they stay in, academic preparedness ranks high as a factor," she said.

"Committing to four years of college preparatory math and science, even though in New Mexico you can graduate with less to enter college, is the best way we've found to prepare students for college. It's working."

To become a MESA participant, a student must have a 2.0 grade-point average and be enrolled in college preparatory math, science and English classes.

Sandoval said she tries to keep track of MESA graduates.

"The colleges they are attending are incredible: MIT, New Mexico Tech, Occidental, Stanford, you name it," she said. "There's no greater measure of our success than by seeing what our MESA alumni are doing now."

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Meteorites exorbitant

BY SETHI BORENSTEIN

WASHINGTON: Rocks from outer space are so hot — in price, not temperature — that scientists can barely touch them anymore.

Meteorites are so highly prized as high art and sold as appreciating collectibles at prices so high that the scientists and museum curators who need them for legitimate research are losing bidding wars. And that hampers science, many experts said.

Some meteorites cost 100 times the price of gold. Pieces of Mars can go for $1,000 or $2,000 a gram — a price that is practically the equivalent of the early meteorite-acquisition budget for some research institutions. But the higher prices also mean more people are hunting for and finding different kinds and larger numbers of space rocks.

"There’s no doubt it hurts science," said Case Western Reserve University geologist Ralph Harvey. "It’s a real problem, and it’s not just meteorites. It’s rare natural specimens of any kind. Fossils are even more a victim." Martin Prinz, curator of meteorites at the American Natural History Museum in New York, said: "There are some things I don’t even try to get. There are lunar materials around, and you hear of these ridiculous prices. . . . They want millions of dollars, tens or thousands of dollars."

"We can't compete, basically," added Rhian Jones, curator for the Institute of Meteoritics at the University of Mexico. She said dealers cut large space rocks into more profitable small pieces, "and the beauty of the large piece has been lost."

In a drab trolly-filled room at the Smithsonian Institution in Washington, meteorite curator Tim McCoy pulled open a drawer to point at the cause of the soaring meteorite prices.

It’s a rock from Mars. There are more than a dozen meteorites from Mars, but in 1996 NASA scientists said this rock, ALH84001, might contain a fossil of what could have been life from another planet. People lined up outside the museum to see the rock.

Now most scientists doubt the rock contains remnants of Martian life. But it’s too late. That Martian meteorite, combined with two hit movies last year that featured asteroids raining down on Earth, set up a new economy in space rocks. "Martian meteorite (prices) have gone up by a factor of 10 since then," McCoy said.

And it’s not just rocks from Mars or the moon. Meteorites fall through the Earth’s atmosphere, scattering paths of material or other bits of material circling the sun intersected with Earth’s orbit. Meteorites are auctioned off at the creation of the planets or collisions early in their existence.

'Assorted offers' surface

Last summer, a 57-pound unusual meteorite — with lines of iron in it that could help scientists figure out how metals move in planet formation — fell in New Mexico's Portales Valley on artist Nolda Wallace's property. It was buried 10 inches in the ground, and was so hot her brother-in-law couldn’t pick it up at first. Wallace realized it was worth something, and within four days she was getting the first of half a dozen "serious offers."

"It seemed like people who lived in the area saw the dollar signs," Jones said. "You can’t blame them, but from our point of view it’s a scientifically interesting meteorite as well."

The University of New Mexico has a $2,000 yearly budget to buy space rocks. A private concern was offering $65,000 for the Portales Valley meteorite. "We got scientists to match the offer, but 12 museums and colleges had to band together to meet her price," Wallace said.

Wallace said scientists make lots of money studying rocks like this and it’s unfair to ask her not to get something too. The price "is very fair," she said. "Anything less than that would have caused us to cut out and buy it and then cut it up and share it with the museum, which is very unfair." Each of the 13 institutions will get a small portion of the meteorite. That hurts, because it is better to study large rocks like this in larger heterogeneous chunks, said John Wasson, the UCLA geologist who formed the consortium.

Wasson has formed three such teams to buy expensive rocks in the last four years. The high prices make strange academic bedfellows. Many years ago, UCLA and the Smithsonian practically had an armed standoff over a meteorite found out west. Now they are partners, sharing the Portales Valley meteorite.

"It is in many ways a problem because most museums and most scientists, even with NASAs support, can’t compete with private individuals who happen to be wealthy," said Klaus Klein, director of the Hawaii Institute for Geophysics and Planetary Science.

Sweetheart of an auction

The wealthy will open their checkbooks on Valentine’s Day. That’s when more than 50 meteorites — including slivers from Mars and the moon and a companion piece to the Portales Valley meteorite — will be offered for auction in San Francisco and Los Angeles by Butterfield and Butterfield, an auction house that specializes in natural history material. The "crown jewel of meteorites," a 31-pound chunk, is expected to go for around $230,000.

Many of these meteorites come from the collection of Darryl Pitt, a New York music executive who has tried to turn the more common iron meteorites into objects of art. He compares them to sculptures. "Meteorites as sculpture tend to generate a greater amount of meteorite consciousness," Pitt said. "Because we have a love for science we want to encourage the love and awe and splendor we have for these things."

There is one place where scientists can get rock free: Antarctica. Meteorites collected there — researchers have picked up 192 since Christmas — are turned over to NASA and the Smithsonian so any scientist can have a look. That’s what is saving meteorite science.

The increased worth of meteorites is also helping in a secondary way. More people are looking for the space rocks. The Smithsonian and NASA’s Johnson Space Center get more than 100 calls a year from people thinking they have found meteorites — but only a handful turn out to be space rocks.

How can you tell if a rock is a meteorite? Nearly all meteorites have iron in them so if a magnet does not leach when placed near the rock, it is probably not from space. If a rock has iron in it and you suspect it is from a meteorite, the next thing to do is to call a local museum or university. Do not send unsolicited rocks. "Everybody is out there to find this elusive rock from space," said Marilyn Lindstrom, the Johnson Space Center’s meteorite curator.

(OVER)
Mars Data Hint at Old Hot Springs

Pools May Have Cradled Microbes

BY JOHN FLECK
Journal Staff Writer

Mars may once have bubbled with hot springs, warm cozy pools where Martian microbes could have evolved, according to a team of New Mexico researchers.

Using data from NASA's Mars Pathfinder spacecraft, the scientists found chemicals in the Martian soil similar to what's found around hot springs on Earth.

If there were hot springs once, it's not clear whether any remain on Mars' dry, forbidding surface.

The idea that it was once wet has been a focus of research. The chemicals found in Martian soil, scientists say, are similar to those found near hot springs on Earth.

Scientists believe volcanic dust was the most likely explanation for the chemicals, but Newsom and UNM scientist Justin Hagerty teamed up with Los Alamos National Laboratory volcano expert Fraser Goff to study the chemical composition of Martian soil.

The results of their work were published last week in the Journal of Geophysical Research.

The chemicals in Martian dirt matched those Goff had found on Earth in places where water is heated by magma or hot rocks deep inside the Earth.

They resemble what you see in hydrothermal systems," Goff said.

That suggests the possibility that hot water could have created the breeding conditions for early life on Mars, the scientists reported.

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Other scientists agree.

"Horton and company are on the right track," said Allan Treiman, a researcher at the Lunar and Planetary Institute in Houston.

The hunt for life on Mars is a contentious affair.

In 1997, a team of National Aeronautics and Space Administration scientists reported finding evidence for ancient microbes in a meteorite from Mars.

Scientific support for that finding has dwindled under contradictory evidence, some coming from colleagues of Newsom's at UNM.

But lack of evidence for life in a single meteorite doesn't mean the search for life on Mars is over, Newsom said.

"One negative answer on one rock is not going to be taken by the scientific community as proof that there's no life on Mars," he said.

Mars, sometimes called "the Red Planet" because of its reddish appearance in the night sky, is a terrestrial planet like Earth, blanketed with rocky soil.

Largely dry today, it is nevertheless carved by majestic canyons suggesting that great floods once coursed across its surface.

The idea that it was once wet has led scientists to theorize that it may have harbored life, Treiman said.

The search has been driven by discoveries here on Earth, over the last decade, of life in unexpected places, from volcanic vents on the ocean floor to caves where light never enters.

"The key point is that we now understand much more about the kinds of environments that life can inhabit," said Newsom, who works at UNM's Institute of Meteoritics.

Scientists are looking for remains of single-celled organisms, not plants or animals, Treiman said.

"We're not going to findMartians walking around and saying hello to us," he said.

Newsom, Goff and Hagerty studied sulfur, chlorine and other elements in the Martian soil.

The chemicals were first discovered by NASA's Viking landers in 1976, and Mars Pathfinder collected more detailed data on them in 1997.

Scientists believed volcanic dust was the most likely explanation for the chemicals, but Newsom two years ago began exploring the possibility that hot springs could have contributed to the chemical composition of the soil.

Goss joined Newsom's team to help compare the data from Mars with chemicals found around volcanoes and hot springs on Earth.

The scientists hope to expand their work by re-evaluating data from the 1970s Viking missions.

They're also hoping a new Los Alamos National Laboratory instrument being considered for a Mars mission will give them better data on the chemicals, Newsom said.

For scientists like Newsom, it's an exciting time.

"The search for life on Mars is one of the most compelling and interesting scientific adventures that we have going on right now," he said.

ALBUQUERQUE JOURNAL

SUNDAY, MAY 2, 1999
LANL scientists find more water on moon
Discovery makes colonization of the moon more practical

BY KEITH EASTHOUSE
The New Mexican

In a discovery that makes human colonization of the moon less like science fiction and more like a real — if still distant — possibility, scientists at Los Alamos National Laboratory have found evidence that there's 10 times more water on the moon than had been previously thought.

In four scientific papers slated to be published today in the magazine Science, the lab team estimates that there are 3 billion metric tons of water — all of it frozen — at each of the moon's north and south poles.

While that is a minuscule amount compared to the amount of water at Earth's north and south poles, it is a giant leap above the initial estimate of 330 million tons of frozen water at each of the lunar poles.

Additionally, the LANL team believes the water is not scattered like frost over a wide area of the two poles as had been originally theorized. Water distributed in that way would be difficult — but not impossible — to extract.

Instead, they believe it is concentrated in numerous pockets beneath a thin covering of soil, like a series of barely buried frozen lakes. Such an arrangement could make the water easier to access, scientists said Wednesday.

LANL scientist David Lawrence said Wednesday that some of the packets appear to be 2 meters deep under a 15-feet of soil.

The water comes from the impact of numberless comets — which are 90 percent ice — slamming into the moon over the ages. The water is found only in impact craters that are permanently shaded from the sun which, in the moon's airless environment, would otherwise break the water down into vapor and release it into space.

The LANL team's findings are based on data gathered by NASA's Lunar Prospector spacecraft, which has been orbiting the moon since January. Three of the five onboard instruments on the craft were built by LANL.

Lawrence said the latest estimates of the amount of water on the moon are based on more detailed measurements of hydrogen in the soil. The initial water volume estimates

were very conservative," Lawrence said.

Scott Hubbard, head of NASA's Lunar Prospector mission, and Horton Newsom, a University of New Mexico planetary scientist, said Wednesday that the discovery of sizable volumes of water on the moon could revolutionize space travel. Instead of shipping — at enormous cost — water and rocket fuel from Earth, both could be produced on the moon from the water deposits.

"This reinforces the idea that the moon has the potential to be a major refueling station and supply station in future centuries for space exploration. (Water on the moon) has the potential to really unlock the solar system for future exploration," Newsom said.

Hubbard said the moon could serve as a training base for astronauts preparing for missions to Mars or other planets in the solar system.

Six months ago, when NASA startled the world by announcing that

Please see MOON, Page A-3
the moon harbored water, Hubbard estimated that there was enough water on the moon to sustain a colony of astronauts for several years.

With the latest water volume estimates, Hubbard said he was even more confident that an astronaut colony is feasible.

Hubbard and Newsom said the frozen deposits — some of which may be 2 billion years old — may contain pre-biotic compounds similar to those that are believed to have led to the development of life on Earth.

Both Hubbard and Newsom said the chances that the lunar water deposits may themselves harbor life are “unlikely in the extreme.”

Nonetheless, they said it might be of considerable scientific interest to extract core samples of the frozen water — perhaps by robots in future lunar missions.

The astronauts who ventured to the moon in the late 1960s and early 1970s under NASA’s Apollo program all landed in the moon’s bone-dry equatorial regions and consequently never discovered the water deposits.
Life in Darkness

Geologist Mike Spilde emerges from a crawl way in Spider Cave at Carlsbad Caverns. He is collecting samples for investigation at the University of New Mexico.

UNM Team on 'Mars Probe'
Cave’s Bacteria May Indicate Life Exists on Planet

BY CHAKA FERGUSON

The Associated Press

Carlsbad — Deep in the subterranean reaches of the Spider Cave, there is little to sustain life. No sunlight, little water, and few nutrients make this one of the most hostile environments in the world.

Yet, somehow, scientists have found microscopic creatures thriving in the “eternal darkness.”

By probing the nooks and crannies of the Spider Cave, they hope to answer a question for the ages: Is there life on Mars?

NASA planetary scientists are eager to review the findings.

The work is very relevant to Mars because we know the surface of Mars is as cold as a dove’s tail and any life there — if it exists — would live underground,” said Chris McKay, a planetary scientist at NASA’s Ames Research Center in Moffett Field, Calif.

Spider Cave, in Carlsbad Caverns National Park, feels as if it might be on another planet. Dripping stalactites protrude from the cave’s ceiling, reaching out like great tentacles. And gaping pits — like giant moon craters — are scattered haphazardly across the cave floor. The silence is as deep as the darkness.

The cave got its name from the thousands of daddy longlegs that once inhabited its entrance.

Caves are isolated ecosystems low in organic nutrients. But the microbes in the Spider Cave survive without sunlight and thrive on the basic elements — such as iron, manganese and sulfur — found in the cave walls.

Researchers have found similar microbes living in other remote places — polar caps, ocean bottoms and mountaintops.

Scientists think life might be able to support itself on a planet like Mars by feeding on underground chemicals, similar to the way bacteria in the Spider Cave survive, said Penelope Boston, part of a team of University of New Mexico researchers studying the cave.

Pénélope Boston, left, and Diana Northup collect a sample of corrosion in Spider Cave. University of New Mexico student Justin Pearce observes.

The research has practical applications, beyond the more exotic Mars probe.

Spilde is investigating corrosion caused by the bacteria. He collects samples in what cavers facetiously refer to as the conference room — one of the few places in the entire cave where a person can stand upright.

“If microbes are eating away limestone in caves, what about bridges and buildings?” Spilde asked.

The search for microscopic organisms may not have the appeal of the search for intelligent life, but NASA’s McKay said it’s just as important.

“If you look at our own planet Earth, for half of its history, life was microscopic,” McKay said. “It’s the first step to more complicated life.”
in the jaws of caves
underground secrets: get ready for the dark and dirty netherworld

by michael cannell

Ready to plunge into a world so dark the sun hasn’t hit it in millions of years? A place where bats snooze upside down in clusters of 1,000 or more and mineral deposits dye the walls crazy colors.

Then grab your helmet, flashlight, and knee pads. It’s time to go spelunking, or cave exploring. The sunlight fades from view as you rappel, or descend on a rope, into utter darkness. “It’s like entering a movie theater,” says geologist Louise Hose of Westminster College in Fulton, Missouri. “Your eyes have to adjust.”

Now sink down to your belly and squirm through a tunnel the width of a manhole cover until—finally!—you emerge inside a cavern the size of a school gymnasium.

The only sound: dripping water. The only light: the beam from your light. Put on a jacket; it’s cold down here. Cave temperatures down to 305 meters (1,000 feet) match the average yearly temperature at a cave’s surface. That’s because caves are too deep to be affected by seasonal shifts in weather outside. Typically, cave temperatures hover between 21°C (70°F) and 1°C (30°F).

But keep going. As you descend below 305 meters, you’ll be warmed by geothermal energy, heat generated within the Earth.

Welcome to the woolly world of caving, a sport long romanticized by adventurous teens and scientists, too. Now, a new generation of explorers is turning to the unexamined limits of caves that beckon just below the Earth’s crust. Geologists estimate that less than half the world’s caves have even been located. What secrets do they hold? Speleologists (cave scientists) are examining the bottom of known caves to identify the deepest caves on Earth. They are sifting debris inside caves to understand earthquakes. They’re even studying the peculiar life underground to see if it holds clues to life on other planets!
A handful of NASA scientists are searching the dark crevices of a cave in New Mexico for clues to life on Mars. Sound farfetched? NASA exobiologists (scientists who look for extraterrestrial life or life on other planets) have ruled out finding life on the surface of Mars. But they still think Martian life could lurk beneath the planet's surface. To learn more about what subterranean Mars life might be like, the exobiologists have teamed up with speleologists examining microscopic creatures living in eternal darkness in Earth's caves.

In the corners of Lechuguilla Cave (leh-cho-GHEE-ya) in Carlsbad Caverns National Park, New Mexico, speleologists have found a fragile ecosystem of microorganisms (tiny life forms including bacteria and protozoa) that can survive without sunlight. Unlike most caves, Lechuguilla contains little organic (biological) matter because it was sealed until recently. Speleologists have found that, amazingly, the microorganisms eat elements, or basic chemical substances, such as iron and sulfur found on cave walls.

Scientists believe the climates of Mars and Earth were similar 4 billion years ago. Microorganisms that developed on Earth could also have lived on the surface of a warmer, wetter Mars. So what happened to that life? It might be subsisting on the sulfur-rich Martian soil underground. “If the surface of Mars grew colder and dryer,” says NASA’s Penny Boston, “the subsurface may be the last refuge of any life that lived there.”

Scientists will know more when NASA’s Mars Climate Orbiter collects information on the planet’s geology later this year. “Eventually, we’ll go to Mars ourselves to look for life,” says Boston. “But in the meantime, life in caves will help us think about what to look for on that planet.”
Is There Life on Mars?

Researchers Dig Deep to Unlock Mystery

By Chaka Ferguson
The Associated Press

CARLSBAD, N.M., Jan. 29 — Deep in the subterranean reaches of the Spider Cave, there is little to sustain life. No sunlight, little water and few nutrients make this one of the most hostile environments in the world.

Yet somehow, scientists have found microscopic creatures dwelling in the eternal darkness. By probing the nooks and crannies of the Spider Cave, they hope to answer a question for the ages: Is there life on Mars?

NASA planetary scientists are eager to review the findings.

"The work is very relevant to Mars because we know the surface of Mars is as dead as a doornail and any life there—if it exists—would live underground," said Chris McKay, a planetary scientist at NASA's Ames Research Center in Moffett Field, Calif.

On Another Planet

Summary

Scientists hope to find the answer in Spider Cave, which offers an environment similar to Mars.
Spider Cave, in Carlsbad Caverns National Park, feels as if it might be on another planet. Dripping stalactites protrude from the cave's ceiling, reaching out like great tentacles. And gaping pits—like giant moon craters—are scattered haphazardly across the cave floor. The silence is as deep as the darkness.

The cave got its name from the thousands of daddy longlegs that once inhabited its entrance.

Diana Northup, right, and Penelope J. Boston collect a sample of corrosion residue from the cave wall behind them in Spider Cave at Carlsbad Caverns. (AP Photo/Val Hildreth-Werker)

Hard Hats and Knee Pads
Scientists think life might be able support itself on a planet like Mars by feeding on underground chemicals, similar to the way bacteria in the Spider Cave survive, said Penelope Boston, part of a team of University of New Mexico researchers who have been studying the cave for four years.

Wearing elbow and knee pads and toting hard hats with spotlights, scientists trek to the Spider Cave’s research site by hiking down a mile-long, winding trail and over rugged terrain into a canyon. That’s the easy part.

They then descend 10 feet to the first narrow opening and worm through a tight, 50-foot passage, no more than 3 feet wide and 2 feet high in some places.

“lt’s like being born again,” quips geology student Justin Pearce.

Bewildering Maze
After the first belly crawl, the cave opens into an intricate web of passages that run up to four miles in every direction. A marked trail keeps cavers from getting lost inside the bewildering maze.

The search for microscopic organisms may not have the appeal of the search for intelligent life, but NASA’s McKay said it's just as important.

“If you look at our own planet Earth, for half of its
ANNUAL REPORT

Department of Economics
University of New Mexico

July 1, 1998 - June 30, 1999

David S. Brookshire
Chair
1. Significant Developments During the 1998-1999 Academic Year

Progress continues to be made toward department goals. Significant efforts included the adoption of a tenure and promotion document, expansion of the grant research program, increased publications and new equipment funding for the experimental laboratory.

The department adopted a tenure and promotion guidelines document with an emphasis on guidelines for tenure and promotion from Assistant Professor to Associate Professor. There is a discussion that is ongoing regarding the possible detailing of the guidelines for promotion to Full Professor.

The grant research funding increased significantly this last year. The faculty submitted a significant number of new proposals and attempted to broaden the base of potential support.

The publication achievements of the faculty grew last year.

The experimental lab is aging. An initial effort was undertaken to seek funding for new equipment from NSF. We did not receive funding on this round.

2. Significant Plans and Recommendations for the Near Future

The department will consider the creation of an executive committee, salary committee and review merit salary procedures. This potentially will involve some significant changes in the rules of governance document.

A major effort is underway to prepare the departmental review document for the pending review in Fall 2000.

New funding for the experimental laboratory will be considered. The department will investigate the possibility of obtaining private funding.

3. Publications

Nine of the department faculty had 14 journal articles in the 1998 calendar year.


4. Outside Professional Activities

Eight faculty members presented 15 papers at professional meetings in the 1998 calendar year.


One faculty member was a panelist at a professional meetings in the 1998 calendar year.

Brookshire, D. 1998. Invited panelist to the NSF workshop, Alternatives to Traditional Contingent Valuation Techniques, served on panel entitled, Ultimate Problems of the Credibility of Damage and Benefit Estimates, presented talk entitled, "Laboratory and Field Research: Complements and/or Substitutes," Vanderbilt University Institute of Public Policy Studies, October.

One faculty member was a commentator at a professional meeting in the 1998 calendar year.

Bohara, A. 1998. Dimension of integration in NAFTA and MERCOSUR, the University of New Mexico, Latin American and Iberian Institute, November.

Two faculty members were invited speakers to universities in the 1998 calendar year.

Berrens, R. 1998. "Values, Equity and Institutions." Invited presentation to CRP 540 (Dr. William Fleming), School of Architecture and Planning, University of New Mexico, October.


5. Research Grants and Contracts Funded

The department received the following grants to fund faculty and graduate research during this academic year.

University of Arizona
"The Potential Consequences of Climate Variability and Change: An Assessment for the Southwest"
Chermak, J.
$12,500
July 1998 to December 1999

New Mexico Legislative Finance Committee
"Improved Methods for Forecasting State Revenue"
Bohara, A.
$14,500
October 1998 to December 1999

National Science Foundation
"An Experimental Analysis of Economic Behavior in Children"
Krause, C.
$41,957
August 1998 to July 1999

"REU: An Experimental Analysis of Economic Behavior in Children"
Krause, C.
$5,000
January 1999 to July 1999

"Effectiveness of Safety Regulation: A Study of U.S. Coast Guard Inspections, Detection of Violations, and Occurrence of Casualties"
Gawande, K. and Bohara, A.
$69,607
June 1999 to August 2000

U.S. Geological Survey
"Land-Use Models and Non-Market Values for the Rio Puerco Basin"
Brookshire, D.
$25,000
August 1998 to September 1999

Research Grants and Contracts Funded - Submitted by other departments or institutions that include Investigators and Research Scientists from the Department of Economics

AHGPR
Submitted by the Health Sciences Center
Santos, R

National Science Foundation
"Informing Contingent Valuation Methods with Internet Surveys"
Submitted by the Rochester Center for Economic Research at the University of Rochester
Berrens, R. and Bohara, A.

Research Grants and Contracts Submitted

In addition to the grants funded above, the faculty submitted the following proposals for consideration.

City of Albuquerque
"Economic Analysis and Implementation Strategy to Diversify the Albuquerque Regional Economy"
McKee, M.

National Aeronautics and Space Administration
"Data Analysis Tools for Causal Analysis and Risk Analysis of Serious Events and Serious Precursory Events from Real-Time Flight-Recorded Aviation Data"
Gawande, K. and Bohara, A.

National Science Foundation
"Economics Experimental Lab Upgrade"
Krause, C.

"Testing First and Second Generation Models of Political Economy of Trade Policy"
Gawande, K. and Bohara, A.
New Mexico Water Resources Research Institute
"The Impact of Heterogenous Consumer Response on Water Conservation Goals"
Chermak, J. and Krause, C.

U.S. Environmental Protection Agency
"Informational and Institutional Effects on Willingness to Conserve Critical Resources"
Chermak, J. and Krause, C.

University of Colorado
"An Exploratory Assessment of the Potential for Improved Water Management by Increased Use of Climate Information in Three Western States"
Brookshire, D.

Research Grants and Contracts Submitted - Submitted by other departments or institutions that include Investigators and Research Scientists from the Department of Economics

U.S. Environmental Protection Agency
"An Integrated GIS Framework for Water Reallocation and Decision Making in the Upper Rio Grande Valley"
Submitted by the Department of Geography at the University of New Mexico
Brookshire, D., Chermak, J. and Krause, C.

National Science Foundation
"A Quantitative Assessment of the Economic and Institutional Impacts of Climate Change on the Upper Rio Grande Valley Using an Integrated Geographic Information System (GIS) Framework"
Submitted by the Department of Geography at the University of New Mexico
Brookshire, D. and Chermak, J.

6. Attachments

Bachelor of Arts Degrees Conferred
43 Bachelor of Arts degrees conferred

Master of Arts Degrees Conferred
Craig Bateman
Sidney Cullipher
Matthew Holmes
Kristin Hutchens
Geng Li
Luis Medina
Doctoral Degrees Conferred
David Scrogin (Berrens) "Individual and Aggregate Approaches for Valuing Lottery Rationed Big-Game Hunting Privileges in New Mexico"
Steven Stewart (Brookshire) "Institutional Design and Individual Choice: Laboratory and Theoretical Models for the Analysis of Natural Resource Dilemmas"
Hale Thurston (Brookshire, Burness) "Policy Issues in Optimal Rainforest Management"

J. Raymond Stuart Award
Graduate students Aeneas J. Cash, III and Therese Cavlovic and undergraduate students Ned Harris and Kenneth Tapia received this honor.

Distinguished Alumnus
Arthur A. Blumenfeld received this honor.
### Table 1
UNM Department of Economics
Sponsored Research MoneyGenerated

<table>
<thead>
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### Table 2
UNM Department of Economics Degrees Awarded

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**Number of Majors**

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**Number of Journal Articles Published**

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Note: These apply to current faculty only.
## FALL CREDIT HOURS BY COURSE LEVEL

1990 - 1998

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ANNUAL REPORT  
DEPARTMENT OF ENGLISH  
July 1, 1998 - June 30, 1999  
Scott P. Sanders, Chair

In last year’s annual report, we were looking ahead optimistically at the promise that newly-increased Freshman enrollments held for increased enrollments in our sophomore-level and above courses in the years to come. In this year, we began to see the first indications of those increases, but an even greater increase in Freshman enrollment in Fall 1998 over Fall 1997 kept our focus on the demand for staffing Freshman English (FE) in the short and long term.

The larger size of the Fall 1998 class of Freshman was foreseen (at least in part), and, working with Dean Fischer, we prepared for it in May of 1998 by hiring two Visiting Assistant Professors (VAPs) through a national search to teach 4/3 loads primarily of FE. Their contribution helped give us a more stable instructional staff than had in the past been produced by hiring part time instructors (PTI) as enrollment demand developed in the weeks just before the term began.

The VAPs helped, but more for their qualitative contribution as added mentors of new TAs and newly hired PTI than for their quantitative contribution: the 14 sections they taught made a difference, but the increased enrollment demand forced us to hire more PTI than we had projected.

Working with the Dean once more in May 1999 and looking ahead to the Fall term, we projected a budget with six full-time lecturers teaching 4/3 loads, hoping thereby to use PTI in the fall term only. How that worked out will be reported in next year’s Annual Report, but once more we found ourselves still needing substantial numbers of PTI to meet increased demand for 101 and 102, even though the increase in Freshman enrollment in general was not at all dramatic.

While staffing FE kept us busy, there were several other important events during the year that affected all levels of our curriculum. In the discussion below, I provide an overview and then summarize from the reports filed by departmental directors.

1998/99 Departmental Program Directors  
Gary Harrison (Graduate Director), Wanda Martin (FE Director), and Jim Thorson (Undergraduate Director) all stepped down at the end of this year. They were replaced by Gail Houston (Graduate Director), Charles Paine (FE Director), and Mary Power (Undergraduate Director). Professional Writing Director Rick Johnson-Sheehan and Creative Writing Director Sharon Warner remain in their posts.

1998/99 Department Staff  
In Fall 1998, we initiated bi-weekly staff meetings to discuss issues related to the staff.
Annual Report: English Department  
July 1, 1998 - June 30, 1999

In these meetings Ona Savage and DeeDee Lopez first began discussing sharing some of their duties. Those discussion resulted in DeeDee taking over undergraduate advisement from Ona in a gradual process that began in Spring 1999 to be completed by the beginning of the Fall term.

Anticipating the retirement of Pat Lockhart in April after eleven years with the Department as Administrative Assistant to the Chair, the group re-defined the duties of that position to include work as a receptionist. We also moved the office of that employee out to the front area to help direct traffic and provide a more consistent “business presence” for the department. Largely because of delays in UNM’s Human Resources department, we had not hired Pat’s replacement by the end of the fiscal year.

Ona Savage received the University of New Mexico’s Student Service Award for her work as Graduate/Undergraduate Academic Advisor.

Faculty Separations, Retirements, Hiring
Professor David Johnson retired in July 1999. Two new, tenure-track Assistant Professors in Creative Writing, Fiction, joined our faculty: Jim Colbert (MFA from the University of Arkansas) and Julie Shigekuni (MFA from Sarah Lawrence). Two new tenure-track Assistant Professors, Claire Waters (British Literature) and Jesse Aleman (American Literature) were hired to begin Fall 1999 after national searches that reviewed more than a hundred applications for each position.

Two Visiting Assistant Professors, Robyn Jones and Sonja Launspach, were hired after a nationwide search to one-year contracts to teach for AY 98/99. By the end of the year, Professor Launspach was offered and accepted a tenure-track job at Idaho State, and Professor Jones eventually took a continuing position at the American Indian Art Institute in Santa Fe, so neither will return to be with us next year.

Tenure and Promotion
Gail Houston was tenured and promoted to the rank of Associate Professor. Professors David Dunaway, Michael Hogan, Antonio Marquez, and Mary Power were promoted to the rank of Full Professor.

Academic Initiatives

Hamlet festival. Professors David Jones and Barry Gaines successfully coordinated a semester-long exploration of Hamlet that included weekly lectures, a film series, and culminated in the Fine Arts’ Department’s production of Hamlet, directed by Professor Jones. English graduate students working as Department
Fellows assisted in this work, which was widely supported by our department and several other departments and colleges at UNM and by an external grant from the New Mexico Endowment for the Humanities. Looking ahead to next year, Professors Jones and Gaines are planning a festival that will focus on the 60s in America, once again culminating in a play to be decided later.

Outreach. Sigma Tau Delta, the undergraduate honorary, began working in a continuing, organized fashion with ReadWest, a group promoting adult literacy. The Medieval Studies outreach program visited several public schools in the Albuquerque area during the year. The Hamlet festival included sessions on teaching Hamlet in the public schools and a special afternoon performance of the play specifically for APS students. Tony Mares has received two grants to design and direct his "High School Wired Inn," an internet-based writer's workshop that initially brought the creative work of Garfield Middle School (Albuquerque) students to the attention of Tony and graduate creative writing students who would read and comment on it over the internet.

La Puerta. The La Puerta English 101 textbook was successfully revised by a group of graduate Teaching Assistants working with Wanda Martin. The work was financed entirely by the royalties earned from sales of the first edition. The second edition again collects work by writers associated with UNM, this time looking more broadly to collect the work of graduates of UNM from all areas of the university.

Administrative Initiatives

Three-Year Plans. Departmental Directors led their groups through the development of three-year plans to extend the departmental five-year plan that expired last year. In the coming year (99/00), we will work with the three-year plans to develop specific action plans for the goals set forth in those plans.

Departmental Fellows/GAs. Enrollment increases have made it difficult to continue to give course releases to TAs who work with faculty members on special projects as Department Fellows or Graduate Assistants (GAs) on various initiatives, so in cases where we cannot give course releases we have given extra-compensation stipends ranging from $300 to $500 per term. Often these stipends are shared between the department and other sponsoring groups involved in the projects. The idea is to encourage faculty to seek grants or other forms of funding to help pay for the work of graduate students who assist them in research and teaching.

Program Directors' Budgets. The chair gave individual budgets to the directors of the departmental academic programs: Undergraduate, Graduate,
Creative Writing, and Professional Writing. These budgets were created by splitting off money previously held by the chair. For example, the money used for speaker honoraria was split in thirds between the undergraduate, grad, and chair's budgets so that faculty seeking sponsorship for speakers addressing primarily undergraduate audiences would ask for money from the undergraduate director. Requests for support from outside the department would go to the chair. The idea is to decentralize some of the processes whereby the chair distributes money to academic programs so that the Directors can decide what to support and how much support a request might receive. Funds were used for everything from speaker honoraria to equipment purchases to support for student travel.

Outcomes Assessment. We have been frustrated with our inability to define goals for the undergraduate curriculum that will allow us to state clear objectives from which we may devise a qualitative and quantitative outcomes assessment procedure for that program. The Graduate program has an assessment procedure in place (see the discussion below) that the Undergraduate Committee may look to as it faces the need to create a functioning outcomes assessment process this year.

Staff Performance Evaluation. Anticipating changes in staff performance evaluation, our staff developed a new evaluation procedure in which staff members describe their goals and objectives in writing and then offer self-assessments of their work for the year. Those assessment are read and commented on by faculty who work with staff, the Chair, and the Department Administrator. The staff member and the Department Administrator review the comments. This procedure helped us do merit evaluations of the staff when salaries were set in May.

Three-Year Plans. Directors of departmental programs worked with their committees to produce three year plans projecting their goals for the next three years for curricular and administrative initiatives. The Graduate and Undergraduate Three-Year Plans were reviewed by the Executive Committee and the Department at their respective meetings. Three year plans for Creative and Professional Writing are still being developed by those faculties. These plans take us up to the next period in which we might expect an external review of our department (AY 2002-2003), and they replace the departmental five-year plan that expired with AY 98/99.

Gary Harrison, Director

This discussion below is from Professor Harrison's full annual report that is on file in the English Department.

New Master's Program. The Graduate Program in English began
implementing the new Master's Program (described in prior reports) in Fall 1998. We received our first set of Master’s Portfolios in Fall 1998 and Spring 1999, and we gave the first two Master’s examinations based on the 50-item reading list. Introducing the Portfolio has already demonstrated its value, having given us the opportunity to evaluate and require improvements in graduate student writing. The first M.A. colloquium will be given in Spring 2000, the semester in which the class matriculating in Fall 1998 will reach its fourth semester. Until that time, students graduating under the new MA requirements may substitute a second seminar for the colloquium.

**Graduate Outcomes Assessment.** The Graduate Committee gave final approval to the outcome’s assessment forms devised last year and also approved by Professor Diane Marshall. Based on our individual goals and objectives for specific graduate programs, these forms provide us with numerical as well as narrative evaluations of student progress. Harrison compiled the first set of data and produced the first graduate outcomes assessment report (see Appendices I and II). While it is too early to make any policy changes based on the results (which are limited in number and so statistically insignificant), trends already seem to appear. The outcomes assessment instruments should provide useful information to assist the Graduate Director and Chair in identifying areas of strength and weakness in the programs.

**Recruitment/Retention.** In Summer 1998, the English Graduate Office produced and distributed promotional materials, including a Brochure/Poster, a descriptive booklet, and a Policy/Procedures booklet for English Department graduate students and faculty. The brochure was mailed to 265 colleges and universities throughout the United States. In addition, we mailed a descriptive booklet to potential students in response to their e-mail, phone, or written inquiries. We also again participated in the recruitment sessions for Evening Programs hosted by David Stuart’s office, and we have maintained and improved our graduate program information on our website. It appears that our advertising efforts are paying off. From June 1998 through April 1999, we received 662 inquiries about our graduate programs, compared to 432 from June 1997 through May 1998. Thus, we increased the number of inquiries to our program by 230, or by 53%.

**Colloquia/Lectures/Symposia.** The English Graduate Office continued its efforts to stimulate discussion and community among faculty and graduate students by sponsoring two colloquia each semester, continuing our “brown bag lectures,” sponsoring the EGSA “Southwest Symposium,” and by sponsoring several guest lecturers throughout the academic year. Topics of the colloquia included “Teaching Grammar in the Composition Classroom,” "Alternative Careers for English Graduates,” and "Imagining Ways to Mentor Graduate Students in the Art of
Teaching Literature.” Harrison also hosted two “Town Hall” meetings for graduate students and faculty to discuss the current graduate program and the proposed three-year plan.

**Job Placement.** Gary Harrison and Rick Johnson-Sheehan continued to offer a bi-weekly series of job-placement workshops aimed primarily at those graduate students seeking employment through the MLA and 4Cs conferences. Five PhD students and one MA student participated regularly in these workshops. (See “Job Placement” below for more detail.)

**Research/Dissertation support.** The Graduate Director provided supplemental and travel grants from $125.00 to $200.00 to students who were giving papers at conferences in their fields. (See details below in “Graduate Student Awards.”)

**Curriculum Development.** The graduate committee approved a Master’s Program in Medieval Studies (see Appendix III) and approved the requirements for a Graduate Minor in English (see Appendix IV). After obtaining departmental approval, Harrison submitted a Form C for the Graduate Minor and Professor Damico submitted a Form C for the Master’s Program in Medieval Studies.

**Graduate Committee.** Gary Harrison, Director of Graduate Studies for 1998-99 was chair. Voting members of the graduate committee for 1998-99 were: Professors Lynn Beene, Barry Gaines, Minrose Gwin, Gail Houston (Spring 99 only); Julie Shigekuni and Carolyn Woodward; the EGSA graduate student representative was Andy Flood; and the ex-officio members were Wanda Martin, Director of Freshman English; Sharon Warner, Director of Creative Writing; and Helen Damico, Director of Medieval Studies. The Graduate Committee voted on a number of policy issues (see “Policy Decisions” below); approved the Fall, Spring and Summer M.A. and Ph.D. Comprehensive Examinations; reviewed applications for fellowships; reviewed applications for admission; revised and approved the 50-item Master’s Examination List, which will go into effect Spring 2001 (Flood, Gaines, Gwin, Harrison, and Woodward); wrote and approved a three-year plan (attached); held open meetings to discuss graduate program policy; held a dissertation writing workshop (Gwin and Woodward); and sponsored recruitment activities (Shigekuni and Woodward).

**Policy Decisions of the Graduate Committee**

**September 1999:** Decided to hold the first Master’s Colloquium (English 595) in Spring 2000. Carolyn Woodward’s proposal for a course on the epic tradition was unanimously approved as the Spring 2000 colloquium. Hereafter, the 595 should be offered every semester, as enrollments warrant. Courses will be selected by the
graduate committee from proposals submitted by the English Department faculty.

March 1999: Approved requirements for a Graduate Minor in English (see Appendix IV).

March 1999: Approved Helen Damico's proposal for a Master's Program in Medieval Studies (see Appendix III), which subsequently was passed by the Executive Committee and the Department.

March 1999: Approved after modifying successive drafts, the Three-Year Plan for the Graduate Program in English (see Appendix V), which subsequently was passed by the Executive Committee and the Department.

April 1999: Passed unanimously Harrison/Martin's proposed Recommendations for Graduate Teaching, which subsequently was passed by the Executive Committee and the Department. Passed unanimously Harrison's proposed option for taking the PhD Comprehensive Examination (see Appendix VI). Passed unanimously Elvira Pulitano's petition to substitute a 60-item reading list on Postcolonial Theory for part IV of the PhD Criticism/Theory examination. This option now becomes available for all who wish to take that examination.

Graduate Student Awards. During the 1998-99 academic year, English Department graduate students won the following awards, fellowship and scholarships. (Because the university does not yet have a budget, winners of some of the College and University Awards have yet to be announced at this writing.)

Departmental Awards:
Buchanan Arms Award for Outstanding Achievement in Graduate Study: Mary Friedman
Graduate Service Award: Maggie Harada
Graduate Professional Writing Award: Andy Flood (runners up: Craig Springer and Ute Haker)
Creative Writing Fellowship: Kimberly Summers
D.H. Lawrence Fiction Award: Lille Norstad (runner up: Elise McHugh)
American Academy of Poets Contest: Will Barnes (runner up Michelle Pierce)
New Mexico Folklore Prize: Victoria Kittredge

College/University Awards:
Nominee for Tom L. Popejoy Dissertation Prize: Megan Simpson for "Poetic Epistemologies: Knowledge and Gender in Women's Language-Oriented Writing"
Deans Dissertation Fellowship: Departmental Nominee: Liz Wright for "Leaving 'Home': Bodies, Travel and the Politics of Education in American Women's Writing"
Outstanding Teaching Assistant Award: Andy Smith
3% Scholarship (formerly Graduate Tuition Fellowship): Nominees are Seth
Research, Project, Travel Grants. Several graduate students received RPT grants to deliver papers at conferences in academic year 1998-99. These students are:

**Fall 1998**
- Carin Bigrigg (PhD) $600.00 Deliver paper at SAMLA, Atlanta, GA
- Jesse Peters (PhD) $379.00 Deliver paper at RMMLA, Salt Lake City, UT
- Anne Van Aarsdaal (PhD) $50.00 Research at Harvard University

**Spring 1999**
- Alanna Cotch $490.00 Deliver paper at 4Cs, Atlanta, GA
- Anita Daniels $500.00 Deliver paper at American Culture Association Conference, San Diego, CA
- Margaret Harada $500.00 Deliver paper at 4Cs, Atlanta, GA
- Andrea Penner $460.00 Deliver paper at 4Cs, Atlanta, GA
- Andrew Smith $230.00 Deliver paper at American Literature Conference, Baltimore, MD
- William Waters $500.00 Deliver paper at 4Cs Conference, Atlanta, GA
- Elizabeth Wright $230.00 Deliver paper at American Literature Association Conf, Baltimore, MD

Supplemental Travel Grants. To distribute the limited RPT funding more widely, the Graduate Director set low ceilings for the amounts awarded. These supplemental travel grants of $125.00 each were then awarded to those RPT recipients whose budget deficits were greatest:

- Anita Daniels Deliver paper at American Popular Culture Association Conference, San Diego, CA
- Andy Smith Deliver paper at American Literature Association Conference, Baltimore, MD
- William Waters Deliver paper at 4Cs Conference, Atlanta, GA
- Elizabeth Wright Deliver paper at American Literature Association Conference, Baltimore, MD

Departmental Travel Grants. These one-time travel grants of $200.00 each were awarded on a competitive basis to provide modest support to those who had applied for but were denied RPT funding.

- Jason Fichtel Deliver paper at American Popular Culture Association Conference, San Diego, CA
Annual Report: English Department
July 1, 1998 - June 30, 1999

Andy Flood
Eileen Garvin
Miriam O’Kane
Roanoke,

Deliver paper at 4Cs Conference, Atlanta, GA
Deliver paper at MELUS Conference, Nashville, TN
Deliver paper at American Conference on Irish Studies, VA

Amberly Pyles
Mary Rooks

Deliver paper at South Central Society for Eighteenth-Century Studies Conference, Shreveport, LA

Deliver paper at 20th-Century Literature KY

Todd Tietchen
Conference, Louisville,

Graduate Admissions. Nationwide, applications to graduate programs continue to decline and recent articles and editorials everywhere from The Chronicle of Higher Education to The New York Times and even the Albuquerque Tribune have launched jeremiads warning prospective students of the potential disaster of receiving the Ph.D. in English. Nonetheless, our applications were up this year. The English Graduate Program received 103 completed applications for its programs in academic year 1998-99. This number represents an increase of 13 applicants or 6.9% over applications received for academic year 1997-98, yet it falls short of the 136 applications to our programs received for academic year 1996-97.

In order to increase recruitment and the ratio of acceptances to offers, the English Graduate Office continued the aggressive recruitment program initiated last year. Carolyn Woodward and Julie Shigekuni recruited other English Department faculty and graduate students to telephone first-choice applicants, and along with Ona Savage they set up an e-mail/telephone bank of faculty and graduate students so that applicants could contact people in the department for information.

Of the 36 applicants to whom we offered admission, 28 have already matriculated for Spring 1999 or have expressed their intent to matriculate in Fall 1999. That amounts to nearly a 78% acceptance ratio, which improves upon the already respectable 60% acceptance ratio from academic year 1997-98. In three years, we have brought the ratio of acceptances to offers from 32% in 1996-97 to 78% today. Our better TA compensation package, reduced teaching load for first-year Teaching Assistants, and recruitment efforts seem to be paying off.

Nonetheless, these overall statistics are somewhat misleading. Although we had nearly a 100% acceptance rate for graduate students admitted in Fall 1998 for Spring 1999 semester, the figures for Fall 1999 admissions may be more indicative of our competition. Only three of our top-ranked eight PhDs offered admission accepted our offers: a ratio of 37%. Thus, we had to drop into our alternate list and offer four
more positions, out of which we received only two acceptances (50%). Among the Master’s applicants, we fared about the same. Of nine Master’s applicants offered admission with a Teaching Assistantship, we received only four acceptances (44%). Moreover, of the twelve Master’s applicants admitted without Teaching Assistantships, we received only four acceptances (33%).

As the figures show below, we continue to lose many of our top ranked applicants to other universities that offer better compensation and support for their graduate students in English. This year, the Graduate Director drafted a questionnaire for students who declined our offers of admission. Of the four questionnaires returned so far, higher paying stipends for a lighter teaching load and fellowship offers have been named as the reasons for matriculating at other institutions, some of which include peer institutions. For example, we lost a PhD student to University of Oklahoma where she was offered a $5,000.00 alumni fellowship, plus a teaching assistantship that pays $10,000.00 a year in exchange for four courses. We lost another student to the University of New Hampshire, where he will receive $10,400.00 per year plus a full tuition waiver in exchange for teaching two courses a year. If we want to recruit the top students among our applicants, the Department of English and University of New Mexico must make efforts to reduce teaching loads for our Teaching Assistants, increase their stipends, and we must find fellowship money to supplement our offers for those students we regard most highly.

The figures below show admissions statistics for students applying for Spring 1999 and Fall 1999.

**Applying for Spring 1999**

<table>
<thead>
<tr>
<th>Number of applicants: 18</th>
<th>Offered admission: 10</th>
<th>Accepted admission: 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>PhD</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>MA Lit</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>MA CW</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>MA PW</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

**Applying for Fall 1998**

<table>
<thead>
<tr>
<th>Number of applicants: 85</th>
<th>Offered admission: 26</th>
<th>Accepted admission: 18</th>
</tr>
</thead>
<tbody>
<tr>
<td>PhD</td>
<td>35</td>
<td>12</td>
</tr>
<tr>
<td>MA Lit</td>
<td>24</td>
<td>15</td>
</tr>
<tr>
<td>MA CW</td>
<td>26</td>
<td>6</td>
</tr>
<tr>
<td>MA PW</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

**Graduation/Degrees Granted.** The English Department conferred thirteen Doctor of Philosophy and thirteen Master of Arts degrees from Summer 1998 through Spring
### Enrollments

#### Summer 1998

**Ph.D. Graduates**
- Mohammed Ali
- Iris Barkman
- William Foreman
- Elizabeth Hunt
- Michael Smedshammer

**M.A. Graduates**
- Ada Chamberlain
- Brian Crane
- Shari Evans
- Katherine Mortellaro
- Christopher Pusateri

#### Fall 1997

**Ph.D.**
- Patrick Houlihan
- Elizabeth Moorehead
- Earlene Hammock

**M.A.**
- Jennifer Abbott
- Nicole Desjeunes
- Stacey Lake
- Wendell Ricketts

#### Spring 1998

**Ph.D.**
- Susan M. Cannata
- Lisa Craig
- Serena Roybal-Huffman
- Edwina Romero
- SueAnn Schatz

**M.A.**
- Marielle Ainsworth
- Virginia Harrison
- Monica Patchett
- Jennifer Phillips

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Enrollment. As of Spring 1999, the Department of English enrolled a total of 116 graduate students, broken down as follows:

<table>
<thead>
<tr>
<th>Level</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>PhD</td>
<td>63</td>
</tr>
<tr>
<td>MA Lit</td>
<td>23</td>
</tr>
<tr>
<td>MA CW</td>
<td>24</td>
</tr>
<tr>
<td>MA PW</td>
<td>4</td>
</tr>
</tbody>
</table>

Of the 63 Ph.D. students, 47 are ABD enrolling only in dissertation hours. Thus 75% of our Ph.D. population is ABD, up from 61% last year. This high ratio of ABDs to PhDs taking courses must become a top priority of the Graduate Director. Although we have begun to decrease our intake of Ph.D. students, the English Department faculty continues to oppose any efforts on the part of the Graduate Director to restrict admission of qualified Ph.D. students into the program. Our numbers have declined nonetheless (for reasons noted above), without having to impose a quota on PhD admissions. It may be time, however, to have that discussion and consider more direct action.

The Graduate Director this year sponsored a dissertation-writing workshop, led by Minrose Gwin and Carolyn Woodward, in order to spur Ph.D. candidates along in writing their dissertations. In addition, the Graduate Committee passed in May an optional process for administering the Ph.D. Comprehensive Examinations, which links the submission of the dissertation prospectus to the examination. It is extremely important that this option be approved by the English Department at its first meeting in Fall 1999 in order to better coordinate the dissertation with the
examinations, and so promote a quicker and smoother transition from course work to writing the dissertation.

Among the 28 students enrolled in the Master's program in writing (both professional and creative writing), only five students are enrolled in thesis hours only, a ratio of 17%. This figure represents an improvement over last year's 25% ratio. We need to reduce the ABD population to no more than 25% of the total PhD population enrolling for courses.

Job Placement. The MLA Census of PhD Placement for 1996-97 shows that our placement rate of 33% that year was higher than the 26% rate for our peer institutions and exactly comparable to the national average (33%). Because placement rates are important figures for recruitment, however, we need to continue to improve our placement record.

The Graduate Director and Professor Rick Johnson-Sheehan held bi-weekly workshops for Ph.D. students seeking employment in tenure-track jobs in English. Moreover, we held a colloquium in the Spring on alternative careers for English graduate students. Former graduate students Adam Cohen, Serena Royball-Huffman, and Anthony Mancino, representing writing and teaching in the technical and financial workplace, discussed their careers and the way their training in English helped them to get their positions and to succeed in them.

Six students actively participated in the placement workshops this year. Three were interviewed at the Modern Language Association meeting, and of these three, one, Denise Tillery, found a full time, tenure-track at Oklahoma State. One, SueAnn Schatz, received an on-site interview at Marion College; and another, Carin Bigrigg, received a offer for a one-year appointment at a university in Turkey, which she rightly declined. Three other PhD students who graduated in previous years also found tenure-track jobs since May 1998, as indicated below.

PhD students in tenure-track positions since May 1998:

Denise Tillery: University of Oklahoma
Jan Wellington: University of South Alabama
Darryl Jesse Peters: North Carolina State, Pembroke
Carolyn Holbert: University of Alaska

In addition, Spring 1999 PhD graduate Lisa Craig is employed full-time as a technical writer/editor at IBM, which was her choice for professional employment.

We continue to have difficulty tracking our Master's program graduates, who have
found employment in a variety of teaching, editing, and non-academic jobs. Two of our recent MA students—Shari Evans and Nicole Desjeunes—have gone into PhD programs at UNM, and one, Michelle Pierce, is going into an advanced poetry program at Naropa Institute in Boulder, Colorado.

English Graduate Student Association (EGSA). The Graduate Director supervised the EGSA in a number of activities again this year, including hosting departmental colloquia, new student orientation, the bi-weekly brown-bag lecture series, and, the Southwest Symposium. EGSA president for academic year 1998-99 was Andy Flood; the president-elect for 1999-2000 is Nicole Desjeunes.

This year’s director of the Southwest Symposium was William Waters, who decided to focus the symposium on a particular theme: the Southwest. This strategy paid off in more intensive discussions and better attended panel sessions that in the last two years at the Symposium. Participants came from out of state, as well as from UNM. The plenary address by Leslie Silko, Professor of English, University of Southern California, was well attended by members of the UNM community at large and from the Albuquerque community. Amberly Pyles and Linda Norris will co-direct the Symposium for Spring 2000.

Undergraduate Program

James Thorson, Director

The discussion below is excerpted and/or adapted from Professor Thorson’s full report, which is on file in the English Department.

We awarded 175 degrees to English majors at the Department convocation in May, and increase over the 158 degrees awarded the prior year. This increase comes at a time when the University as a whole has seen declining enrollments in the upper divisions, so, with increased Freshman enrollments, the English Department may well expect still more increases in the number of its majors.

The number of honors graduates rose sharply, with 17 students receiving degrees in this year compared to 8 honors designations the year before. Three students completed honors theses and required courses, but were not granted honors, and our summa cum laude graduate, Manuel Montoya, received a Rhodes Scholarship and a Truman Scholarship. The increased number of honors candidates this year might well have been accompanied by an increase in achievement, too.

Sigma Tau Delta, the English honorary, had a very successful year, once again aided by a grant from Arts and Sciences in the amount of $2,000. Twelve members worked in the adult literacy program described above under “Outreach,” and ten
members presented papers at the national meeting of the society in St. Louis. The chapter won the “best web-site” prize, awarded to Leslie Chick (who was also elected Chapter President for 99/00, succeeding Bridget Biernat in that position). Ms. Chick was also elected as the Southwest district representative of the international society. Thirty-one new members were initiated into the group in the all semester and twenty-one more in the spring.

Freshman English

Wanda Martin, Director

Courses Taught

Fall 1998

<table>
<thead>
<tr>
<th>Course</th>
<th># sections</th>
<th>total enrollment</th>
<th>SCH</th>
<th>% of capacity at 21-days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 101</td>
<td>91</td>
<td>2055</td>
<td>6135</td>
<td>98.8</td>
</tr>
<tr>
<td>Fall 102</td>
<td>37</td>
<td>690</td>
<td>2070</td>
<td>82.6</td>
</tr>
</tbody>
</table>

Taught By:

- Teaching Assistants 88
- Part-Time Instructors 28
- Visiting Asst. Profs 7
- Regular Faculty 5

Other courses above FE also taught by TA’s and irregular faculty: 150 (1); 219 (8); 220 (4); 221 (1); 222 (2); 240 (1); 294 (1); 296 (1)

Spring 1999

<table>
<thead>
<tr>
<th>Course</th>
<th># sections</th>
<th>total enrollment</th>
<th>SCH</th>
<th>% of capacity at 21-days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring 101</td>
<td>33</td>
<td>699</td>
<td>2097</td>
<td>96.7</td>
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<tr>
<td>Spring 102</td>
<td>68</td>
<td>1407</td>
<td>4221</td>
<td>90.8</td>
</tr>
</tbody>
</table>

Taught by:

- Teaching Assistants 88
- PTI 9
- VAP 4
- Regular Faculty 3

Other courses above FE also taught by TA’s and irregular faculty: 150 (1); 219 (9); 220 (4); 221 (5); 222 (4); 240 (2); 298 (2)

Grades in English 101 and 102

Fall 101 A = 15% B = 36%
Annual Report: English Department  
July 1, 1998 - June 30, 1999

Fall 102  
<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>20%</td>
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<tr>
<td>B</td>
<td>33%</td>
</tr>
<tr>
<td>C</td>
<td>23%</td>
</tr>
<tr>
<td>D-F</td>
<td>14%</td>
</tr>
<tr>
<td>W</td>
<td>10%</td>
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</table>

Spring 101  
<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>13%</td>
</tr>
<tr>
<td>B</td>
<td>33%</td>
</tr>
<tr>
<td>C</td>
<td>28%</td>
</tr>
<tr>
<td>D-F</td>
<td>15%</td>
</tr>
<tr>
<td>W</td>
<td>8%</td>
</tr>
</tbody>
</table>

Fall 102  
<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>13%</td>
</tr>
<tr>
<td>B</td>
<td>33%</td>
</tr>
<tr>
<td>C</td>
<td>28%</td>
</tr>
<tr>
<td>D-F</td>
<td>15%</td>
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<tr>
<td>W</td>
<td>8%</td>
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</table>

Spring 102  
<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>20%</td>
</tr>
<tr>
<td>B</td>
<td>38%</td>
</tr>
<tr>
<td>C</td>
<td>22%</td>
</tr>
<tr>
<td>D-F</td>
<td>12%</td>
</tr>
<tr>
<td>W</td>
<td>8%</td>
</tr>
</tbody>
</table>

Teacher Evaluations: ENGST, Item: Rate the Instructor  
Fall: Item mean 5.08 over 125 sections (100 and 200-level) with 1950 respondents  
Spring: Item mean 5.05 over 111 sections with 1662 respondents

Writing Proficiency Portfolio  
To date, 93 portfolios have been evaluated with 83% passing.

Signal Achievements  
The second edition of *La Puerta* was created by a staff of graduate students using the royalties from the first edition to pay production expenses. This 276-page book features 32 reading selections and a dozen photographs contributed by authors who are, or have been, affiliated with UNM. It will be used in all sections of 101 this year. English 102 TAs organized a Wallace Stegner symposium in the spring term which featured guest speakers and papers read by undergraduate English 102 students.

Creative Writing  
Sharon Warner, Director

This discussion is guided by the Creative Writing program’s three-year plan and Professor Warner’s comments.

Last year was a year of firsts: Sharon Warner served her first year as Director of the program; Julie Shigekuni and Jim Colbert completed their first years on the faculty; the department successfully put on the first Taos Writer’s Workshop, which, while it was held in July, was planned and prepared throughout the year.

The Writer’s Workshop had about eighty registrants, one of whom donated $1000 to
Annual Report: English Department
July 1, 1998 - June 30, 1999

Pay for two scholarships for participants at the next year's conference. Louis Owens from our faculty was on the Writer's Workshop faculty; other faculty came from around the country, as did the registrants. Financially, the workshop certainly paid for itself, and, although the final accounting has not been made at this writing, appears to have made a small profit to be applied to next year's conference.

Our three-year plan focused on designing an MFA program to be offered as an extension of, not a replacement for, our existing MA program. The faculty engaged in lively debate regarding the shape of the program and how it would be articulated with programs in other departments (notably the MFA in Dramatic Writing being proposed by the Theater Department) and in our own department. We will continue this work in the coming year.

In May of 1999, Kimberly Summers was awarded the Creative Writing Fellowship for the coming year.

Professional Writing

Rick Johnson-Sheehan, Director

This discussion is guided by the Professional Writing program's three-year plan and by Professor Johnson-Sheehan's comments.

The Professional Writing program received a grant from Arts and Sciences in the amount of $2000 to assist us in developing a brochure for the undergraduate and graduate programs. At this writing, the graduate program brochure has been written and designed and is at the printer. The undergraduate brochure is still in development.

The Melada Scholarship in professional writing was awarded to Elizabeth Levine, a senior in professional writing. Using funds from the foundation account in professional writing, we awarded a Graduate Award in Professional Writing to Andrew Flood.
The Department of Foreign Languages & Literatures has completed its seventh year as a separate department formed out of the division of the Department of Modern & Classical Languages. At the end of the 1998-99 AY, the department received approval to offer a Ph.D. in French Studies carved out of the former Ph.D. in Romance Languages. This overhaul of the French program was accompanied by the creation of new courses that will be part of the regular French graduate offerings. The department also offers M.A. degrees in French, German and Comparative Literature and Cultural Studies and B.A. degrees in Classical Studies, Comparative Literature and Cultural Studies, French, German, Modern Languages and Russian. The department faculty also collaborated with interdisciplinary programs around campus such as European Studies, Asian Studies, Russian Studies and Women’s Studies by offering cross-listed courses and by sharing faculty resources and expertise.

The department graduated one Ph.D. student, and ten M.A. students. Quannah Marshall received her Ph.D. with a dissertation on the French poet, Arthur Rimbaud. We are particularly pleased and proud of this accomplishment, since she did all of her French studies at UNM from elementary French to the doctoral level. Her studies were supported by a competitive fellowship for minority students. The department maintained its administrative structure for the third year with Walter Putnam serving as Chair, Monica Cyrino as Director of Undergraduate Studies, Lorraine Piroux as Director of Graduate Studies and Pamela Cheek as Director of Comparative Literature and Cultural Studies. We also formed an advisory committee made up of four faculty members representing the four major areas in the department. This committee met periodically to discuss policies and procedures. Specific language instructors were once again responsible for handling student advising in each of the major and minor language units. Office operations were ably handled by Wilma Williams, Department Administrator, Lisa Stewart, Patrick Hubenthal and Diana Slack. We were sorry to learn that Lisa Stewart has accepted another position on campus and will not be with us beyond June 1999. As of this report, her position is still vacant. Patrick Hubenthal and Diana Slack occupy part-time positions as administrative assistants. We were also fortunate to recruit and maintain an excellent group of work-study students to help with various office duties.

Faculty distinguished themselves in many areas. Susanne Baackmann, (Assistant Professor of German), taught at the German Summer School in Taos and offered a successful on-campus undergraduate course on fairytales. Lorna Brau, (Visiting Assistant Professor of Japanese), taught a highly successful Japanese culture course on “Samurai & Geisha-Icons of Japanese Culture.” Pamela Cheek, (Assistant Professor of French), once again directed the Francophone Summer School program as well as directing the very successful CL/CS program. Monica Cyrino, (Assistant Professor of Classics), continued her popular successes in teaching of introductory courses in Classics and once again led a summer study tour to Greece. Deborah Jenson, (Assistant Professor of French), completed her book project on the theme of “Likeness”,...
now under consideration in a major university press. Byron Lindsey, (Associate Professor of Russian), led a summer study trip to Moscow for UNM students. Peter Pabisch, (Professor of German), coordinated the Atlantic Bridge, an umbrella organization of international programs supported by UNM Continuing Education. Lorraine Piroux, (Assistant Professor of French), saw the publication of her book manuscript in France on “Literary Dedications.” Walter Putnam, (Professor of French), delivered talks on subjects related to his current research on colonialism in Africa. Diana Robin, (Professor of Classics), spent the year at the Newberry Library in Chicago on a Rockefeller grant continuing her research on “Renaissance Women Writers and Print Culture in Venice”. Katrin Schroeter, (Assistant Professor of German), co-directed the German Summer School in Taos. Warren Smith, (Professor of Classics), sponsored and directed several drama productions of classical performances at the UNM campus.

We were very pleased and proud at the success of both of our candidates for tenure and promotion to associate professor (Monica Cyrino and Susanne Baackmann), as well as our two assistant professors who passed their Code 3 reviews, (Deborah Jenson and Lorraine Piroux). We were sorry to learn that Lorraine Piroux has accepted another position effective Fall 1999 and we will be seeking to hire a suitable replacement.

On the instructional level, FLL continued to offer an array of culture courses taught in English which attracted interest from several departments across campus. We conducted outcomes assessments on the undergraduate level and determined that our programs are meeting the standards we expected. There is a general agreement that the level of instruction is quite good and getting better on the graduate level. This is especially striking in the area of critical theory where FLL faculty have brought new ideas and perspectives to the campus. This development gives our graduate students a sound professional training for future educational or professional avenues. We also sponsored an array of invited lecturers and film series. All in all, FL&L is fulfilling its obligations to UNM students on both the undergraduate and graduate levels. With the implementation of the new core curriculum and specific courses taught within the department, we hope to continue to expand our offerings to a broader audience.
FACULTY PUBLICATIONS AND PROFESSIONAL ACTIVITIES

B. REFEREED JOURNAL ARTICLES AND BOOK CHAPTERS

Baackmann, Susanne


Cheek, Pamela

Cyrino, Monica Silveira


Jenson, Deborah

Kolchevska, Natasha

Lindsey, Byron
Translation and critical introduction of “The Loss: a Novella and Two Short Stories” by Vladimir Makanin; Northwestern University Press; Evanston; 154 pages.
Pabisch, Peter


Robin, Diana
Review of “Myth of the Renaissance” in Renaissance Quarterly

Schroeter, Katrin

Smith, Warren


C. OUTSIDE PROFESSIONAL LECTURES AND PAPERS PRESENTED


Cyrino, Monica. December 1998. American Philological Association meeting to receive Teaching Award.

Cyrino, Monica. April 1999. “Bows and Eros: Hunt as Seduction in the Homeric Hymn to Aphrodite.” Classical Association of the Middle West and South at The Case Western Reserve University, Cleveland, OH.


Lindsey, Byron. August 1998. Seminar in Cultural Studies put on by Department of Modern Literature/American Studies of the University of Stuttgart. Stuttgart, Germany.


Piroux, Lorraine. November 1998. Discussant/Chair of Panel: Print Culture in Pre-Modern France. MMLA conference in St. Louis, MI.


1. SIGNIFICANT DEVELOPMENTS

1.1 GRADUATE PROGRAM REVISION

During this past year the department requested approval of a Master of Science degree to replace its Master of Arts degree. The clear trend within the discipline and the changes within the department at the University of New Mexico were justifications for the Master of Science degree, and it was approved. With the addition of new faculty and the development of new courses, the department now has a science based curriculum emphasizing Physical Geography (climatology, biogeography, and water resources), human/environmental interactions, and computer based analytic techniques. Students in Geography will receive a degree that accurately reflects the nature of their education. This will help them in seeking employment.

The role of the modern Geography department is to educate students so they know how to ask the right questions and find the answers to complex problems. In order to accomplish this educational goal, a science based education is required. Geography departments across the country have recognized the need for a science education, and M.S. degrees are now one sign of a modern department. This reflects some of the goals identified in the department’s five year plan in 1993.

Several revisions to our graduate offerings were approved along with the degree title. The number of seminars was increased to include specific seminars in each of the department’s specialties. In addition appropriate senior level courses have been double listed at the graduate level.

1.2 IMPLEMENTATION OF UNDERGRADUATE PROGRAM REVISIONS

A Bachelor of Science in Geography was approved two years ago and about half our students now complete that degree. We have had a few rough spots in implementing the program because we have not had full coverage in all our techniques courses. This problem has been solved with the addition of a new faculty member who will give us additional strength in this area.

In addition, we were able to implement our senior capstone course this last year. The course is a year long with one credit in the fall and three in the spring. During the fall semester students identified an applied geography problem, and during the spring they worked to solve the problem. The course requires oral presentations, written reports, and a demonstration of a geographic technique. The course is used in our outcome's assessment.
1.3 SPATIAL DATA ANALYSIS LABORATORY

The Spatial Data Analysis Laboratory was successfully funded under NSF DUE-9551046: "Instrumentation for an Undergraduate Spatial Data Analysis Laboratory." Equipment for the lab was purchased four years ago, and it was used for the first class in the spring semester 1996. Demand for the courses continues to be high and finding instructors is problematic. Our major concern is adequate system’s administration. We still have not resolved this problem, and it remains a continuing threat to the quality of our programs.

1.4 EARTH DATA ANALYSIS CENTER (EDAC)

EDAC was co-located with the Geography Department during the past year. This has created space problems, but the increased opportunities for interaction with them are beneficial. EDAC is engaged in remote sensing and geographic information systems (GIS) development and serves as a focal point for graduate and undergraduate student employment. As of July 1, 1999, EDAC was made part of Arts and Sciences and is now part of the Geography Department. Their budget is separate and the Director of EDAC reports to the Dean of Arts and Sciences.

2. SIGNIFICANT PLANS

2.1 FIVE-YEAR PLAN

During the Fall, 1993 semester, the department put together a Five-Year Plan. The 1993 plan was reevaluated last year and still reflects the department’s goals. During this next year the plan will be examined in more detail. The plan as revised focuses the department’s research and teaching orientation in two areas:

1. environmental analysis (physical geography and human/environment interaction); and

2. geographic information technologies - GIT (GIS, GPS and remote sensing).

Both of these specialties serve important societal needs and build on existing strengths within the university. Specialization affords the department the opportunity to increase collaborative research and to serve the campus community with its GIT lab. It has enabled the department to attract graduate students of first quality and to raise the department’s overall standing in the university and profession.

The two subfields selected for emphasis are well suited not only for the enhancement of geographical research but for integration into the missions of many other units of the university and the state. The development of geographic information
technologies matches well with the developments at the major scientific laboratories, and promises to attract major grants and funding for the department. The demand for GIT training is not limited to the Department of Geography. Biologists, geologists, anthropologists, economists, and planners all use the technologies and are utilizing our teaching laboratory. There is also support from biologists and geologists for the environmental focus. The department is focusing its energy in the environmental area at the interface between climate, biogeography, and water resources and their interaction with human society. Both GIT and the environmental focus are begging for interdisciplinary research efforts, which should attract significant new research funding to the department and university.

2.2 STATUS OF THE PLAN

The primary goal of the Department of Geography, as set forth in the Five-Year Plan, is to refocus and strengthen its curricula so that it will be in a position to initiate a Ph.D. program in the future. In order to achieve this goal, the department has restructured its curriculum and degree programs at the undergraduate level and at the graduate level. In addition, an infrastructure that can support the programs has been developed.

The Five-Year Plan has been implemented, and the Department of Geography is very different from the one that existed in 1993. The curriculum has been refocused on environmental analysis and GIT; a B.S. and M.S. degree have been added; the personality of the department has changed; the infrastructure to support a Ph.D. program has been developed; a colloquium series has been institutionalized; and the new faculty are beginning to actively pursue extramural funding.

2.3 Ph.D PROGRAM

This year the department will begin the process of getting a Ph.D program approved. We envision this taking two years. The infrastructure needed for supporting such a program is now in place. Equipment purchases over the past five years place us ahead of many other Geography Ph.D granting programs. Recent additions to the faculty will allow us to develop a focused program within the specialized niche we have identified. The graduate course work has been revised to accommodate this program and is now in place. The critical mass is now in place to begin a Ph.D program.

2.4 WORKING RELATION WITH EDAC

Now that Geography and EDAC have been united within Arts and Sciences, a policy document that spells out this working relationship needs to be developed. How this relationship evolves will affect the nature of both EDAC and Geography. A successful partnership will benefit both.
2.5 RESEARCH PRODUCTIVITY

The Department realizes that in order to support a Ph.D program the research productivity of the faculty must increase. In the last year five members of the Department worked on two grants each worth $300,000 per year for three years. This shows that a research team has been put together that is capable of going after large grants. Our goal for next year is to continue to work together to obtain funding. A determination on the proposals made last spring will be made this fall.

3. STAFF APPOINTMENTS AND SEPARATIONS

3.1 NEW FACULTY HIRES

The faculty was composed of 4.5 salaried members in the Fall, 1993. With the addition of Seth Snell the faculty is now at 7 FTE. Four of the seven faculty have been hired since 1993. Seth Snell joined the faculty in August, 1999. His PhD is from Boston University. His expertise in climatology and GIS fits nicely within the area of specialization we have identified.

4. PUBLICATIONS AND PROFESSIONAL ACTIVITIES

4.1 PUBLICATIONS

Cullen, Bradley T. and Michael Pretes, “Marginality and Marginal Regions: Viewpoints from the United States and Canada,” Social Science Journal (accepted for publication).


Gregory, K. and Harvey, M.E., “A Comparative Analysis of Aggregation Techniques for Spatial Data.” In review.


4.2 OUTSIDE PROFESSIONAL ACTIVITIES


Dr. Gregory participated in the 1998 Association of American Geographers Annual Meeting, in Honolulu, Hawaii, serving as the Session Chair for Issues in Environmental Management. He also presented a paper entitled "Toward an Integrated Stakeholder-Based Approach For Watershed Management in the North Branch of the Chicago River."

Dr. Matthews served and continues to serve on several professional boards including: Advisory Board, Interamerican Dialog on Water Management; Chair, Policy Committee, Universities Council on Water Resources (term ended 1998); Associate Editor, Water Resources Bulletin (term ended 1998); Shared Use of Transboundary Water Resources Task Committee, American Society of Civil Engineers; and Water Regulatory Standards Committee, American Society of Civil Engineers. Dr. Matthews
• Reviewed two NSF proposals, four journal articles, and two promotion and tenure packages as outside reviewer. In addition, three papers were presented at professional meetings.

Dr. Morain, Director of the Earth Data Analysis Center (EDAC) serves as Editor-in-Chief for Photogrammetric Engineering and Remote Sensing (PE&RS), the monthly journal of ASPRS. He also serves on the steering committees for the Southwest Regional Climate Change and Climate Variability Assessment Team and the Applications, Commercialization, and Education Division of NASA's Earth Science Enterprise. From May 1998 through May 1999, Dr. Morain also was elected to be the first Chair of NASA's Earth Science Enterprise Working Prototype Federation.

Dr. Scuderi served as the UNM Delegate to the University Consortium for Geographic Information Systems (UCGIS). As a Trimble Certified Instructor in Global Positioning Systems (GPS), he taught several GPS short-courses at UNM under terms of "Trimble Center for Excellence in GPS" agreement. He is also the Director of Department Geographic Information Systems Laboratory (SDAL). Other Professional Activities include serving as a Reviewer in 1998/1999 for papers in Arctic and Alpine Research, Geofiska, and Canadian Journal of Forestry. Additionally, he was a Reviewer in 1998/1999 for National Science Foundation Programs in Geosciences, Geography and Regional Science, Laboratory Instrumentation, and a Reviewer in 1998/1999 for National Geographic Society Research Grants. Non-Teaching university service included chairing the job search for Environmental Geographer position, which was successfully filled with hire of Dr. Seth Snell. Public Service involves currently working with Albuquerque Academy to develop Introductory Geographic Information Systems and Global Positioning Program for High School Students.

Dr. Snell did presentations at the 1998 Annual Meeting of the Association of American Geographers, Boston, MA; and the 23rd Conference on Agriculture and Forest Meteorology, Albuquerque, NM.

Dr. Williams was responsible for continuing program development of the "Rocky Mountain High" project, for which he had organized and operated the Thirteenth Annual Southwest Institute, hosted in 1997 by the New Mexico Museum of Natural History. Graduate and undergraduate credits in Geography were offered by this department. In conjunction with the two field courses, Dr. Williams compiled and produced an annotated bibliography, a course reader, and field guides for each course. Dr. Williams' presentations included: Southwest Institute, Albuquerque, NM and National Society of Child Psychologist, Santa Fe, NM. Future plans include developing a series of guidebooks on the Southwest.
4.3 OUTSIDE SPONSORED RESEARCH


Scuderi, Lou, Trimble Center for Excellence in GPS: Trimble Navigation, Inc., 1996-ongoing. $90,000 (equipment and supplies for GPS, updated semiannually)

Scuderi, Lou, LRAC Grant: Ongoing research on upper treeline temperature variability utilizing sensors funded by LRAC and extended to South America (Ecuador), $6,300 + department support for trip to Ecuador.

Scuderi, Lou, NASA: Native Peoples/Native Lands- Treering and climatic research to quantify climatic variability in the southwest US and to determine Native Peoples adaptations to this change over the last 1000 years. (Funding amount listed under Dr. Stan Morain.)

I. Significant Developments During 1998-99

This year the Department of History was the beneficiary of some significant acts of generosity from its friends both within and without the University. In the fall of 1998, Marjorie Bell Chambers and her husband William Chambers announced their intention to make a bequest that would endow a chair in the history department. The purpose of the chair would be to enable the department to add to its ranks outstanding scholars from outside UNM or to reward distinguished performance by those already on the faculty. All members of the department join in expressing our great appreciation to the Chambers for their outstanding support. The faculty and students of the department also wish to thank Tobias Duran, Director of the Center for Regional Studies, for his decision to establish the Joseph P. Montoya Dissertation Fellowship in Southwest History which this year was won by history graduate student Carlos Solomon.

1998-1999 also saw the department conduct two successful searches in the field of European history. In the spring we hired two outstanding scholars, Jay Rubenstein, a specialist in Medieval history, and Lynn Schibeci, a European cultural historian. Rubenstein, a former Rhodes Scholar, received his Ph.D. from the University of California at Berkeley. His dissertation was an examination of the life and work of Guibert of Nogent, a twelfth-century thinker. Schibeci holds a doctorate from Northwestern University and during the past year was a fellow at the Andrew Mellon
Centre for the Study of British Art in London. Her dissertation is a study of Christie's auction house and its role in the commodification of British taste in the early years of the nineteenth century.

II. Significant Plans and Recommendations

In the coming academic year, the department hopes to fill two highly important positions: an Assistant Professorship in the area of Chicana/o history and an Associate Professor/Editor who will teach half-time in the department and edit the New Mexico Historical Review. Still further in the future, we will seek permission to hire a nineteenth-century U.S. historian who will fill the space created by the retirement and death of Howard Rabinowitz.

The department also will continue its efforts to improve the quality of the undergraduate experience at UNM. As we have done in the past, we will offer topical undergraduate seminars at the senior level and also hope to participate in the A&S freshman seminar program. We expect to hold more informal meetings to discuss the improvement of freshman surveys, something of special importance given the demands of the new core curriculum. We also hope to use the newly created computer pod to expand the awareness of undergraduates concerning the employment of the computer as a research tool.

The department will continue efforts to improve graduate instruction. It will develop further the “dissertation seminar," and seek to improve the monitoring and mentoring of
those graduate students who are teaching under department auspices.

III. Appointments to Faculty/Staff

Lynn Schibeci, Assistant Professor. Lynn was scheduled to begin in August 1999, but visa problems have prevented her from joining our staff in the fall. We expect to have her on board in the spring semester.

Jay Rubenstein, Assistant Professor, August 1999

During the year the following were appointed as part-time faculty:

Fritz Cocron, Visiting Lecturer, Western Civilization
Aurora Morcillo, Visiting Lecturer, Western Civilization
Kenneth Orona, Visiting Lecturer, Mexican-American History
Paul Sidelko, Visiting Lecturer, Medieval History

The following graduate students served as Teaching Associates:

Jonathan Ablard, Latin American History
Ellen Cain, History of New Mexico
Raphael Cristy, U.S. History
Yvonne Darcy, U.S. History
Raymond Drolet, Western Civilization
John Herron, U.S. History
Eric Hirschmann, U.S. History
Richard Berthold received a Teacher-of-the-Year award from El Paso Natural Gas Co. Melissa Bokovoy took her sabbatical under arduous and dangerous conditions in Serbia and Croatia and lived to tell about it. Together with Jane Slaughter she is working under contract from Houghton-Mifflin to produce a two volume work entitled Biography and Civilization for use in Western Civilization courses. Richard Etulain edited and wrote the introduction for Myths of the American West, published an article "Inventing the Pacific Northwest: Novelists and the Region's History," and received a lifetime achievement award in the humanities from the New Mexico Endowment for the Humanities. Dan Feller completed a new edition of Harriet Martineau's Retrospect of Western Travel and was invited to deliver a Commonwealth Fund Lecture in American History at University College in London. Linda Hall was selected to give the Snead-Wertheim Lecture in the spring of 1999. Elizabeth Hutchison published "'El fruto envenenado del arbol capitalista': Women Workers and the Prostitution of Labor in Urban Chile, 1896-1925," in Journal of Women's History. At the end of the spring semester she taught a seminar on women's labor history at the Catholic University in Chile. Paul Hutton received the "Western Heritage Award" from the National Cowboy Hall of Fame for the article "T.R. and the Rough Riders," published in American History. A talk based on the article was broadcast on C-Span. Cynthia Orozco published "Regionalism,
Politics and Gender in Southwestern History: The League of United Latin American Citizens’ (LULAC) Expansion into New Mexico from Texas, 1929-1945," in Western Historical Quarterly. Her essay was nominated for the Western History Association’s Joan Jensen - Darlis Miller Prize. Jonathan Porter published “The Troublesome Feringhi: Late Ming Perceptions of the Portuguese and Macau,” in Portuguese Studies Review, placed three articles in Modern China: An Encyclopedia of History, Culture and Nationalism, and completed his term as President of the UNM Faculty Senate. Virginia Scharff co-authored Coming of Age: America in the Twentieth Century. Ferenc Szasz published “New Mexico’s Forgotten Nuclear Tests: G. Nome (1962) and Gasbuggy (1967) in New Mexico Historical Review and “A Reggel, Amikor Ketszer Keit A Map I, “ in Fizikal Szemle. Recent Ph.D. recipient Kathleen Chamberlain was awarded the Popejoy Dissertation Prize for her study of Navajo Oil, completed under the direction of Margaret Connell-Szasz, and current graduate student Martina Will received the Dean’s Dissertation Year Fellowship to finish her study of death and dying in colonial New Mexico which she is doing under the direction of Linda Hall.

V. Outside Professional Activities of History Staff

UNM historians dominated the work of the Western Historical Association. Richard Etulain served as its president, Paul Hutton continued his work as the organization’s Executive Director, and Virginia Scharff co-chaired the Program Committee for the 1998 convention. Robert Kern was asked by nine universities to serve as a referee in promotion cases. Jonathan Porter participated in an international conference in Macau on “Macau and the Maritime Silk Route.” Charlie Steen continues to serve as Treasurer of the Western Society for French History.
VI. Separations from Faculty

Elizabeth Jameson, July 31, 1999

VII. Work of Department Office Staff

The office staff of the Department of History continues its fine work. Yolanda Martinez, our able Department Administrator, continues to provide the leadership that is essential for the efficient flow of business. Her knowledge of all relevant and irrelevant procedures combined with boundless good humor keep the department afloat. Helen Furgeson did a splendid job as Graduate Secretary and helped to guide the work of our search committees. Loretta Hayoz has been an effective and helpful receptionist and computer expert.

Faculty
Caroline Smith (Ph.D., Yale University) joined the faculty as assistant professor in phonetics and phonology beginning in August 1998.

During 1998-99, a national search was conducted for an innovative assistant professor position in Native American educational sociolinguistics with a joint appointment in Linguistics and in the Division of Language, Literacy, and Sociocultural Studies in the College of Education. Christine Sims, who is completing her Ph.D. at the University of California-Berkeley, was hired to fill this position effective August 1999. Sims is a native of Acoma Pueblo who has been involved for more than twenty years in Native American language education and revitalization issues. She is executive director and chairman of the board of the Linguistic Institute for Native Americans.

Assistant professor William Isham was reviewed for tenure this year. The department recommended against tenure and promotion and this recommendation was upheld. Isham was on sick leave for the entire Spring 1999 semester. He declined to accept a terminal appointment for 1999-2000, and his employment with UNM ended in May 1999.

Leslie Greer, lecturer in the Signed Language Interpreting program, also resigned effective May 1999. Bonnie Rudy, who holds an M.A. from California State University-Northridge, was hired to a one-year visiting lecturer position to replace Greer.

Professor Joan Bybee became department chair in August 1999, replacing Professor Garland Bills, who completed his four-year term.

Holding part-time teaching positions in the department during the 1998-99 academic year were Dr. Ferdinand de Haan (Linguistics), Robert Hahn (Signed Language Interpreting), Lin Marksbury (Signed Language Interpreting), Cameron Riegel (Signed Language Interpreting), Mary Schultz (Signed Language Interpreting), and Dr. Sharon Utakis (Linguistics).

Professor Luis Oquendo of the Universidad del Zulia in Venezuela was appointed as a non-teaching visiting scholar in April 1999 for a period of two months to interact with faculty and carry out research on Native American languages.

Staff
The department suffered a complete turnover in staff positions during 1998-99.

Department administrator Barbara Van Buskirk resigned in September 1998 to take a similar position at the Institute of Public Law. Nancy C. Montoya, previously employed at UNM’s Art Museum, was hired as department administrator in November 1999.

Administrative assistant Leeanae Griego resigned in February 1999 to return to full-time duties as wife and mother. Scott Williams was hired in May 1999 to replace Griego.
Robert Hahn, who joined the department only in July 1998 as full-time staff interpreter/administrator assistant in the Signed Language Interpreting program, resigned in January 1999, but continued in a part-time capacity through the Spring semester. Jennifer Lizut was hired as a .50 FTE interpreter for Professor Phyllis Wilcox in January 1999, and Arianne Batton was hired at .50 FTE as the SLI administrative assistant in May 1999. Batton announced that she would resign in August 1999 in order to move to Alaska.

**SLI Lab**

A grant in the amount of $32,400 was secured from the State Department of Education in November 1998, and the construction of the state-of-the-art Signed Language Interpreting Laboratory was finally begun in earnest in 1999. This lab should be ready for classes and other instructional uses for the Spring 2000 semester.

**25th Anniversary**

This past year was the 25th anniversary of the establishment of the UNM Department of Linguistics in 1973. In honor of the occasion a reception was held at University House on August 28, 1998. In addition, three lectures in our colloquium series were specially invited to recognize this milestone.

### 2. Significant plans and recommendations for the near future

**Faculty**

National searches will be carried out during 1999-2000 to find permanent replacements for the two faculty members in the Signed Language Interpreting program who resigned this Spring. One position will be at the assistant professor level and the other at the lecturer level.

**Space**

The promised allocation to the Department of Linguistics of the Honors Center space on the first floor of the Humanities Building was further delayed awaiting the preparation of new space for the General Honors Program. That space may become available by the beginning of 2000. In the meantime, we struggle to find space for basic needs. The Department of Mathematics and Statistics kindly loaned Linguistics one office during 1998-99 for Professor Jill Morford’s psycholinguistics laboratory, but that space was not available for the coming year. The departure of Professor Isham may it possible to provide Morford a temporary laboratory for 1999-2000 in order to continue her National Institutes of Health funded research.

### 3. Faculty activities

**Sponsored research**

Our records indicate that the following external grants were administered through the Department of Linguistics during the period covered by this annual report:
Phyllis Wilcox, "RSA Region IV interpreter training project," funded by the University of Arkansas, $4,000, 1 October 1997 to 30 September 1998.

Jill Morford, “Perceptual processing in delayed language learners,” funded by the National Institutes of Health, $116,850, 1 September 1998 to 31 August 2001.

Melissa Axelrod was instrumental in helping the Jicarilla Apache Tribe secure a major Administration for Native Americans grant for the “Jicarilla Apache language revitalization” project, which involves the development of Jicarilla Apache curriculum materials, teacher training, a dictionary and grammar, and a language immersion program.

Jill Morford continued as co-principal investigator (with two others) for a project administered through McGill University, “Patterns of relative clause propositions using an augmentative and alternative system,” funded by the Social Sciences and Humanities Research Council of Canada in the amount of $50,000 for April 1997 to April 2000.

Three Research Allocations Committee awards were made to Department faculty during the period covered by this report:


Caroline Smith, “Sentence-final prosody in French questions and statements” ($1,780).

Joan Bybee and Sherman Wilcox, “A cross-linguistic study of the grammar of signed languages” ($2,963).

Publications

A complete accounting of faculty publications and other scholarly productivity is provided in the annual supplements to the biographical record. There is no need to duplicate such information here.

Awards and honors

Joan Bybee continued her three-year appointment (1996-99) as Regents’ Professor in recognition of her high level of achievement as a scholar and teacher. Bybee was also awarded an A&S Senior Research Semester Award for Spring 1999 to enable her to complete work on a book manuscript.

Eduardo Hernández Chávez was appointed to a three year term as director of the Chicano Studies Program beginning in Fall 1998.

Other activities

Melissa Axelrod, with the assistance of Roseann Willink, Ferdinand de Haan, and Jordan Lachler, sponsored the 20th Athabaskan Language Conference held on the UNM campus May 21-23, 1999. Over 30 linguistics scholars from across the U.S. and Canada presented 24 papers and took part in panel discussions.

Garland Bills continued as executive director of the Linguistic Association of the Southwest (LASSO) through December 1998.

Sherman Wilcox continued as editor of the new international journal, Evolution of Communication.
4. Student activities

Degrees awarded
The following degrees offered through the Department of Linguistics were awarded to the listed students during the report period:

B.A. in Linguistics: John Lancaster (Fall 1998), Todd Johnson (Spring 1999).
B.S. in Signed Language Interpreting: Cara Balestrieri, Arianne Batton, Kim Davis, Sally Schwartz (all Fall 1998), Sandi Hinojos (Summer 1999).
M.A. in Linguistics: Andrew LaVelle, James MacFarlane, and Laurel Standley (all Fall 1998), Nathan Bush and Douglas Rauber (both Spring 1999).

HDLS
The department’s graduate student organization, the High Desert Linguistics Society (HDLS), continued to actively represent master’s and doctoral students in Linguistics as well as doctoral students in Educational Linguistics. Officers for 1998-99 were Jordan Lachler (president), Angus Grieve-Smith (vice president and representative to Linguistics faculty meetings), and Anna Vogel (treasurer). Professor Melissa Axelrod served as faculty advisor to HDLS.

The major activity of the HDLS this year was hosting the highly successful second annual High Desert Linguistics Society Student Linguistics Conference, March 26-28, 1999. The conference was internationally announced, and 25 refereed papers were presented by graduate students from linguistics departments around the United States and abroad. Professor Sandra Thompson of the University of California-Santa Barbara was invited to deliver the keynote address on “Interaction and grammar: Transitivity and argument structure in conversation.”

The HDLS also sponsored publication of the Proceedings of the First Annual High Desert Linguistics Society Conference, edited by Catie Berkenfield, Dawn Nordquist, and Angus Grieve-Smith. This volume of selected papers from the April 1998 meeting includes 14 articles. This publication is exchanged with departments of linguistics around the world that publish working papers in linguistics.

Awards and honors
Awarded regular departmental assistantships for 1998-99 were Catie Berkenfield (.25 TA), Jordan Lachler (.50 TA), James MacFarlane (.25 TA), Elisa Maroney (.50 TA Spring), Barbara Shaffer (.25 GA), and K. Aaron Smith (.50 TA).
Special assistantships were awarded to Cecilia Flood (.50 TA Fall), Dawn Nordquist (.50 GA), Dan Parvaz (.25 TA Spring), Joanne Scheibman (.25 TA), Barbara Shaffer (.17 TA Spring), and Laurel Standley (.25 TA Spring).
Graduate Tuition Fellowships for 1998-99 were awarded to M.A. candidates Jennifer Hayes and Douglas Rauber.

Representing the Department of Linguistics on two student councils organized by the Dean of the College of Arts and Sciences were Melinda Rogers (B.A. program in Linguistics) on the A&S Undergraduate Student Council and Catherine Berkenfield (M.A. program in Linguistics) on the A&S Graduate Student Council.
5. Other professional activities

The Department sponsored a strong set of scholarly presentations during 1997-98 in its Colloquia Series and Brown Bag Lunch Series. The presentations included the following speakers (those in the Brown Bag Series are marked with an asterisk):

Mary A. Willie (University of Arizona), “The inverse voice and possessive yi-/bi- in Navajo” (October 23)

Karen Emmorey (Salk Institute), “Space on hand: The exploitation of signing space to illustrate abstract thought” (October 30)


*Phyllis Wilcox (Linguistics faculty, UNM), “Crossing a metaphorical ocean: Grammaticization of GIVE in ASL” (November 11)

*James MacFarlane (Linguistics M.A. candidate, UNM), “From affect to grammar: Grammaticization in signed language” (November 11)

Sonja Launspach (Department of English, UNM), “The interactional structure of small writing groups” (November 13)

Leon Secatero (Cañoncito Naabeehó Iná), “My ancestors speak: Sources of knowledge from the petroglyphs on Mount Taylor” (November 20)


Adele Goldberg (University of Illinois, Urbana-Champaign), “The emergence of argument structure constructions” (December 4)

Ian Maddieson (University of California, Los Angeles), “Phonetic studies of endangered languages” (February 12)

Kazuyuki Yamaguchi (Linguistics Ph.D. candidate, UNM), “A typological study of polysemy in case forms” (dissertation proposal) (February 19)

Nathan Bush (Linguistics M.A. candidate, UNM), “The predictive value of transitional probability for word-boundary palatalization in English” (thesis defense) (March 5)

David Zager (Avesta Technologies, Inc.), “Agency: Representing knowledge in a diagnostic system” (March 23) (jointly sponsored by Computer Science)

Alyse Neundorf (UNM-Gallup), “Training court interpreters” (April 15)

Patrick Boudreault (McGill University & Canadian Cultural Society of the Deaf), “Dictionary of Langue des signes québécoise multimedia project” (April 19)

Christine P. Sims (University of California, Berkeley), “Issues in language maintenance in the Native American communities of New Mexico” (April 20)

Michael Tomasello (Max Planck Institute for Evolutionary Anthropology), “Acquiring and constraining linguistic constructions” (April 21)

The Department of Mathematics and Statistics continued to meet the demands of its broadly defined missions in education, research, and service during the 1998-99 academic year, and tried to improve in many important ways. The number of tenure stream faculty stood at 33 at the end of the year, a decrease of 7 from 40 on our roster eight years ago, although a gain of 2 from the previous year. In spite of these losses, our programs remain strong in the face of concerns for the future.

1. Significant Developments During the Academic Year, 1998-99

- Total research funding was approximately $1.8 million. This included new funding by Professors Boyer & Galicki, Ellison, Gilfeather, Hagstrom, Nitsche, Steinberg, and Wofsy, as well as continuing funding by Professors Buium, Efroymovich, Embid, Hagstrom, Kapitula, Koltchinskii, Kovanis, Lorenz, Loring, Pereyra, Steinberg, Stone, Sulsky, and Wofsy.

- The Statistics Clinic, a consulting service directed by Professors Bedrick and Christensen has been operational for one and one-half years. It has been staffed by statistics faculty and graduate students from the Department of Mathematics and Statistics and offers statistical services without charge to clients at UNM in support of their academic research. This service is funded by the College of Arts and Sciences, the Department of Mathematics and Statistics, the UNM Office of Research Services, and CIRT. The clinic also provides contract services for UNM, local industry, government, and educational institutions. These services draw upon the wide range of expertise in the Statistics Group at UNM, and of affiliated faculty at UNM with statistical expertise. The Statistics Clinic has a mission to improve the quality of research at UNM, as well as to enrich the education and training of statisticians through their involvement in statistical consulting. Consultants in the clinic met with clients over 400 times during AY 1998-99, and over $6,000 was collected for contract work.

- Associate Professors Terry Loring and Krzysztof Galicki were promoted to Full Professor.

- Monika Nitsche of Tufts University started in Spring 1999. She brought her current NSF support with her.

- Total enrollment for the AY was 11,912 students, an increase of 4.7% over the previous AY and continuing an upward trend from that year. Undergraduate enrollments rose by 4.5% over the previous AY, while graduate enrollments rose by 7.4%. Pure mathematics partially reversed its previous year's drop of 26% in graduate enrollment by posting a 20% increase this AY. Statistics graduate enrollment grew by 9% while applied mathematics graduate...
enrollment slipped by 10%. Graduate enrollment was 30% applied mathematics, 29% pure mathematics, and 41% statistics.

- The Departments of Physics and Astronomy, and of Mathematics and Statistics held a joint graduation ceremony in May 1999, for the first time. We awarded a total of 19 BS, 11 MA, and 11 Ph.D. degrees for AY 1998-99. This was a substantial increase in BS and Ph.D. degrees over the previous year, but we do expect fewer Ph.D. degrees next year.

- Professor L.S. Hahn and Lecturer Cathy Gosler continued the UNM Mathematics Contest with permanent funding ($11,000 per year) from the Public Service Company of New Mexico Foundation. Prizes, including books, cash, and scholarships, were awarded at a banquet for contest winners in the spring. Professor John Conway of Princeton University, a world-renowned mathematician, gave an entertaining pair of general interest lectures in connection with the contest. This was Professor L. S. Hahn’s last year to write the math problems as he retired in May 1999. Professor Cristina Pereyra will assume Professor Hahn’s duties in writing contest problems.

- Formal changes in both undergraduate and graduate programs, mostly related to statistics courses, were approved by the Faculty Senate. We now have a separate STAT prefix for those courses instead of the current MATH prefix, as well as separate BS, MS, and Ph.D. degrees in Statistics. The MA in Mathematics now is an MS, and we now allow Plan I for the MS. Several 4xx/5xx course numbers have been created to help in proper accounting of graduate student credit hours.

- In order to enhance our teaching assistant’s effectiveness in the classroom, we expanded the pre-semester in-service. We invited speakers from TARC, CAPS, and CATS to make presentations, and several experienced TA’s gave teaching demonstrations. It is now mandatory that TAs take TARC or ITARC so that their teaching skills will improve.

2. Significant Plans and Recommendations for the Near Future

- We are desperate for more faculty. We have approval for one position, statistics or biostatistics. We need to hire in many consecutive years in order to come back to a critical mass. Regular faculty should be teaching courses from the level of calculus and beyond, but we have many part-time faculty teaching calculus and even 300-level or graduate courses. We had a total of 26 part-time instructors who taught 58 sections in fall 1998, and 22 part-time instructors who taught 50 sections in spring 99. Graduate offerings are slim to nonexistent in key areas. Only tenure stream faculty can maintain the health of our programs. We need to develop a coherent strategic plan to guide our next several hires.

- Advisement needs to be tightened up at both the graduate and undergraduate levels. The graduate committee, headed by Professor Aceves, and the undergraduate committee, headed by Professor Coutsias, will work with the staff to improve the situation. Students are taking too long to complete a degree, and these efforts should help improve that situation.
• We need to develop assessment for our huge service courses. Those multi-section courses need to be better coordinated with respect to syllabi, homework, and exams. We may need to examine our extensive use of part-time faculty in those courses to see if improvements in staffing are possible.

• The Plan I MS degree is new for our department. It should provide a means for an attractive terminal professional degree, but we need to work carefully on implementation.

• Several undergraduate curriculum change proposals need to be discussed and implemented. A promising one is a fifth year teaching certificate program joint with College of Education, possibly evolving into a Master of Arts in Teaching. Some convergence of pure and applied mathematics programs seems possible.

• We need to expand our efforts for training TA’s and part-time instructors.

3. Appointments to Faculty/Staff

• There were three appointments to faculty: Michael Nakamaye (pure mathematics), Vakhtang Poutkaradze (applied mathematics), and Larua Salter (statistics) will begin in Fall 1999.

• Professor Larry Brown from Purdue University was a visitor to the department during the academic year 98-99.

• Charles Mader was hired as a Systems Analyst II effective August 20, 1998.

• Dann Brewer was hired to replace Elizabeth Frank as Systems Analyst III, effective May 13, 1999.

• Roxanne Littlefield was appointed the academic advisor on October 12, 1998.

• Jenison Klinger was appointed department administrator on November 12, 1998.

4. Separations

• Professor L. S. Hahn retired from the department at the end of spring semester 1999.

• Associate Professor Jay Epperson resigned in January 1999.

• Elizabeth Frank, Systems Analyst III, resigned her position on April 12, 1999 to take a position in the Albuquerque High Performance Computing Center.

• Moira Robertson retired from the department on October 31, 1998 after 15 years as the department administrator.

• Shirley Harty was promoted to department administrator I in Mechanical Engineering and left our department on August 1, 1998. She had been with the department for 30 years.
Dan Cosper was promoted to an Administrative Assistant III position at the Albuquerque Teachers Institute and resigned on May 12, 1999.

5. Publications (for calendar year 1998)

1998 Faculty Publications and Creative Works
Department of Mathematics and Statistics

Aceves, Alejandro B.

Bedrick, Edward J.

Boyer, Charles P.

Buium, Alexandru

Christensen, Ronald

Coutsias, Evangelos
Efromovich, Sam

Ellison, James A.

Embid, Pedro F.

Galicki, Krzysztof

Gibson, Archie G.

Gonzales, Nancy

Hagstrom, Thomas


Hahn, Liang-shin

Hersh, Reuben

Kapitula, Todd M.


Koltchinskii, Vladimir I.


Kucharz, Wojciech


Lorenz, Jens


Loring, Terry A.


Mann, Benjamin M.


Nitsche, Monika

Pereyra, M. Cristina


Qualls, Clifford R.


Zimmer, William J.

6. Outside Sponsored Research

See the table on the following page.
<table>
<thead>
<tr>
<th>Principal Investigator</th>
<th>Funding Agency</th>
<th>Purpose</th>
<th>Date</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boyer/Galicki</td>
<td>NSF</td>
<td>Contact Geometry and Einstein Manifolds</td>
<td>06/15/99-06/30/02</td>
<td>$127,008</td>
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<tr>
<td>Alex Bolum</td>
<td>NSF</td>
<td>Arithmetic Analogue of Differential Algebraic Geometry</td>
<td>06/01/96-05/31/01</td>
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<td>Sam Efromovich</td>
<td>NSA</td>
<td>Quasi-Linear Wavelet Estimation</td>
<td>02/17/98-03/30/99</td>
<td>$26,000</td>
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<tr>
<td>Sam Efromovich</td>
<td>NSF</td>
<td>Curve Estimation Involving Time Series</td>
<td>07/01/96-06/30/99</td>
<td>$55,000</td>
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<tr>
<td>Ellison, James</td>
<td>DOE</td>
<td>Investigation of Beam Dynamics Issues at Current and Future Hadron Accelerators</td>
<td>04/01/99-03/31/00</td>
<td>$130,000</td>
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<tr>
<td>Pedro Embid</td>
<td>NSF</td>
<td>Nonlinear Problems in Geophysical and Relative Flows</td>
<td>08/01/97-07/31/00</td>
<td>$80,000</td>
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<td>Gilfeather</td>
<td>Air Force Res Lab</td>
<td>IPA Agreement</td>
<td>12/14/98-12/13/99</td>
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<tr>
<td>Tom Hagstrom</td>
<td>SNL</td>
<td>Data Visualization for Computational electromagnetics</td>
<td>05/25/99-05/30/00</td>
<td>$20,000</td>
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<tr>
<td>Tom Hagstrom</td>
<td>NSF</td>
<td>Computational Analysis of Multiple Scales Problems in Wave Propogation</td>
<td>06/01/96-05/31/99</td>
<td>$60,000</td>
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<tr>
<td>Tom Hagstrom</td>
<td>NASA</td>
<td>Numerical Analysis of Complex Physical Processes in Reaction Dynamics</td>
<td>01/15/97-01/14/99</td>
<td>$83,734</td>
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<td>Apama Huzurbazar</td>
<td>NSF</td>
<td>Flowgraph and Saddlepoint Methods for Statistics</td>
<td>07/01/96-06/30/99</td>
<td>$69,000</td>
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<tr>
<td>Todd Kapitula</td>
<td>NSF</td>
<td>Stability of Travelling Waves with Applications In Nonlinear Optics</td>
<td>06/15/98-05/31/01</td>
<td>$57,205</td>
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<td>Vladimir Kotchinskii</td>
<td>Sandia National Labs</td>
<td>Empirical Processes Tools In Multivariate Data Analysis &amp; Nonparametric Image Reconstruction</td>
<td>11/01/96-10/31/00</td>
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<td>Vasilios Kovannis</td>
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<td>IPA Agreement</td>
<td>10/01/98-09/30/99</td>
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<td>Jens Lorenz</td>
<td>Department of Energy</td>
<td>Computation and Analysis of Invariable Manifolds and their Bifurcations</td>
<td>08/01/95-07/31/99</td>
<td>$60,000</td>
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<td>Jens Lorenz</td>
<td>NSC</td>
<td>Numerical and Asymptotic Studies of Complex Flow Dynamics</td>
<td>12/15/94-02/28/00</td>
<td>$99,771</td>
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<td>Terry Leoni</td>
<td>NSF</td>
<td>Stabil Relations and their Loci in Operator Algebra Variables</td>
<td>04/01/96-12/31/99</td>
<td>$89,900</td>
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<td>Morika Nitsche</td>
<td>NSF</td>
<td>Formation Process and 3-D Dynamics of Vortex Rings</td>
<td>12/17/96-06/30/01</td>
<td>$23,299</td>
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<tr>
<td>Christina Pereyra</td>
<td>Sandia National Labs</td>
<td>Divergence Free Multiscalerlot In Navior Stokes Systems</td>
<td>10/01/99-05/30/99</td>
<td>$35,000</td>
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<td>Stanly Steinberg</td>
<td>NSF</td>
<td>Symbolic Computing and Dimensionally Reduced Models of Fluid Flow</td>
<td>06/15/96-05/31/99</td>
<td>$41,778</td>
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<tr>
<td>Stanly Steinberg</td>
<td>Air Force Of of Sci Res</td>
<td>Life-Algebraic Representations of Product Integrals of Variable Matrices</td>
<td>01/01/98-12/31/99</td>
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<td>Alexander Stone</td>
<td>Air Force</td>
<td>IPA Agreement</td>
<td>05/15/99-06/14/98</td>
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<td>Alexander Stone</td>
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<td>IPA Agreement</td>
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<td>$76,468</td>
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<td>Deborah Sulsky</td>
<td>LANL</td>
<td>Microstructural Analysis of Granular Material</td>
<td>06/01/99-05/30/99</td>
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<td>Deborah Sulsky</td>
<td>Alcoa Foundation</td>
<td>Research</td>
<td>Open</td>
<td>$21,086</td>
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<td>Carla Wolsky</td>
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<td>Mathematical Analysis of the Early Events</td>
<td>08/15/99-05/31/00</td>
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<td>Carla Wolsky</td>
<td>NSF</td>
<td>Quantitative Methods for Studying Cell Signalling Mediated by multi-subunit Immunoreceptors</td>
<td>09/01/97-06/30/00</td>
<td>$198,018</td>
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<td>Carla Wolsky</td>
<td>University of Minnesota</td>
<td>Mathematics In Biology</td>
<td>09/01/98-12/31/98</td>
<td>$20,000</td>
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Total $1,854,735
Annual Report, 1998-99
G. F. Schueler, Chair

1. Significant developments during the academic year 1998-99

Professor Amy Schmitter was granted tenure and promoted to Associate Professor at the end of Spring term, 1999.

The Dept. awarded its Barrett Dissertation Fellowship for 99/00 to Steve Scholz an ‘ABD’ graduate student who has been a TA for several years. He is working on the notion of ‘forgiveness’ with Professors Tanenbaum and Schueler. Our 98/99 Barrett Dissertation Fellow, Lisa Gerber, successfully defended her dissertation in Spring, ‘99 and took a tenure track position at a college in Minnesota. The current Dept. graduate program envisions full TA and fellowship support for all admitted Ph.D. students. We are currently using the bulk of the proceeds from our Gwendolyn Barrett Fund to support one ‘dissertation year’ fellowship each year. Our hope is that this will, on average, allow us to award at least one Ph.D. each year, a goal we have been able to meet for the last several years.

As in previous years, the Department sponsored an extensive list of lecturers during 98/99, including a number of distinguished philosophers from other universities, these included:

Charles Sherover, Hunter College, CUNY, 9/11/98 - Kant's Debt to Leibniz

Amy Schmitter, UNM, Philosophy 10/2/98 - Constitutive Conditions and Having a Reason: Leibniz on Necessary and Contingent Truths

Andrew Burgess, UNM, Philosophy, 10/9/98 - Kierkegaard and Laughter

Manfred Frings, Emeritus, DePaul University, 10/30/98 - Max Scheler: Ressentiment in Society

Peter Kingsley, Simon Fraser University, 11/6/98 - Parmenides, Magic and the Dawn of Philosophy

Anne Waters, UNM, Philosophy/Women’s Studies, 11/13/98 - Broadening the Horizon of American Philosophy

Rinita Mazumdar, UNM, Philosophy/Women's Studies, 12/4/98 - Hospitality, Immigration, Citizenship: Kant and Derrida

Lisa Gerber, UNM, Philosophy, 1/15/99 - Sharing Secrets With Nature: The Art of Intimacy

Alison Jaggar, University of Colorado, 2/5/99 - Multicultural Democracy

Jennifer Nagel, UNM, Philosophy, 2/8/99 - Detection, Projection, and Knowledge of Necessity

Robert Audi, University of Nebraska, 2/18/99 - Religious Conviction, Political Activism, and Public Discourse; 2/19/99 - Doxastic Voluntarism and the Ethics of Belief


Daniel Graham, Brigham Young University, 4/2/99 - Heraclitus and the Language of Insight

Lisa Shapiro, Hampshire College, 4/9/99 - What Do Cartesian Expressions of the Passions Tell Us?

John Mikhail, Cornell University, 4/16/99 - Using Act Trees to Solve Trolley Problems

Leora Weitzman, University of Wisconsin, Madison, 4/26/99 - Inside a Skeptic's Mind, and Beyond

John MacFarlane, University of Pittsburgh, 5/14/99 - Aristotle's Argument for the Substantiality of Matter

2. Significant Plans and Recommendations for the Near Future

It is important that the Department be able to replace Rebecca Kukla during 99/00. In addition, if John Bussanich, who is on leave for 99/00 should decide not to return to UNM we will face a large 'hole' in both our undergraduate
and graduate offerings in the area of Ancient philosophy, an area of philosophy essential to any serious graduate, or even undergraduate, program. Significant problems are created by having to cover courses in this area with part-time or visiting faculty (or regular faculty better qualified to teach other things), and in some instances these courses simply cannot be covered with the faculty currently here.

We plan to continue our evaluation of our graduate program, with 'adjustments' being made as needed, e.g. in the graduate reading lists and in the content of the exams. At the same time we plan and hope to spend more time working on both the content and the actual teaching of our undergraduate offerings, both for courses primarily taken by philosophy majors and for courses offered to the wider UNM undergraduate population. Courses in the latter category are often the only philosophy course, or even the only humanities course many UNM students ever take and with the new core curriculum these courses are even more important.

3 Appointments to faculty/staff.

Professor Jennifer Nagel (PhD Pittsburgh, expected '99) who was a Visiting Assistant Prof. for 98/99 was hired as a half time, tenure track Assisting Professor beginning Fall, 1999, with the expectation that this position will become full time within the next three years. Prof. Nagel is an expert in epistemology and metaphysics and is thus able to add significantly to the strength of the Dept. in what are usually regarded as the central core areas of philosophy.

Professor Leora Weitzman (Ph. D. Stanford) was hired as a three quarter time Visiting Assistant Professor for 99/00.

4. Separations of faculty/staff.

Professor Rebecca Kukla officially resigned as a member of the Dept. in August, 1997 to take a job at Carlton University in Canada.

5. Publications


Russell Goodman:"Wittegenstein and Pragmatism" in Parallax 9 (Oct. 1998); "Ralph Waldo Emerson" and "American Philosophy in the 18th and 19th Centuries" (with B. Dowling) in Routledge Encyclopedai of Philosophy (1998);


Fred Schueler: “Why IS Modesty a Virtue?” Ethics (April, 1999)


6. Outside Professional Activities of Faculty

Andrew Burgess: presented papers at the 20th World Conference of Philosophy, Boston, August, 1998, and at the AAR Convention in Orlando, Nov. 1998.


Russell Goodman: talks at Univ. of Southampton, Univ. of Hertfordshire and Univ. of Sheffield during May, 1999; talk on “Useless Ignorance” at Society for the Advancement of Am. Phi. in Eugene, Ore. Feb. 1999, talk on “Wittgenstein and Pragmatism” at the International Society for the Study of European Ideas, Haifa, Israel in August, 1998.


Jennifer Nagel: Comments on D. Flage: “Hume’s Systematic Skepticism”, Reason and Rationality Conference, April, 1999:


Aladdin Yaqub: paper read at the 20th World Congress of Philosophy, Boston, August, 1998.

7. **Outside Sponsored Research**

Alas, none.
THE REPORT OF
THE DEPARTMENT OF PHYSICS AND ASTRONOMY
1 JULY 1998—30 JUNE 1999

John K. McIver, Chairman

Status of the Department

The number of faculty members remained constant at twenty-eight full-time tenured or
tenure-track members. Mr. Boyd M. Odom was hired as a Lecturer to supervise the
undergraduate laboratories and oversee their modernization. Two of the faculty, Drs. T.
Henning and M. Sheik-Bahae, received tenure and were promoted to the rank of
Associate Professor. In addition, Assistant Professor Rand underwent a successful Code-
3 review.

There were significant changes in the staff. The department accountant resigned in early
January and the Academic Advisor in February. The accounting position was filled by a
current member of the department staff who had previous experience in this position.
The Academic Advisor position was filled after a search.

Space continues to be a major problem in this department. One of the Emeritus
Professors kindly relinquished his laboratory space to accommodate two new funded
projects. There are at least two more projects that if funded will require significant
laboratory space. Although these can be accommodated with some sacrifice, we are fast
approaching the position where we will be unable to accept further research projects if
they are to be housed in this building. As it is, the building is already unsuited to some
forms of research because of the inability to control dust and poor vibration isolation.
We are also pushing the limits of the electrical power coming into the building.

In fall 1998 there were 93 graduate students in this department including those registered
in the Optical Sciences Program. This is approximately the same number of graduate
students that were registered in the fall of 1997. We were advising approximately 80
undergraduates who have declared physics or astrophysics as a major. It is not known
how this compares to previous years.

Department Activities

During the past academic year the faculty of this department concentrated on four major
tasks. These were implementation of the plans for upgrading and improving the
undergraduate physics laboratories and the development of a plan to improve the
astronomy laboratories, development of a long term plan for the future of the department,
implementation of the graduate assessment program, and undergraduate and graduate
recruitment and retention.

The department continued to spend a significant amount of time and money on the
undergraduate laboratories associated with the introductory courses. Overall supervision
of the upgrades remains the responsibility of Prof. John Panitz who continued as an
Associate Chair. He is assisted by Boyd M. Odom and W. Miller. Last year all
laboratory courses were renumbered so that they carried the same number as the
associated lecture course but with an additional L. The first laboratory course, 151L, in
the algebra-based sequence and the first course, 160L, in the calculus-based sequence were completely revamped. The experiments were completely redesigned and modernized and much of the antiquated equipment was replaced. Computers were introduced into the curriculum as an aid to data collection, thereby eliminating some of the drearier aspects of the previous labs while greatly enhancing the accuracy of the collected data. Preliminary indications are that the students find the new laboratories more interesting and informative. In addition to upgrading existing laboratory courses, a new course, 161L, was created to establish a laboratory course that corresponded to 161. Professor Panitz has created this course from scratch using the novel idea of a focused-concept laboratory. This course is being taught for the first time in the fall of 1999. Although the major effort for improving the undergraduate laboratories was directed at the major service courses, substantial improvements were also made in other laboratory courses. In particular, 108L, the musical acoustics laboratory, was completely redesigned and the changes partially implemented. Also, a plan for improving the introductory astronomy laboratories was developed with implementation to begin in fall 1999.

One of the major problems facing this department continues to be the relatively small number of undergraduate majors. During the past several years the undergraduate committee has taken a number of steps to increase the number of majors. These steps include better advisement and closer interaction between the department and potential majors. This seems to be working, although it is still too early to tell. We have also devoted more time and money to advertisement and community activities. In addition, the BA program has begun to attract some students that would otherwise not be interested in a physics degree. Another seemingly successful idea has been to create an honors-level class for our calculus-based introductory courses. Professor Wolfe is responsible for this idea and is currently teaching this course as an overload. We will be reviewing this course during the coming year with the idea of introducing it into the permanent curriculum.

Although we are beginning to see signs of improved enrollments, particularly at the undergraduate level, we are not yet convinced that we are successfully competing for the best graduate and undergraduate students on a national or international level. Last year we started an aggressive advertising campaign for our graduate programs. This included redesigning a number of brochures and posters for our various degree programs and research groups. We have also decided to use our web page as the major source of information for the outside world. This requires that a major effort be put into improving our departmental web page during the coming year.

Unfortunately, little progress was made in developing a plan for the future of this department. As one might expect, this is a painful and contentious issue. Much of last year was spent trying to understand where we are at present and how we got to where we are. This is certainly a necessary, first and important step.

Several points have become clear. This department is and probably will remain for the foreseeable future primarily a graduate department. This does not mean that we will sacrifice or skimp on undergraduate education. We still plan to provide high quality undergraduate courses of study and service courses. Our commitment in this area is obvious from the amount of time and money that we are putting into the undergraduate laboratories. Nonetheless, the current market for physics majors emphasizes advanced
degrees. Our strong research programs and relatively high funding levels indicate our ability to continue to develop a strong graduate program in several different areas. This is particularly true in optics. In order to strengthen this area, a proposal has been developed to introduce a Master’s program in Optical Sciences and Engineering to complement the doctoral program that already exists. This idea has been strongly endorsed by local industry and the government laboratories.

**Center for Advanced Studies**

As a result of the review of all centers housed within the Department of Physics, the Center for Advanced Studies was directed by the Dean to emphasize interdisciplinary studies. This has required that the charter under which this center operates be revised and new strategies be developed for fulfilling this mission. In order to facilitate this restructuring, Professor Kenkre was appointed as Director for an additional year and additional members from outside the Department of Physics and Astronomy were added to the steering committee. The new charter for this center is due to be presented to the faculty of the Department of Physics and Astronomy sometime in the early fall of 1999.

**Highlights of Faculty Activities**

*Professors C. Caves and I. Deutsch* were hosts for the first workshop organized under the auspices of SQuInT, a new collaborative network of southwestern universities, national laboratories, and industry in the exciting area of "Quantum Information Science and Technology". Also, one of the refereed papers on which they were co-authors with colleagues from the University of Arizona was highlighted in the American Physical Society’s *Physical Review Focus*, an on-line magazine, and in the Optical Society of America’s monthly publication, *Optics and Photonic News*.

**Professor R. Duncan**

1. A new set of materials for thermometry have been developed under contract from NASA and JPL, primarily by Dr. Beverly Klemme of UNM. These materials promise to revolutionize ultra-high resolution thermometry in fundamental physics experiments on the Space Shuttle and the International Space Station. In addition to Critical Dynamics in Microgravity (Prof. R. V. Duncan, PI), three other fundamental physics experiments in definition for space flight have expressed their desire to use this technology which was developed at UNM in collaboration with JPL and Sandia. These results have been published in the *Journal of Low Temperature Physics*.

2. The breakdown of Fourier's Law near the superfluid transition has been discovered in experiments conducted at UNM, in collaboration with Caltech and JPL. These results, which have been published in *Physical Review Letters*, provide the best test to date of the validity of renormalized, field-theoretic predictions of the nature of this quantum phase transition driven away from equilibrium. Such theories are crucial to our understanding of similar process in superconductors, some magnetic systems, and even in the evolution of the early universe.

3. Revolutionary new techniques for developing experimental cells for the fundamental physics space experiment, Critical Dynamics in Microgravity, have been developed by Dr. Dmitri Sergatskov, Mr. T.D. McCarson, and Prof. R.V. Duncan at UNM, and
by Mr. Dave Elliott at JPL. At least one other flight experiment in fundamental physics has expressed their desire to use this cell technology in their work.

4. A new, active method of air table leveling has been developed by Mr. Sven Mueller, Mr. T.D. McCaron, and Prof. R. V. Duncan at the University of New Mexico. Conventional air table levelers achieve a level stability on a one-meter square table of about 0.6 milliradians. This new active technique can hold the table level to within 0.001 milliradians for an indefinite time, even in the presence of noise and disturbances. This development may advance many classes of experiments, including applications in optics, low-temperature physics, gravity gradiometry, and the development of ultra-stable inertial devices.

5. The scientific results and technical developments in the UNM-based fundamental physics experiment entitled Critical Dynamics in Microgravity have been presented throughout the world in the form of multiple invited talks at international conferences, and in the form of multiple publications in international journals. This experiment is currently in definition for flight on the International Space Station (ISS), and is competing for the first fundamental physics flight opportunity on the ISS, which is scheduled for deployment in July, 2004.

Dr. David Emin and his group are engaged in a DARPA-supported multi-laboratory (UNM-Physics and Astronomy, UNM-CHTM, Sandia, University of Michigan-Nuclear Engineering) effort to investigate the feasibility of devices to directly convert nuclear energy to electrical energy. Central to this effort is his idea that radiation damage to materials based on icosahedral boron clusters spontaneously self-heals. High-resolution electron microscopy of bombarded borides yielded no evidence of damage after bombardments that are the equivalent of more than 10,000 years of exposure to a constantly replenished beta-particle source, Sr(90).

Professor V. M. Kenkre was elected a Fellow of the American Physical Society. He was also appointed for an additional year as the Director of the Center for Advanced Studies. He continues to develop plans and secure funds for the Consortium of the Americas for Interdisciplinary Studies.

Professor J. Matthews has been actively engaged in two new experiments to study high-energy cosmic rays.

1. The Pierre Auger Experiment is supported by the US DOE and NSF to the tune of $7.5M. UNM construction responsibilities are $300K ~ 400K over the next ~4 years. For more details see: http://www-hep.phys.unm.edu/auger.html

2. Construction is essentially complete on the High Resolution Fly’s Eye, HiRes, with two fluorescence detector sites now in final commissioning phase. Thus, HiRes will replace the (running) Japanese AGASA experiment in the near future as THE experiment studying the highest energy cosmic rays. For more details see: http://www-hep.phys.unm.edu/hires.html

Professor S. Prasad organized an imaging workshop that had international attendance (60 attendees including 20 speakers). This workshop was jointly sponsored by the Center for Advanced Studies and the Albuquerque High-Performance Computing Center. The workshop, entitled Fundamental Issues in Image Formation, Detection, and Processing, was held at UNM on February 6-7, 1999.
Professor M. Price was named a Fellow of the Astronomical Society of Australia. He returned to full time teaching from his research leave in Australia but is maintaining his research activities in Australia by doing summer research at the CSIRO Australia Telescope National Facility. He continues to serve as an consultant-evaluator for the North Central Association (for accreditation of higher education).
PROFESSORS


Cahill, Kevin, Ph.D., Harvard, 1967.


Chandler, Colston, Ph.D., California, Berkeley, 1967.


Duric, Nebojsa, Ph.D., Toronto, 1984.

Finley, Daniel, Ph.D., California, Berkeley, 1968.


Panitz, John A., Ph.D., Pennsylvania University, 1969.


Price, R. Marcus, Ph.D., Australian National University, 1966.


ASSOCIATE PROFESSORS

Duncan, Robert V., Ph.D., California, Santa Barbara, 1988.
Gold, Michael S., Ph.D., California, Berkeley, 1986.
Henning, Patricia A., Ph.D., Maryland, 1990.
Seidel, Sally C., Ph.D., Michigan, 1987.

ASSISTANT PROFESSORS

Deutsch, Ivan H., Ph.D., California, Berkeley, 1992.

UNIVERSITY PROFESSOR

Gell-Mann, Murray, Ph.D., Massachusetts Institute of Technology, 1951.

LECTURERS

Dimiduk, Kathryn, Ph.D., Stanford, 1983.
Odom, Boye M., M.S., University of Texas at El Paso, 1981.
RESEARCH PROFESSORS

Emin, David, Ph.D., Pittsburgh, 1968.
Lowe, James, Ph.D., Birmingham, 1959.
Wodkiewicz, Krzysztof, Ph.D., Rochester, 1977.

RESEARCH ASSOCIATE PROFESSORS

Moore, Gerald, Ph.D., Brandeis, 1969.

RESEARCH ASSISTANT PROFESSORS


VISITING ASSISTANT PROFESSOR

Ledlow, Michael J., Ph.D., University of New Mexico, 1994.

ACTIVE PROFESSORS EMERITI

Beckel, Charles L., Ph.D., Johns Hopkins University, 1954.
Bryant, Howard C., Ph.D., Michigan, 1960.
Dieterle, Byron D., Ph.D., California, Berkeley, 1967.
Hull, McAllister H., Ph.D., Yale, 1951.
Swinson, Derek B., Ph.D., University of Alberta at Calgary, 1965.
JOINTLY APPOINTED FACULTY

Brueck, Steven R. J., Ph.D., MIT, 1971 (primary appointment in Electrical Engineering and Computer Engineering (EECE)).

Jain, Ravinder K., Ph.D., California, Berkeley, 1974 (primary appointment in EECE).

Jungling, Kenneth, Ph.D., University of Illinois at Urbana-Champaign, 1970 (primary appointment in EECE).

Kelsey, Charles A., Ph.D., Notre Dame, 1962 (primary appointment in Radiology).

Osinski, Marek, Ph.D., Polish Academy of Sciences, 1979 (primary appointment in EECE).

ACTIVE ADJUNCT FACULTY

Herling, Gary H., Adjunct Professor, Ph.D., Yale, 1961.

MacCallum, Crawford, Adjunct Professor, Ph.D., University of New Mexico, 1962.

Stephenson, Gerard J., Adjunct Professor, Ph.D., Massachusetts Institute of Technology, 1964.
DEPARTMENT OF PHYSICS AND ASTRONOMY
1997-1998
John K. McIver, Chair

APPOINTMENTS TO FACULTY/STAFF

Faculty:

Babkin, Aleksei, Research Assistant Professor, 3/15/99.

Burman, Robert L., Research Professor, 9/1/98.

Junor, William, Visiting Research Professor, 7/15/98.

Staff:

Chigarev, Nikolay, Post-Doctoral Associate, 4/15/99.

DeWitt, Mary, Academic Advisor, 6/9/99.

Holden, Shirley, Administrative Assistant I, 10/19/98.

McCord, John E., Post-Doctoral Associate, 6/1/99.

Nampoothiri, Vasudevan, Post-Doctoral Associate, 2/15/99.


Roberts, Michael, Post-Doctoral Associate, 6/1/99.

Straka, Petr, Post-Doctoral Associate, 7/1/98.
DEPARTMENT OF PHYSICS AND ASTRONOMY
1997-1998
John K. McIver, Chair

FACULTY/STAFF SEPARATIONS

Faculty: None.

Staff:

Eilerts, Scott, Post-Doctoral Associate, 3/31/99.

Gorfine, Grant, Post-Doctoral Associate, 1/15/99.

Henshaw, Thomas, Senior Research Scientist II, 9/26/98.


Klemme, Beverly, Post-Doctoral Associate, 5/31/99.


Ramprasad, Ramamurthy, Post-Doctoral Associate, 7/31/98.

Rislove, Daniel, Post-Doctoral Associate, 12/31/98.
Ahluwalia, Harjit S.


Bassalleck, Bernd


Bryant, Howard C.


Cahill, Kevin

Confinement artifacts in the $U(1)$ and $SU(2)$ compact lattice gauge theories, K. Cahill and G. Herling, hep-lat/9801009.


Caves, Carlton M.


Chandler, Colston


Deutsch, Ivan H.


Diels, Jean-Claude


PATENTS

Being Processed:
1) "Sensors of rotation, displacement, index of refraction, magnetic field, electric field and magnetic susceptibility." Matthew Bohn, Jean-Claude Diels, Thien Trang T. Dang.

Duric, Nebojsa

Refereed:


Non-refereed:


Emin, David

Review Article:

Research Papers:


Gold, Michael S.


Search for the decay $B_s^0 \to \mu^+\mu^-$ and $B_s^0 \to \mu^+\mu^-$ in $p\bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, *Phys. Rev D* 57, R3811-3816 (1998).


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Search for flavor-changing neutral current decays of the top quark in $p\bar{p}$ Collisions $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, *Phys. Rev Lett.* 80, 2525-2530 (1998).


Measurement of the $t\bar{t}$ production cross-section in $p\bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, *Phys. Rev Lett.* 80, 2773-2778 (1998).
Measurement of the top quark mass and $t\bar{t}$ production cross section from dilepton events at the collider detector at Fermilab, F. Abe et al., CDF Collaboration, *Phys. Rev. Lett.* 80, 2779-2784 (1998).

Measurement of the differential cross-section for events with large total transverse energy in $p\bar{p}$ collisions at $\sqrt{s}=1.8$ TeV, F. Abe et al., CDF Collaboration, *Phys. Rev. Lett.* 80, 3461-3466 (1998).


Observation of hadronic $W$ decays in $t\bar{t}$ events with the collider detector at Fermilab, F. Abe et al., CDF Collaboration, *Phys. Rev. Lett.* 80, 5720-5725 (1998).

**Gregory, Stephen A.**


**Henning, Patricia A.**


**Herling, Gary H.**

Junor, William


Kenkre, V. M.


Lowe, James


Radiative corrections to $K^+ \rightarrow \pi^+ e^+ e^-$ and $\pi^0 \rightarrow e^+ e^-$, J. Lowe, University of New Mexico Internal Report, 1998

Matthews, John A.J.

Properties of $\gamma^+ \gamma^-$ two-jet events in $pp$ collisions at $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, Phys. Rev. D 57, 67-77 (1998).

The jet pseudorapidity distribution in direct photon events in $pp$ collisions at $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, Phys. Rev. D 57, 1359-1365 (1998).

Search for the decays $B^0_d \rightarrow \mu^+\mu^-$ and $B^0_s \rightarrow \mu^+\mu^-$ in $p\bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, *Phys. Rev.D* 57, 3811-3816 (1998).


Measurement of $B^0 - B^0$ oscillation frequency using $\pi^-$-meson charge-flavor correlations in $p\bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, *Phys. Rev. Lett.* 80, 2057-2062 (1998).

Search for flavor-changing neutral current decays of the top quark in $p\bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, *Phys. Rev. Lett.* 80, 2525-2530 (1998).


Measurement of the top quark mass and $t\bar{t}$ production cross section from dilepton events at the Collider Detector at Fermilab, F. Abe et al., CDF Collaboration, *Phys. Rev. Lett.* 80, 2779-2784 (1998).

Measurement of the differential cross-section for events with large total transverse energy in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, *Phys. Rev. Lett.* 80, 3461-3466 (1998).


Observation of hadronic $W$ decays in $t\bar{t}$ events with the Collider Detector at Fermilab, F. Abe et al., CDF Collaboration, *Phys. Rev. Lett.* 80, 5720-5725 (1998).


Observation of $B^{*} \rightarrow \psi (2s) K^+$ and $B^0 \rightarrow \psi (2s) K^*$ (892) decays and measurements of $B$ meson branching fractions into $J/\psi$ and $\psi (2s)$ final states, F. Abe et al., CDF Collaboration, *Phys. Rev. D* 58, 072001 (1998).

Search for the rare decay $W^a \rightarrow \pi^+\gamma$ in proton-antiproton collisions at $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, *Phys. Rev. D* 58, 031101 (1998).

Search for the rare decay $W^a \rightarrow D^**(\gamma)$ in $p\bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, *Phys. Rev. D* 58, 091101 (1998).
Observation of $B_s$ mesons in $p \bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, Phys. Rev. D 58, 112004 (1998).

Measurement of the $\sigma(W^+ \rightarrow \geq 1 \text{Jet})/\sigma(W^+)$ cross-section ratio from $p \bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, Phys. Rev. Lett. 81, 1367-1372 (1998).

Search for long-lived parents of $Z^0$ bosons in $p \bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, Phys. Rev. D 58, 051102 (1998).

Observation of the $B_s$ meson in $p \bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, Phys. Rev. Lett. 81, 2432-2437 (1998).

Improved measurements of the $B^0$ and $\bar{B}^0$ meson lifetimes using semileptonic decays, F. Abe et al., CDF Collaboration, Phys. Rev. D 58, 092002 (1998).

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Events with a rapidity gap between jets in $p \bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV, Phys. Rev. Lett. 81, 5278-5283 (1998).

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Search for Higgs bosons produced in association with a vector boson in $p \bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, Phys. Rev. Lett. 81, 5748-5753 (1998).


McIver, John K.


**Moore, Gerald T.**


**Panitz, John A.**


Prasad, Sudhakar


Price, R. Marcus


Rand, Richard J.


Rudolph, Wolfgang


Seidel, Sally C.


Search for the decays $B_s^0, B_d^0 \rightarrow e^+\mu^-$ and Pati-Salam leptoquarks, *Phys. Rev. Lett.* 81, 5742-5747 (1998).


Search for second generation leptoquarks in the dimuon plus dijet channel of $p - \bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, *Phys. Rev. Lett.* 81, 4806-4811 (1998).

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Search for long-lived parents of $Z^0$ bosons in $p - \bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, *Phys. Rev. D* 58, 051102 (1998).

Measurement of the $\sigma(W + \geq 1\text{Jet})/\sigma(W)$ cross section ratio from $p - \bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, *Phys. Rev. Lett.* 81, 1367-1372 (1998).
Observation of $B_s$ mesons in $p - \bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, Phys. Rev. D 58, 112004 (1998).

Search for the rare decay $W^+ \rightarrow D_s^+ \gamma$ in $p - \bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, Phys. Rev. D 58, 091101 (1998).

Search for the rare decay $W^+ \rightarrow \pi^+ + \gamma$ in proton-antiproton collisions at $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, Phys. Rev. D 58, 031101 (1998).

Observation of $B^+ \rightarrow \psi (2S) K^+$ and $B^0 \rightarrow \psi(2S) K^*$ (892)$^0$ decays and measurements of $B$ meson branching fractions into $J/\psi$ and $\psi (2S)$ final states, F. Abe et al., CDF Collaboration, Phys. Rev. D 58, 072001 (1998).


Searches for new physics in diphoton events in $p - \bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, Phys. Rev. Lett. 81, 1791-1796 (1998).

The jet pseudorapidity distribution in direct photon events in $p - \bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, Phys. Rev. D 57, 1359-1365 (1998).

Search for the decay $B^0_s \rightarrow \mu^+ \mu^-$ and $B^0 \rightarrow \mu^+ \mu^-$ in $p - \bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, Phys. Rev D 57, 3811-3816 (1998).

Observation of hadronic $W$ decays in $t - \bar{t}$ events with the collider detector at Fermilab, F. Abe et al., CDF Collaboration, Phys. Rev. Lett. 80, 5720-5725 (1998).


Measurement of the top quark mass and $t - \bar{t}$ production cross section from dilepton events at the collider detector at Fermilab, F. Abe et al., CDF Collaboration, Phys. Rev. Lett. 80, 2779-2784 (1998).


Measurement of the $t - \bar{t}$ production cross section in $p - \bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, Phys. Rev. Lett. 80, 2773-2778 (1998).
Measurement of the $B^0 - \bar{B}^0$ oscillation frequency in $p - \bar{p}$ collisions using $\pi B$ meson charge flavor correlations at $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, *Phys. Rev. Lett.* 80, 2057-2062 (1998).

Search for flavor changing neutral current decays of the top quark in $p - \bar{p}$ collisions $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, *Phys. Rev. Lett.* 80, 2525-2530 (1998).

Measurement of the differential cross section for events with large total transverse energy in $p - \bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV, F. Abe et al., CDF Collaboration, *Phys. Rev. Lett.* 80, 3461-3466 (1998).


Sheik-Bahae, Mansoor


Stephenson, Gerard J.


Wolfe, David M.


Zeilik, Michael


SPONSORED RESEARCH AWARDS
DEPARTMENT OF PHYSICS AND ASTRONOMY
1998-1999
John K. McIver, Chair

FY 98 Awards Not Previously Reported
Total: $4,766,292


Bernd Bassalleck, Brookhaven National Laboratory, *Station 1 PHENIX Muon Tracker*, $388,000.


Stephen Boyd, National Aeronautics and Space Administration, *New Phenomena in Strongly Counterflowing He-II Near T_A*, $88,000.

Kevin Cahill, Department of Energy, *Dynamics of Particles and Fields*, ($20,000).

Carleton Caves, Office of Naval Research, *Limitations on High-Precision Optical Measurements/High-Precision Measurements and Quantum Information Theory*, $85,500.

Ivan Deutsch, Los Alamos National Laboratory, *Analysis of Implementations of Quantum Computation*, $26,000.

Jean-Claude Diels, National Science Foundation, *Non-Reciprocal Response in Femtosecond Ring Lasers*, $10,000.


Kathryn Dimiduk/Cynthia Riedel, San Diego State University Foundation, *Preparation for Teacher Workshops Using CPU Program Materials*, $17,000.

Robert Duncan, Jet Propulsion Laboratory, *Critical Dynamics in Microgravity (DYNAMX)*, $1,106,052.

David Dunlap/David Wolfe, National Science Foundation, *REU Summer Program in Physics Research*, $50,000.


Vasudev Kenkre, Sandia National Laboratories, *Statistical Approaches to the Compaction Problem*, $75,000.

Michael Ledlow, National Aeronautics and Space Administration, *X-Ray Properties of Rich Clusters from Z-0.0.2 Using the ROSAT All-Sky-Survey*, $51,800.

Michael Ledlow, National Aeronautics and Space Administration, *X-Ray Properties of Radio Galaxies and the FR I/II Division*, $2,800.

John Matthews, National Science Foundation, 5th International WEIN Symposium: A Conference on Physics Beyond the Standard Model, $5,000.

John K. McIver, Air Force Research Laboratory, IPA for Michael Hasselbeck, $57,893.

John K. McIver, Air Force Research Laboratory, IPA for Thomas Henshaw, $65,286.

John K. McIver, Air Force Research Laboratory, IPA for James Welch, $98,631.

John K. McIver, Air Force Research Laboratory, IPA for John Telle, $98,789.

Gerald Moore, Air Force Research Laboratory, IPA, $90,276.


Brent Rafferty, Air Force Research Laboratory, IPA, $57,737.

Wolfgang Rudolph, Air Force Research Laboratory, High-Resolution Spectroscopy and Sub-Doppler Optical Frequency Stabilization, $10,975.

Wolfgang Rudolph, Air Force Research Laboratory, Modulated Iodine Laser Experiments and Modeling, $4,938.


Wolfgang Rudolph, Air Force Research Laboratory, High-Resolution Optical Spectroscopy and Sub-Doppler Optical Frequency Stabilization (II), $7,212.


Mohinder Paul Sharma, Air Force Research Laboratory, IPA, $88,800.

Mansoor Sheik-Bahae, Los Alamos National Laboratory, NUCOR — Optical Refrigeration in Semiconductors, $45,000.
Mansoor Sheik-Bahae, National Science Foundation, *Investigation of Femtosecond Dynamics and Optical Switching in Active Semiconductors*, $50,000.


**FY 99 Awards**

**Total: $18,012,065**


Bernd Bassalleck, Department of Energy, *Strange Particles and Heavy Ion Physics*, $343,000, 12/1/96-11/30/99.

Robert Burman, University of South Carolina, *Proposal to Study Possible Experiments with a Neutrino Facility at the APT*, $24,998, 9/1/98-8/31/99.

Carleton Caves, Office of Naval Research, *Limitations on High-Precision Optical Measurements/High-Precision Measurements and Quantum Information Theory*, $295,000, 12/1/92-9/30/00.

Ivan Deutsch, National Science Foundation, *Quantum State Control of Atomic Motion in Optical Lattices*, $80,000, 9/1/98-8/31/00.

Ivan Deutsch, Office of Naval Research, *Southwest Quantum Information Science and Technology Network*, $15,000, 1/1/99-12/31/01.


Robert Duncan, Jet Propulsion Laboratory, *Critical Dynamics in Microgravity (DYNAMX)*, $994,399, 2/1/96-9/30/00.


Patricia Henning, National Science Foundation, *The Distribution of Optically Obscured Galaxies and Asymmetric Isolated Galaxies*, $35,320, 10/1/95-9/30/00.

William Junor, National Science Foundation, *The Central Engine of M87*, $100,998, 7/15/98-6/30/00.

Vasudev Kenkre, Sandia National Laboratories, *Statistical Approaches to the Compaction Problem*, $55,000, 10/1/96-10/31/99.


John McGraw, NM Highway and Transportation Department, *LodeStar Project/Astronomy Oriented Science Center*, $12,000,000, 11/2/98-6/30/02.


Wolfgang Rudolph, National Science Foundation, *REU Supplement: Setup and Test of a Femtosecond Pulse Autocorrelator Based on Frequency-Resolved Optical Gating (FROG)*, $5,000.


Mansoor Sheik-Bahae, National Science Foundation, *Investigation of Femtosecond Dynamics and Optical Switching in Active Semiconductors*, $50,000, 7/1/96-6/30/99.


SIGNIFICANT DEVELOPMENTS

A. UNDERGRADUATE PROGRAM
The department graduated 111 majors. The annual commencement ceremony was hosted in the Grand Ballroom of the Student Union Building. Over 450 students and parents attended. Dr. F. Chris Garcia, Interim Provost for the University of New Mexico, was the commencement speaker.

B. GRADUATE PROGRAM
The department awarded one (1) MA degree and one (1) PhD degree this year. The number of graduate students is 23. The department admitted two incoming graduate students for the 1999-2000 academic year.

The department and Sandia National Laboratories continued its program for graduate and advanced undergraduate students to work part-time at Sandia. Six students in the externship program are involved in projects of mutual interest, principally in the areas of international conflict and international security.

C. INSTITUTE FOR PUBLIC POLICY
The Institute for Public Policy had another successful year, undertaking many new and continuing research efforts in collaboration with other UNM faculty and students. In Fiscal Year 1999, external support for IPP research again exceeded the $1 million level. Several of the IPP's research projects included:

- Implementation of the fourth in a series of surveys to measure evolving public perceptions of national and international security policy issues. This year's study includes a comparison of perspectives among individuals selected for their expertise in U.S. security policy.

- The design and implementation of a statewide survey to assess New Mexicans' financial and geographic access to health insurance and the kind and scope of coverage among those with insurance. The study, conducted for the New Mexico Health Policy Commission, measures attitudes and preferences about health care services and insurance coverage, New Mexicans' willingness to pay for different health care services, and what is appropriate public policy regarding health care.

- In collaboration with the College of Arts and Sciences, the IPP undertook a study of the concerns, needs, and evaluations of their education at UNM expressed by UNM undergraduates. The project involved a focus group session followed by survey interviews with undergraduate students, with emphasis on advisement, financial aid, and quality of education.

- Initiation of a National Science Foundation-sponsored project (jointly with researchers at the University of Rochester) to study public perceptions and beliefs concerning global climate change. The project will compare responses obtained from telephone survey interviews and surveys conducted on the Internet.

- Management of a multidisciplinary research and analysis program for the Sandia National Laboratories Cooperative Monitoring Center. The program brings together visiting U.S. and foreign scholars to explore how technology can contribute to both traditional and non-traditional
dimensions of regional security, including arms control, cooperative monitoring, environmental and natural resource issues, economic development, and other aspects of cooperative security.

IPP Director Hank Jenkins-Smith is completing his tenure on a National Academy of Sciences Committee to evaluate technologies and approaches for destruction of U.S. chemical weapons that meet with public approval. Dr. Jenkins-Smith is also serving as editor of Policy Currents, the newsletter of APSA’s Public Policy Section, which the IPP is now publishing quarterly.

The IPP continued its Public Policy Distinguished Speaker Series by hosting Professor Kenneth Meier, Texas A&M, who spoke on the policy consequences of “sin” taxes (taxation to discourage behavior and offset public health costs of public “bads,” such as cigarette smoking). Dr. Meier also shared his experience as AJPS editor with Political Science graduate students by making a special presentation on how to be successful at getting a paper published.

IPP Public Policy Fellowship awards to graduate students were suspended for the 1998-1999 academic year while the IPP used its available funds to contract with CIRT for a connection to UNM’s fiber optic cable network. The IPP was able to grant a $2,000 Research Fellowship to Assistant Professor Randall Partin in support of his research and a $1,500 Summer Fellowship to one of its graduate student employees. Availability of funds permitting, the IPP plans to continue the Public Policy Fellowships annually.

Staff Changes. Dr. Perry Deess completed his Post-Doctoral Fellowship this year and accepted a position with the Vera Institute of Justice in New York. John R. Brown was hired to work as a Project Manager on an intermittent basis, providing research management, analysis, and report writing for the IPP’s Profile of New Mexico Citizens twice-yearly survey report and for other contracted research projects.

D. SPEAKERS
The department continued its colloquium speaker series with talks given by the following faculty, graduate students, and visiting speakers:


January 25, Robert Wright, “Budgets and Bureaucratic Control.”

February 1, Lee Epstein, Chair, Washington University, St. Louis, “The Choices Justices Make.”

February 5, 1999, Dr. Ben Hunt, Southern Methodist University, “Predicting Politics: Applications for War, Alliances, and Markets.”

February 5, 1999, Alison M. Jaggar, Professor of Philosophy and Women’s Studies, University of Colorado at Boulder, “Multicultural Democracy.”

February 8, Randall Partin, “Revisiting Campaign Spending in Governor’s Races.”

February 15, Don Westervelt, “The Failure of Liberal Reason for Queer Citizens.”

March 1, Ken Meier, Texas A & M University, no title given.


March 22, Dylan Lindsay and Andrew Enterline, "Prolonging the Killing: Third Party Intervention and the Duration of Intrastate Conflicts, 1944-92."

April 5, Rick Waterman, "What Happens When No One Cares? AIDS and Homophobia."

April 12, Sidney Cullipher, "Entitlement Structure and Intergenerational Resource Allocation: An Experimental Approach."

April 19, Prof. Gary Lafree, Sociology Department, "Collective Action and Crime in Post-World War II America, 1955-1991"

April 26, Tony Coveny and Lonna Atkeson, "How Female Candidates are Perceived in US Senate Races."


E. INTERNSHIPS
In addition to the Sandia opportunities, thirteen undergraduate students were placed in internships with the New Mexico State Legislature working under the close supervision of Adjunct Professor Gilbert K. St. Clair. Both students and Legislature staff considered the internship a success. Legislative members of both parties commented favorably on the interns assigned to them.

F. SCHOLARSHIPS
One graduate fellowship and ten undergraduate scholarships were awarded this year.

II. SIGNIFICANT PLANS
A. RECRUITMENT
The department plans recruitment of one new faculty member in the area of comparative politics. The department will continue its efforts to increase the pool of applicants to the graduate program, including a redesigned web page.

III. APPOINTMENTS TO FACULTY/STAFF
Marina Arbetman was appointed as Visiting Assistant Professor for the 98-99 school year.
Amanda Twitchell was hired on as Department Administrator in August, 1998.
Anne Burtnett was hired on as Administrative Assistant in December, 1998.

IV. SEPARATIONS FROM FACULTY/STAFF
Susan Gallagher left the department in August, 1998 for a position at Sandia National Laboratories. Keryn Tucker left the department in October 1998 for a position at the American Studies Department at UNM.

V. PUBLICATIONS
Atkeson, Lonna

Garcia, Chris


Gleason, Greg


Gordon, Larry


Hansen, Wendy


Harris, Fred


Jenkins-Smith, Hank C.


McFarlane, Deborah

Mitchell, Neil


Randall Partin

Peceny, Mark

Phelan, Shane

Remmer, Karen


Sierra, Christine

Co-writers: Sylvia Rodriguez and Christine Marie Sierra. Film Editor: Michael Kamins. Premiere showing aired on KNME-TV5 on 4/28/99.

Stanley, William


St. Clair, Gilbert
The Image is Everything Presidency, co-authored with Richard Waterman and Robert Wright. Westview Press.

Stewart, Joseph

Waterman, Richard
The Image is Everything Presidency, co-authored with Gilbert St. Clair and Robert Wright. Westview Press.


VI.

NOTEWORTHY OUTSIDE PROFESSIONAL ACTIVITIES OF FACULTY

Lonna Atkeson was awarded the Emerging Scholar Award, Political Parties and Organizations Section, American Political Science Association.

Chris Garcia served on the editorial boards of Social Science Quarterly and the Political Research Quarterly. He also served as Consultant-Evaluator for the commission on Institutions of Higher Education, North Central Association of Colleges and Schools.

Greg Gleason served as co-editor for Demokratizatsiya: The Journal of Post-Soviet Democratization, the leading journal on democratic change in the countries of the former USSR, published jointly by the American University and Moscow State University.

Fred Harris served as Member and Co-Chair for the Board of Trustees for the Milton S. Eisenhower Foundation, also served as International Adviser, Americans for Indian Opportunity, and Member of the NM State School Lands Trust Board, and State Chair for the Democratic Party.

Hank Jenkins-Smith served as Editor for Policy Currents, Newsletter of the Public Policy Section of the American Political Science Association. He served on the Editorial Board for the American Journal of Political Science. He also served on the national Academy of Sciences Committee for Review and Evaluation of Alternative Technologies for Demilitarization of Assembled Chemical Weapons.


Kenneth Roberts served as a member of the Carter Center’s International Election Observation Delegation in Venezuela, December 1998

Joseph Stewart was a member of the editorial boards of the *American Journal of Political Science, the American Review of Politics, and the National Political Science Review*.

VII. OUTSIDE-SPONSORED RESEARCH


**Hank Jenkins-Smith**; Sandia National Laboratories - $28,000. Purpose: Quarterly Monitoring Surveys.

**Kerry Herron**; Sandia National Laboratories- $300,000. Purpose: Establish a directed Research Program for the Cooperative Monitoring Center (CMC) at Sandia National Laboratories.

**Karen Remmer, Caroline Beer**; National Science Foundation- $11,305.00 Title: Democratization in the Mexican States; Political Recruitment, Institutional Change, Public Policy.

**Kenneth Roberts**; National Science Foundation- $60,136.00 Title: Party Systems, Economic Change, and Electoral Volatility in Latin America.

**Hank Jenkins-Smith**; NM Department of Education - $55,000; Purpose: 1998 Survey of New Mexicans between the Ages of 16-26; 9/1/98.

**Kerry Herron**; Sandia National Laboratories - $300,000; Purpose: Establish a Directed Research Program for the Cooperative Monitoring Center (CMC) at Sandia National Laboratories; 9/15/98.

**Hank Jenkins-Smith**; National Institute for Public Policy- $12,000; Purpose: Comprehensive Nuclear Test Ban Treaty Survey; 9/15/98.

**Carol Silva**; NM School for the Visually Handicapped - $23,760; Purpose: Program Effectiveness and Satisfaction Survey; 10/1/98.

**Hank Jenkins-Smith & Carol Silva**; NM Health Policy Commission - $219,740; Purpose: New Mexico Health Insurance Coverage and Preferences Survey; 12/21/98.

**Hank Jenkins-Smith**; NM Department of Health, Division of Epidemiology - $68,808; Purpose: The Household Survey of Selected Populations; 1/13/99.

**Hank Jenkins-Smith**; Center for Applied Research, Inc. - $25,000; Purpose: Perceptions of Indian Gaming in New Mexico; 1/13/99.
Hank Jenkins-Smith; Sandia National Laboratories - $28,000; Purpose: Quarterly Monitoring Surveys; 4/1/99.

Kerry Herron & Hank Jenkins-Smith; Sandia National Laboratories - $244,314; Purpose: National Security Study: 1999; 4/2/99.

Hank Jenkins-Smith; National Science Foundation/University of Rochester - $45,833; Purpose: Informing Contingent Valuation Methods with Internet; 5/1/99.

Hank Jenkins-Smith; NM Health Policy Commission - $97,800; Purpose: Focus Group Study of the Public's Utilization of Health Care Information; 6/14/99.
## TABLE OF CONTENTS

### STATEMENT OF MISSION

### I. DEPARTMENT INFORMATION AND ACHIEVEMENTS

- A. Departmental Administration and Structure
- B. Undergraduate Education
- C. Graduate Education
- D. Faculty
- E. Department Clinic
- F. Staff
- G. Space

### II. FUTURE PLANS AND COMMENT

### APPENDICES:

- Appendix A - Committee Assignments
- Appendix B - Department of Psychology Outcomes Assessment Report
- Appendix C - Department of Psychology Summary Statistics and Extramural Grants
- Appendix D - Department of Psychology Course Offerings
- Appendix E - Part-Time Faculty Hired During AY 1998-1999
- Appendix F - Senior Honors Theses
- Appendix G - Doctoral Degrees Awarded and Master’s Degrees Awarded
- Appendix H - Corrections/Additions to Psychology Department Guidelines for Graduate Students
- Appendix I - Graduate Students Rated Exemplary in Research Productivity
- Appendix J - Graduate Students Accepted for AY 1998-1999
- Appendix K - Psychology Faculty Interests
- Appendix L - Persons Holding Professional Titles in Psychology 1998-1999
- Appendix M - Department of Psychology Colloquia
- Appendix N - Annual Report 1998-1999, Department of Psychology Clinic
- Appendix O - Department of Psychology Support Staff
- Appendix P - 1999 Annual Report for Doctoral Program
DEPARTMENT OF PSYCHOLOGY

STATEMENT OF MISSION

The Department of Psychology shares with other academic departments at the university its raison
de’etre: the discovery and dissemination of knowledge. It shares with other science departments
a commitment to empirical research. The distinguishing feature of this purpose for a psychology
department is that the knowledge being sought concerns the individual organism, and most
typically the behavior of the individual person.

The UNM Department of Psychology embraces a number of goals which serve to give the
program a distinctive flavor. These are reflected in the mission of the department which is to:

- Create a supportive environment in which faculty and students associated with
  the department are encouraged to achieve their maximum potential as scholars.

- Promote a scientific approach to psychology, emphasizing both experimental and
correlational methodologies as historic traditions.

- Encourage respect for and openness to a variety of theoretical, philosophical, and
  empirical approaches, with the view that the study of psychology is enriched by
  the interaction of multiple perspectives.

- Value active research programs within the department and in collaboration with
  colleagues outside the department.

- Maintain excellence in clinical and experimental psychology and foster the
  growth of neuroscience approaches to the study of learning, memory, and
cognition.

- Encourage and support effective teaching both in communicating psychology to
  undergraduates as an area of major study and a critical part of a liberal arts
  education, and in training graduate students at a professional level.

- Train graduate students in the application of general experimental psychology in
  clinical and other professional settings.

- Ensure that graduate students in all areas are well trained in methodology and
  ethics appropriate for their effective functioning as researchers and professionals.

- Enable students to understand the development and operation of psychology in
  the context of diversity within the larger culture, and its application in the culture
  of the Southwest in particular.
- Be actively involved in service to the university, the community, the state, and the profession.

- Evaluate, in an ongoing fashion, our performance as a department with respect to our mission, and revise this Statement of Mission to accommodate to changing situations.
ANNUAL REPORT - AY 1998-1999

DEPARTMENT OF PSYCHOLOGY

Michael J. Dougher, Chair

I. Department Information and Achievements

A. Departmental Administration and Structure

Michael Dougher served the first year of his second four-year term as Chair of the Department. The Department continued with the administrative structure adopted in 1995, which is depicted in the organizational chart on the following page.

Michael Dougher was on sabbatical leave in the spring semester, and Richard Harris served as Acting Chair. That left open the position of Associate Chair for Graduate Education which was filled by Steven Gangestad. John Gluck replaced Jane Smith as Director of Clinical Training. Otherwise, the Department's major administrative committee, the Planning and Policy Committee, remained the same as last year: Gordon Hodge, Associate Chair for Undergraduate Education, Mark McDaniel, Area Head for the Cognitive/Learning area, Rob Sutherland, Area Head for the Behavioral Neuroscience area, and Harold Delaney, Area Head for the Quantitative area.

As in past years, the governance of the Department relied heavily on a number of faculty who served effectively on other Departmental committees. A listing of the committee memberships for the 1998-1999 academic year is given in Appendix A. Particularly noteworthy was the very important and time-consuming work of the Graduate Admissions Committee (chaired by Holly Waldron), the Faculty Search Committee (also chaired by Holly Waldron), and the Faculty Salary Committee (chaired by Rob Sutherland). The Admissions Committee was
faced with the task of selecting the very best applicants from a pool of roughly 200. Outstanding graduate students are the lifeblood of any good research department, and the Admissions Committee is to be commended for its work in recruiting an impressive class of new students. The Faculty Search Committee reviewed the credentials of over 80 applicants for our advertised position in clinical psychology, and they worked hard to bring forward the three best candidates in the pool. In the end, the Department hired Dr. Sarah Erickson. There is nothing a department does that is more important than hiring new faculty and this committee deserves many thanks for their hard work and diligence. Finally, the Faculty Salary Committee is given the unenviable task of ranking the performance of the faculty in order to determine the allocation of salary increases. As they have done in the past, the committee performed its job with respect, sensitivity, and professionalism.

As mandated by the central administration, The Undergraduate Curriculum Committee was given the job this past year of implementing an outcomes assessment procedure. Harold Delaney again took primary responsibility for this very demanding task and did an outstanding job. The department is very grateful to Harold for his considerable efforts in this regard. The outcomes assessment report is presented in Appendix B.

The Department again benefitted this year from the Quad-L Trust, which was endowed through the UNM Foundation by University Professor Emeritus Frank Logan. The Quad-L Library supported by this Trust not only facilitated the study of the psychology of learning, but also constituted a meeting place for students’ defenses of their graduate degrees. This year the Quad-L Trust supported a visit by Henry "Roddy" Roediger, Professor of Psychology at Washington University, who delivered the 12th annual Quad-L lecture. The title of Professor
Roediger’s talk was “Illusions of Memory: Remembering of events that never happened.” Rob Sutherland, who serves as faculty advisor to the Quad-L, coordinated the selection process for the Quad-L Lecture and arranged for Dr. Roediger’s visit.

B. Undergraduate Education

Stated simply, the undergraduate education productivity of the Department’s faculty and staff is enormous and among the highest in the College. As of Spring 1999, the Department had 625 majors, which is 8.2% of the total number of students majoring in Arts & Sciences Departments. The Department offers a wide variety of courses, ranging from introductory psychology to cognitive neuroscience. Students are exposed not only to some of the best lecturers at the University, but also to advanced laboratory courses requiring creative experimental design development and “hands-on” contact with human and non-human subjects.

The overall popularity of Psychology courses has remained very high (total undergraduate enrollment in our classes is more than 8,000 students per year with a total of nearly 22,348 Student Credit Hours). While there was a decrease in the number of students enrolled in psychology courses in 1997-1998, last year saw a slight increase in overall enrollments. Enrollments in introductory courses increased by roughly 450 students, and enrollments in advanced psychology courses increased by about 300 students. The current class enrollments are probably more in line with the current size of our Faculty than the very large enrollments of previous years. Part 1 of Appendix C presents the Department’s enrollment summary statistics for 1998-1999 and the preceding four years. Actual enrollment counts per course for the 1998-1999 Fall, Spring and Summer semesters are presented in Appendix D.

Despite the large number of courses offered by the Department, we have been able to cut
back significantly on the number of part-time and graduate student instructors in our undergraduate program over the past several years. Only ten individuals were hired as part-time instructors during the 1998-1999 year, and they are listed in Appendix E. Many of these instructors have been regular part-time instructors because of their teaching skills, effectiveness, and commitment. During the past year we had 34 courses (excluding labs) taught by non-regular faculty. Seventeen of these were taught by our graduate students and nineteen by part-time instructors. Three of the courses taught by non-regular faculty were offered in the summer, giving us a total of only 31 courses taught by non-regular faculty out of a total of 83 undergraduate courses offered (excluding labs and independent study) during the regular academic year. This is a reasonable percentage of courses taught by non-regular faculty and is in line with our long-term goal of maintaining an increased percentage of undergraduate courses taught by full-time regular faculty.

The flagship for quality education in psychology remains our Psychology Honors Program, which has been in existence for over 26 years. This program, which culminates in the student completing a year-long research project, has been especially attractive to Psychology majors who go on to pursue graduate work in Psychology. Appendix F lists our 1998-1999 honors students along with the titles of their research theses, the names of their faculty supervisors, and the level of honors awarded to them by the department. Gordon Hodge deserves special mention for his role as the senior honors seminar instructor. He did an absolutely outstanding job of helping the students with the presentations of their theses work to an assembly of faculty, students, and parents. By all accounts, these were some of the finest presentations in memory.
The department hosted a commencement convocation for its graduating students for the seventh consecutive year. The commencement address, delivered by Professor Robert Sutherland, was entitled "A Candle Against a Future Dark." This continued a tradition begun in 1989 of the commencement address being given by a senior faculty member in the department. Previous addresses have been delivered by Frank Logan, Bill Gordon, Sam Roll, John Gluck, Henry Ellis, Bill Miller, Kristina Ciesielski, Mark McDaniel, Dennis Feeney, and Richard Harris. Arrangements for the convocation were handled by Department Administrator Candace Blashak. Because of the very large number of graduates and the interest on the part of their families and friends, this has become a major departmental effort involving several hundred people and entailing expenses to the Department of over $4,000.

As stated in last year's report, the Department undertook the rather large task of revising its undergraduate curriculum. The objective was to create a curriculum that is coherent, systematic, and reflective of the Department's areas of focus and strength. We are happy to say that the revised curriculum was approved by the Faculty Senate and appears in the 1999-2001 University Catalog.

C. Graduate Education

During this 1998-1999 academic year, the Department awarded 1 Ph.D. degree. The names of these degree recipients, along with the titles of their dissertations and the names of their faculty advisors can be found in Appendix G. This brings the total of Ph.D. degrees awarded by the Department to 265. In addition to Ph.D. degrees, the Department awarded 8 Master of Science degrees this year. Inasmuch as the Department offers no terminal master's degrees, it can be anticipated that these latter students (listed specifically in Appendix G, along with the titles of
their theses and faculty advisors) will achieve their Ph.D.'s in the next two to three years.

The graduate training program remained relatively unchanged from the previous five years. One area where there were changes was in the guidelines for student productivity and progress towards degree. These changes primarily entailed minor modifications to the definitions of levels of productivity and the timeline for degree progress. These changes are incorporated into the Guidelines for Graduate Students presented in Appendix H.

The Department used the guidelines to evaluate students' research productivity and to provide students with explicit feedback and expectations for future performance. The exercise proved useful in that the areas gained a clearer picture of each student's progress and were able to give specific feedback to each student. Based on this evaluation process, it is clear that our graduate students continue to be very active in both research and teaching. Space permits mention of only selected award recipients. Steve Alley won the UNM-wide Gunter Stark Teaching Award for best teaching assistant. Rex Jung, was selected to receive the Haught Award, the department's highest graduate student award in recognition of outstanding research. Rex delivered the 1999 Benjamin Franklin Haught lecture on April 30, 1999. The endowed trust established by the New Mexico Psychological Association and the Department to honor the memory of Professor Sidney Rosenblum sponsored the seventh annual Sidney Rosenblum Award. This year's scholarship went to David Ley. A third endowed trust at the UNM Foundation was established by the parents of Barbara Goldman Garland in her memory. The fifth annual Barbara Goldman Garland Award, which is awarded to a Psychology graduate student who is interested in working clinically with teenaged children, was presented to two students this year: Erica Miller and Scott Walters. Finally, the New Mexico Psychological Association sponsored Mariani Award
went to Bill Horan. In addition to these awards, a number of students received department commendations for outstanding research productivity. The names of these students are listed in Appendix I.

Happily, we were able again this year to financially support all of the graduate students who requested aid and are in good standing. In part, this was due to the extramural funding obtained by the faculty. However, much of the aid is in the form of teaching assistantships (TAs). Given the ratio of courses that require TAs to the number of TAs we can support, our TAs have a heavier work load per student than they should. Moreover, their stipends are still too low relative to our peer institutions. The Department is in clear need of at least two more TA positions and, as is the case with all departments in the College, larger TA stipends.

The number of graduate students enrolled in the Department decreased significantly this year (from 127 to 93). This was the result of a combination of lower numbers of admissions over the last few years and a relatively large number of students completing their degrees. The happy result is that we have a more reasonable ratio of faculty to graduate students and a more balanced graduate training load across the faculty.

The Department continues to receive nearly one-third of all graduate applicants to the College and to have an acceptance rate that is markedly below the College average. The result is that admission to the Department of Psychology Doctoral Program is highly competitive, and this allows us to select students who are highly qualified and share the research interests of our faculty. This year we were able to admit ten excellent students to our Department. They and their advisors are listed in Appendix J. Although still relatively large, the number of applications to the Department dropped this year. More concerning, this is the fourth year in a row that
applications have decreased. This is an undesirable trend, and the Admissions Committee will convene early next year to consider ways to reverse it.

As mentioned last year, the Clinical Program was awarded a full seven years accreditation by the American Psychological Association. A yearly report on the Clinical Program is required by APA to maintain our accreditation, and that report, prepared by John Gluck, is attached as Appendix P. As this report indicates, the clinical program continues to do well and validates the committee’s decision to grant seven years accreditation. Thanks to John Gluck for his hard work in preparing this report.

D. Faculty

At the beginning of the academic year, the Department had 24 voting faculty (20 FTE), including Bill Gordon, who was appointed this year as University President. Michael Dougher was on sabbatical leave during the spring semester, and Kathy Stansbury went to half-time status during the spring. As mentioned previously, the Department hired Sarah Erickson as a new assistant professor in the clinical area. Dr. Erickson received her Ph.D. from Stanford University in 1994, and works in the general areas of child-clinical and health psychology. The Department is very pleased to have her with us.

Quite unfortunately, Dr. Jack Blanchard resigned from the Department and took a job elsewhere. Dr. Blanchard was a very valuable member of our faculty and he will be missed.

Part 1 of Appendix C shows that the size of our Department has remained constant over the past five years despite our continuing need for more faculty. Although we were able to hire Sarah Erickson, Peder Johnson’s retirement in 1997 and Jack Blanchard’s resignation leaves us now down two FTE from 1996-1997. Given the high student demand for our courses, the heavy
workload of the faculty, and the need to maintain excellence in research and scholarly productivity, it is imperative that we hire three full-time regular faculty as soon as possible. We not only need to replace Peder Johnson and Jack Blanchard, we need to add to our Developmental and Social areas. Both areas attract large numbers of students to their classes, and a Department simply must have adequate representation in these areas if it is to remain viable.

The research activities of the faculty are summarized in Part 2 of Appendix B. It is particularly noteworthy that our extramural support increased over last year and exceeded $2 million ($2,529,038) for the third straight year. This coupled with a seven year string of nearly $2 million in extramural funding is certainly an outstanding accomplishment. No detailed commentary regarding faculty research will be presented here since these data have been provided in each faculty member’s Annual Biographical Supplement. It should be pointed out, however, that our faculty continue to excel in their research activities and to be productive in terms of publishing and presenting their work at professional meetings. In addition a large number have achieved prominence and leadership roles in their respective fields. A listing of the faculty and their research interests is presented in Appendix K.

Indeed, by whatever metric one might wish to apply, the faculty of the Department of Psychology is very good. A persistent threat to the quality of our faculty is the salary inequity in the Department, which for some faculty falls as much as 20% below national and regional norms. The situation was improved marginally this year by salary increases that averaged 4.2%. Nevertheless, the problem of salary inequity persists, and it will take several successive years with comparable salary increases before our faculty are compensated at a level comparable to our peers. While this problem is fully acknowledged by the administration, and while the Dean has
made several recent efforts to enhance the salary of our faculty, much more remains to be done. There should be no doubt that the highest priority for the Department is to see faculty salaries increased in the immediate future to the level of regional norms and in the near future to the level of national norms. This is the only way to preserve the excellence of our Department.

Professional Appointments. In addition to the part-time faculty who served the department this year, there were a number of other people within UNM and the professional community of Albuquerque who made major contributions to our teaching, training and research missions. Based on their service to the department, these individuals were awarded Professional Titles in Psychology. The 1998-1999 list of professional appointments is included as Appendix L. The department is grateful to these individuals for their unselfish support and productive assistance.

A number of psychologists from other universities and the private sector further enriched our educational programs by presenting research colloquia to our faculty and research students. Appendix M presents a record of this colloquium series. Special thanks go to the Colloquium Committee, Rob Sutherland and Mark McDaniel, for their efforts in arranging an outstanding colloquium series.

F. Department Clinic

A separate Annual Report of the Department of Psychology Clinic is presented in Appendix N. Once again this year the Clinic met its primary goals of providing quality training to our Clinical graduate students and affordable, high quality psychological services to the community. The report shows that the Clinic provided many hours of therapy and intakes, and
involved approximately 30 graduate students in the provision of those services. This year was the first full year of operation of the much needed ADHD assessment program under the very able direction of Dr. Matthews and Melissa Behrens-Blake. Finally, for the seventh consecutive year, the Clinic was able to operate within its allocated budget. This is a tribute to the able and caring leadership of Dan Matthews and the effective support of his Administrative Assistant, Wanda Sharts.

F. Staff

The Department of Psychology continues to benefit from an extremely competent support staff. So as to better inform those who may not be familiar with the important duties of the fourteen staff in our department, Appendix 0 presents a brief job description of each member of the administrative, instructional, research, and clinical support staff. It should be mentioned that this staff is not rigidly bound by these formal descriptions, and willingly share and take on new responsibilities in an effort to serve the needs of the Department.

The core administrative support staff (Candace Blashak, Stan Bennett, Jennifer Houston, Nancy Chavez, and Louis Carrillo) very competently handle the basic functions that are essential to the day-to-day operations of the Department. These people get the Department’s administrative work done competently and efficiently. Dee Ann Quintana completed her sixth year as Project Coordinator for Grants, and was again very ably assisted by Delilah Yao and Rosabelle Denoi. This group has done an excellent job of administering the Department’s extramural grants. As already mentioned, the success of the Psychology Clinic is due in large measure to the administrative skills of Dan Matthews, who completed his eleventh year as Clinic Staff Director this spring. Dan continues to be effectively assisted in his duties by Wanda Sharts,
the Administrative Assistant. Our research support staff again included Patrick Sharp, Research Engineer; DeLaine King, Animal Research Coordinator; Ector Estrada, Supervisor, Lab Animal Husbandry, and Gilbert Borunda, Senior Lab Animal Technician; and our Veterinarian Linda Contos, DVM. The outstanding experience, skills and efforts of these individuals are invaluable and clearly facilitate a wide range of research activities in our department. The Department is very grateful to them.

The Department continues to protest the University’s decision to impose the requirement of a bachelor’s degree for the position of Supervisor, Animal Facility. Essentially, this requirement has demoralized both Mr. Estrada and Mr. Borunda and effectively eliminated their hopes and chances for a meaningful career path at the University. If this decision leads either Mr. Estrada or Mr. Borunda to seek employment elsewhere, it would be a great loss to the Department.

Late in the year, a process was started to assess the specific duties of many of the staff positions in order to achieve a more balanced distribution of labor and to develop more useful performance evaluations of the relevant staff. The results of this process will be implemented in the next academic year.

G. Space

As has been highlighted in the Department’s Annual Report for the past eleven years, our department is not well accommodated by its current space allocation. We need a new building. Currently, we have insufficient staff space in order to function optimally and are unable to house all of our faculty in faculty offices. Furthermore, during the past few years we have had to continue to convert graduate student offices into faculty research space. Even at this, we do not
have sufficient, suitable research space in the building to accommodate the high level of faculty research activity that has been attained in recent years. Although our need for additional faculty is well documented and while our extramural funding and research output is rising dramatically, the size of our current building places severe limitations on our ability to grow and to reach our full potential as a department.

The Department’s request for a new building is now acknowledged on the University’s Capital Projects list. However, there is little indication that funds will become available to initiate this project in the foreseeable future.

The Department continues to need financial support in order to initiate a furniture replacement program that would replace 50% of its classroom and laboratory furnishings per year over the next five years. The majority of our current furnishings came with the original building more than 20 years ago. It has become increasingly worn and has fallen into disrepair.

II. Future Plans and Comments

The Department has been trying to establish a joint hiring arrangement with the newly established National Foundation for Functional Brain Imaging. The plan is to hire a senior researcher who integrates neuroimaging and cognitive neuroscience. Such a hire would greatly enhance the cognitive neuroscience program within the Department and would serve as a model for future interdisciplinary and inter-agency scientific cooperation. Dean Fischer has approved the plan, and it is our hope to be able to hire next year.

This senior hire is important for reasons other than its academic impact. The now long-standing financial restrictions placed upon the University, College and Department have had very
tangible, debilitating effect on the hopes, enthusiasm, and expectations of the faculty. Some wonder whether we will be able to realize the goals and objectives that just a few years ago seemed so clearly attainable. This hire represents the possibility of yet attaining those goals, but it also clearly indicates that we must explore non-traditional processes and arrangements as ways of making the Department grow in the future. These explorations will require more, not less, cooperation between the College and the Department, between the Department and other departments, and, most importantly, among the content areas within the Department. Very difficult decisions will need to be made regarding how best to allocate our limited resources, and it seems clear that future hires must necessarily bridge content areas. For these decisions to be made well, the faculty must be willing to work harder than in the past to stay focused on the common good of the Department and to maintain respect for divergent approaches to achieving it. The Department has and will continue to deal with some very important and very divisive issues. In many ways, we are at a critical point. We would do well to remember, however, that how we decide will be as important as what we decide in determining the kind of department this will be.

I very much appreciate the commitment of all of the faculty and staff who were willing to devote their time and talent on behalf of the Department. There are always those who go way beyond the call of duty and deserve special thanks. First is Dick Harris whose willingness to take on the very difficult role of acting chair allowed me to take a sabbatical leave in the spring. The job of acting chair is impossibly difficult, but Dick did it very well. I very much appreciate Dick’s generosity and commitment to the Department. Others to thank individually are: Harold Delaney, Steve Gangestad, John Gluck, Gordon Hodge, Mark McDaniel, Jane Smith, and Holly Waldron.
Thanks to all of those who served on critical departmental committees, especially the Admissions Committee, the Salary Committee, and the Faculty Search Committee. Many thanks to all the staff who do their jobs so well so consistently. This is an experienced group who, largely unacknowledged, deftly handles the myriad details of the day to day operation of the Department as well as the acute demands of the occasional crisis. Thanks to the Dean of Arts and Sciences, Michael Fischer. His efforts on behalf of the Department, especially in these very difficult times, are greatly appreciated. Finally, thanks to my friends and colleagues in the Department for their advice and support.
APPENDIX A

COMMITTEE ASSIGNMENTS AY 1998-1999

Admissions: Waldron, Ciesielski, McDaniel, Roll, Sutherland, Yeo

Animal Facilities and Use: Contos, Feeney, Gluck, Hodge, Sutherland

Behavioral Neuroscience: Sutherland, Ciesielski, Gangestad, Egly, Feeney, Hodge, Stansbury, Tang, Yeo

Clinical: Gluck, Blanchard, Ciesielski, Dougher, Gluck, Miller, Padilla, Roll, Smith, Waldron

Cognitive/Learning: McDaniel, Amrhein, Delaney, Dougher, Egly, Goldsmith, Sutherland, Tang

Colloquium: McDaniel and Sutherland

Computer Use: Goldsmith, Amrhein, Delaney, Harris

Developmental, Personality and Social: Gluck, Cofer, Gangestad, Harris, Roll, Stansbury

Financial Aid: Hodge, Blanchard, Feeney

Honors: Delaney, Amrhein, Gluck

Human Subjects: Egly, Stansbury, Blanchard

Policy and Planning: Dougher, Delaney, Gangestad (Spring only), Gluck, Harris, Hodge, McDaniel, Sutherland

Quantitative: Delaney, Amrhein, Gangestad, Goldsmith, Harris

Teaching Enhancement: Hodge, Delaney, Gluck, Stansbury

Undergraduate Curriculum: Hodge, Delaney, Gluck

Psycho Club: Hodge
Faculty Search Committee:  Waldron, Ciesielski, Gluck, Roll, Smith

Faculty Salary Committee:  Sutherland, Amrhein, Gangstad, Smith
APPENDIX B

DEPARTMENT OF PSYCHOLOGY OUTCOMES ASSESSMENT REPORT
AY - 1998-1999

August 27, 1999

To: Policy and Planning Committee (Dougher, Harris, Gluck, Hodge, McDaniel, Sutherland)
From: Harold Delaney
Subject: Undergraduate Student Outcomes Assessment

In September of 1996, Bill Gordon as Provost announced that all units would be required to conduct a student outcomes assessment by the end of the 1996-97 academic year, and annually thereafter. In November, 1996, the Policy and Planning Committee asked me to formulate a set of educational objectives for our undergraduate program. I distributed a draft of these to the P&P Committee, and these were then approved by the department faculty. During the remainder of 1996-97 I worked with a committee consisting of representatives from the various areas of the department to decide on how we would go about assessing how well we were achieving our objectives. A plan was developed, reported to the department faculty and submitted to the Student Outcomes Assessment Office.

Evaluations have now been conducted in each of the last three consecutive academic years. Data were collected in Spring 1997, Spring 1998 and Spring 1999, and analyses conducted and reports written in the following summer, which were submitted to the chair and to the assessment office. A brief summary of these activities was presented at a departmental faculty meeting at the end of the spring semester this year.

The focus of the evaluation has changed somewhat over time. For various reasons, the scope of the areas evaluated has gotten progressively narrower and the resulting reports have gotten shorter.

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<tr>
<th>Year</th>
<th>Areas Evaluated</th>
<th>Method</th>
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<tr>
<td>1997</td>
<td>Attitudes toward education in psych. major</td>
<td>Exit survey at degree check</td>
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<td></td>
<td>Honors students' knowledge of history of psych.</td>
<td>Relevant items from GRE</td>
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<td></td>
<td>Honors students' general knowledge of psych.</td>
<td>ETS Major Field Test</td>
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<td></td>
<td>Honors students' abilities in research</td>
<td>Ratings of Honors theses</td>
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<td></td>
<td>Majors' general knowledge of psych.</td>
<td>ETS Major Field Test &amp; local comprehensive exam</td>
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<tr>
<td>1998</td>
<td>Majors' general knowledge of psych.</td>
<td>ETS Major Field Test &amp; local comprehensive exam</td>
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<tr>
<td>1999</td>
<td>Majors' general knowledge of psych.</td>
<td>Local comprehensive exam</td>
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Because the only area we have evaluated all three years is our majors' general knowledge of psychology, that is what I will focus on in this report. The primary work done in 1996-97 and 1997-98 was the development, validation and refinement of a comprehensive exam on psychology. The 1996-97 committee developed a large number of questions pertinent to eight major areas of psychology: Statistics, Developmental, Psychobiology, Learning/Cognition, Social, Clinical, Research Methodology and History. In 1997 we administered a test consisting of 150 items, with 20 items pertinent to each area except history which had only 10 items. Our goal was to validate our test against the ETS Major Field Test, and to collect data that would allow us to refine the test. Our report of our findings however focused on how our students were doing relative to national norms and relative to what would be expected based on their ACT scores.

A quick summary of our results in 1997 is that our Honors students were excelling and overachieving relative to their ACT scores, whereas our undergraduate majors generally were underachieving relative to what would have been expected based on their ACTs. Our local test correlated very highly (.94) with the ETS test.

To provide a few of the details, on the ETS Major Field Test in Psychology, where scores can range from 120 to 200, the national mean is 156.8 and the standard deviation is 13.6. The 24 UNM Psychology Honors students taking this test in 1997 achieved a mean of 171.8. Thus, the mean of the Honors students was more than a standard deviation above the national mean. Each student's score was translated into a percentile ranking nationally. Seven of the 24 students were at or above the 95th percentile nationally, and two of these were above the 99th percentile. The mean of the 24 students' percentile ranks was 80 and the median was 83.

To assist in the interpretation of these results additional analyses were conducted examining Honors students' ranking on the ACT college admission test and the relationship between ACT scores and scores on the Major Field Test. In particular, students' scores on the ACT were obtained from a listing for all psychology majors of all composite scores on the enhanced ACT test in the UNM administrative records system. Although this information was missing for a substantial proportion of students, the mean ACT score for the Honors students having such information was 25.0 which corresponds to a national percentile ranking at the 75th percentile among all high school students taking the test. The correlation between ACT scores and knowledge of psychology among our majors, whether measured by the ETS Major Field Test or by our locally devised test was approximately .5. Under the plausible assumption that the joint distribution of ACT scores and Major Field Test scores is approximately bivariate normal, a student at the 75th percentile on the ACT would be predicted to be at the 63rd percentile on the Major Field Test.

Thus, these 1997 data indicate that our Psychology Honors students are doing much better than the national average in terms of their comprehensive knowledge of their major field. What's more, their scores are considerably higher than one would have predicted given their ACT scores on entering college.

In contrast, the mean score on our local comprehensive exam for a sample of senior majors was 85.73 (or 57% correct) with a standard deviation of 3.85 (or 2.6%). A regression analysis indicated that we could predict the Major Field (MF) Test score from our local comprehensive (LC) exam scores via the equation:

\[ MF = 60.9 + 1.105 \times LC \]
Thus, our students' mean score of 85.73 is approximately equivalent to a score of 155.67 on the Major Field Test, which corresponds to a ranking at the 47th percentile nationally for graduating psychology majors.

To evaluate whether this is better or worse than we would have expected given the ability of our majors, we examined scores for these 15 seniors on the ACT. Although scores were available for only 6 of the 15 students, the mean ACT score of 23.0 corresponds to the 67th percentile nationally. Given the correlation between ACT scores and total scores on our local exam is approximately .5, students scoring 23 on the ACT would have been expected to score at about the 59th percentile in knowledge of psychology.

Thus, in contrast to what we observed for Psychology Honors students whose knowledge of psychology was greater than would be expected based on their ACT scores, for our undergraduate senior majors in general, the reverse is true. That is, whereas the percentile rank of our Honors students was more than 10 percentage points higher than would have been predicted based on their ACT scores, the percentile rank of a sample of our general undergraduate majors is more than 10 percentage points below what would have been expected based on their ACT scores.

Between the 1997 and 1998 assessments, various item analyses were conducted to assess which items should be dropped to achieve more reliable subscales. Discrimination indices such as the item-total correlation, and the difference in percent correct between the top and bottom third of students on the whole exam were examined, as well as a measure of reliability or internal consistency (coefficient alpha) for each subscale. Eventually, a 90-item test was developed with 12 items in each of the areas except history which again had half as many as the other areas. The same shorter form of the test was administered in 1999 as in 1998.

As shown below, the mean percentage correct on our local exam has increased over the 3 years it has been administered, from 54.9% in 1997, to 60.9% in 1998, and 62.4% in 1999.

| Table 2 Data on Local Comprehensive Exam and Characteristics of Sample Last 3 Years |
|-----------------------------------------------|-----|-----|-----|
| Mean percentage correct                       | 54.9% | 60.9% | 62.4% |
| Number taking exam                            | 71   | 35   | 26   |
| Courses supplying students                    | PSY 200, PSY 302 | PSY 302 |
| Courses supplying students                    | PSY 392, PSY 492 | PSY 392 | PSY 302 |
| Academic classification                       | Senior | 30% | 51% | 62% |
|                                              | Junior | 45% | 34% | 31% |
|                                              | Sophomore | 14% | 11% | 4% |
|                                              | Freshman | 6% | 6% | 3% |
|                                              | Other | 6% | 3% | 4% |
A major function that consistent student outcomes assessment might serve is to allow a tracking
of whether student achievement is increasing or declining over time, such as is done with national
exams such as the ACT or the National Assessment of Educational Progress. Although our test
might eventually be used in this way, the changes seen in these first 3 years are likely due to other
differences in the samples. For example, the percentage of upper classmen increased over the 3
years from roughly 75% to 85% to 92%, and the percentage of BS majors also increased from
54% to 60% to 65%. In 1997 we were concerned with getting as large a sample as possible to
validate the test, and heterogeneity in the sample was desirable for examining correlations
between our test and the ETS test. In 1997 and 1998 we invested about $500 a year to purchase
ETS tests which were administered to Honors students to validate the longer and shorter forms of
the local test. This was no longer necessary in 1999. Further, only this year was the completion
of the test introduced as a course requirement in PSY 302, which might have caused those
students to take the test more seriously.

Another major function that a comprehensive exam might serve is to allow some feedback
on how our students are doing relative to national norms in different areas. In 1997 and 1998, in
addition to an overall composite score, we also received feedback from ETS on the score and
percentile ranking of our students on 4 subscales. The means for the Honors students in 1997,
and for the Honors and PSY 302 students in 1998, on the four Major Field Test subscales, and
the percentile ranking that would correspond to these mean scores had they been obtained by an
individual were as follows:

<table>
<thead>
<tr>
<th>Subscore 1: Learning and Cognition</th>
<th>1997 Results</th>
<th>1998 Results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>73.0</td>
<td>66.0</td>
</tr>
<tr>
<td></td>
<td>84 %-ile</td>
<td>69 %-ile</td>
</tr>
<tr>
<td>Subscore 2: Perception/Sensation/Physiological</td>
<td>70.1</td>
<td>76 %-ile</td>
</tr>
<tr>
<td></td>
<td>64.1</td>
<td>67 %-ile</td>
</tr>
<tr>
<td>Subscore 3: Clinical/Abnormal/Personality</td>
<td>69.9</td>
<td>57.0</td>
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<tr>
<td></td>
<td>82 %-ile</td>
<td>48 %-ile</td>
</tr>
<tr>
<td>Subscore 4: Developmental and Social</td>
<td>65.5</td>
<td>57.2</td>
</tr>
<tr>
<td></td>
<td>72 %-ile</td>
<td>50 %-ile</td>
</tr>
</tbody>
</table>

In terms of our students' knowledge within these specific subareas of psychology, although there
is not great variation across subareas, the differences that are observed make sense. Our students' 
highest scores were in the area of Learning and Cognition which historically has been an area of
emphasis in our department which is reflected in the undergraduate curriculum by 2 courses at the
200-level in the area. Our students' weakest performance is in the Developmental and Social
areas. These are the subareas of psychology which are most underrepresented in our department
relative to national averages. The change in the percentile rank on Subscore 2 and 3 relative to
other subscores over the 2 years may reflect the increase in the representation of BS majors in our
samples mentioned previously.

One can also use the results on the comprehensive exam to try to evaluate the
effectiveness of instruction in different courses, and variation in the proportion of students completing courses in an area is also a plausible explanation for differences in achievement. Each year students were asked which of about a dozen core courses they had taken completed, and whether the course had been taken at UNM. Organizing the most critical 11 courses by the 8 major areas represented on our local comprehensive exam, the percentage completing the various courses was:

Table 4
Mean Percent Correct on Subareas of Local Exam and Percent of Students Completing Courses Relevant to Subarea

<table>
<thead>
<tr>
<th>Subarea</th>
<th>Percent Correct</th>
<th>Course</th>
<th>Percent Completing Course</th>
</tr>
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<tr>
<td>Stat</td>
<td>68.6% 59.3%</td>
<td>PSY 200</td>
<td>93% 94% 100%</td>
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<td>Devel</td>
<td>51.0% 69.2%</td>
<td>PSY 220</td>
<td>58% 61% 73%</td>
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<td>Bio</td>
<td>56.7% 68.2%</td>
<td>PSY 240</td>
<td>44% 71% 73%</td>
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<td>Lrng/Cogn</td>
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<td>PSY 260</td>
<td>41% 61% 58%</td>
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<td></td>
<td></td>
<td>PSY 265</td>
<td>21% 64% 77%</td>
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<tr>
<td>Soc</td>
<td>42.1% 49.3%</td>
<td>PSY 271</td>
<td>35% 51% 54%</td>
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<tr>
<td>Clin</td>
<td>58.0% 60.6%</td>
<td>PSY 232</td>
<td>38% 82% 81%</td>
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<td></td>
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<td>PSY 331</td>
<td>24% 35% 50%</td>
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<td></td>
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<td>PSY 332</td>
<td>42% 62% 73%</td>
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<tr>
<td>Res Meth</td>
<td>59.5% 64.1%</td>
<td>PSY 302</td>
<td>46% 97% 89%</td>
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<tr>
<td>Hist</td>
<td>51.9% 60.8%</td>
<td>PSY 400</td>
<td>6% 3% 11%</td>
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</table>

Again, interpreting trends over time are somewhat difficult because of the differences in our samples but generally the data suggest that a plausible reason why scores on the comprehensive exam were higher in 1998 and 1999 than in 1997 was that we were assessing more advanced students.

To summarize whether the score in a subarea was related to the proportion of students completing relevant courses in that subarea, ecological correlations were computed between these two summary measures (percent correct and percent completing courses in that area) for the 8 areas assessed on our local exam. (When more than one course was relevant to an area the percentages taking the course were simply averaged.) The correlation, not surprisingly, was positive, $r = .64$ in 1997 and $r = .23$ in 1999. One reason for the drop in the correlation was that the statistics score declined from 69% correct to 59% correct, apparently because we were no longer drawing a sample from students currently enrolled in statistics and information was being forgotten. Correlations were also suppressed because students did well on the history items even though relatively few had taken PSY 400, presumably because the items concerned individuals (e.g., Wundt, Hull, Binet) to whom they had been exposed in other courses.
# APPENDIX C - Part 1

## DEPARTMENT OF PSYCHOLOGY SUMMARY STATISTICS

<table>
<thead>
<tr>
<th>Year</th>
<th>Faculty Information</th>
<th>Undergraduate Education</th>
<th>Graduate Education</th>
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<td>Books and Articles</td>
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<td>*Extramural Support</td>
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*Extramural funds budgeted for expenditure during a single AY.
APPENDIX C - Part 2

DEPARTMENT OF PSYCHOLOGY CURRENT OUTSIDE-SPONSORED RESEARCH AMOUNTS FUNDED FOR THE CURRENT GRANT YEAR 1998 - 1999

William Miller - Principal Investigator

Modeling & Modifying Motivation for Change, NIDA; $221,066 - 7/1/98-6/30/99 (Co-PI, Paul Amrhein)

Behavioral/Pharmacologic Treatment of Alcoholism, NIAAA; $237,257 - 9/1/98-8/31/99

NIH Research Scientist Award, NIAAA; $92,202 - 8/1/97-7/31/98

Programatic Treatment Innovation Research, NIAAA; $90,242 - 8/1/98-7/31/99

Alcohol & Drug Abuse Prevention and Treatment Evaluation, NIAAA, Predoctoral National Research Service Award (NRSA); $106,674 - 7/1/98-6/30/99

Strategies for Matching Clients to Treatments, NIAAA, No Cost Extension - 9/1/96-8/31/98

Unilateral Family Intervention for Drug Problems, NIDA; $264,294 - 9/1/98-8/31/99

Clinical Trial of Interventions with Significant Others, NIAAA, $88,739 - 2/1/98-1/31/99

Tim Goldsmith - Principal Investigator


Holly B. Waldron - Principal Investigator

Families of Alcohol Abusing Adolescents, NIAAA; No Cost Extension - 8/1/97-7/31/98

Drug Abuse Treatments for Adolescents, NIDA; No Cost Extension - 7/1/99-6/30/00

Mark McDaniel - Principal Investigator

Cognitive Analysis of Coding Schemes for Speech Protheses, NIDODC; $130,999 - 5/1/99-4/30/00
Michael J. Dougher - Principal Investigator

Assessment & Evaluation of Court Clinic Cases, Second Judicial District Court; $52,000 - 9/1/97-8/31/98

Jack Blanchard - Principal Investigator


Robert Sutherland - Principal Investigator

ARND: Cortical Plasticity & Learning, NIAAA; $191,598 - 2/1/99/31/00

Kathy Stansbury - Principal Investigator


Michael Wilcox - Principal Investigator

Analog Implementation of High Resolution Retinal Information Processing, Office of Naval Research.


Dennis Feeney - Principal Investigator

Effect Bone Morphogenic Protein OP-1 on Recovery After Sensimotor Cortex Injury in Rats, Creative Biomolecules; $81,377 - 3/1/99-12/31/99
### APPENDIX D

**DEPARTMENT OF PSYCHOLOGY COURSE OFFERINGS**  
**AY 1998-1999**

### SUMMER 1998

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<th>COURSE</th>
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<th># OF SECTS</th>
<th>TOTAL ENROLLMENT</th>
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<td>105</td>
<td>315</td>
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# APPENDIX E

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</table>
## APPENDIX G

### DOCTORAL DEGREES AWARDED AY 1998 - 99

**DEPARTMENT OF PSYCHOLOGY**

<table>
<thead>
<tr>
<th>NAME</th>
<th>TITLE OF DISSERTATION</th>
<th>ADVISOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Margaret Morris</td>
<td><em>Influence of Sunlight Exposure through Windows on Perceived Physical Warmth and Interpersonal Intimacy</em></td>
<td>Samuel Roll, Ph.D.</td>
</tr>
</tbody>
</table>

### MASTER'S DEGREES AWARDED AY 1998-99

**DEPARTMENT OF PSYCHOLOGY**

<table>
<thead>
<tr>
<th>NAME</th>
<th>TITLE OF THESIS</th>
<th>ADVISOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alita Cousins</td>
<td><em>Dating Violence: A Comparison of Violent and Nonviolent Couples</em></td>
<td>Steve Gangestad, Ph.D.</td>
</tr>
<tr>
<td>Tony DiPasquale</td>
<td><em>Attitudes, Reasoning, and Characteristics of New Mexico Psychologists and Psychiatrists Toward Physician-Assisted Suicide</em></td>
<td>John Gluck, Ph.D.</td>
</tr>
<tr>
<td>Matthew Pirritano</td>
<td><em>The Effects of Older Brothers on Subsequent Male Offspring</em></td>
<td>Steve Gangestad, Ph.D.</td>
</tr>
<tr>
<td>Kerri Repa</td>
<td><em>Developmental Instability and Individual Differences in Mental Rotation Performance, Aggression, and Interest in Visual Sex Imagery</em></td>
<td>Ron Yeo, Ph.D.</td>
</tr>
<tr>
<td>Patricia Shaw</td>
<td><em>An Investigation of Associations between Sex Hormones and Cognition in Men</em></td>
<td>Ron Yeo, Ph.D.</td>
</tr>
<tr>
<td>Debra Stibick</td>
<td><em>An Enduring Vulnerability of the Transient Reinstatement of Hemoplegia by a Single Dose of Prazosin after Recovery from Traumatic Brain Injury</em></td>
<td>Dennis Feeney, Ph.D.</td>
</tr>
</tbody>
</table>
The Effects of Prenatal Exposure to Moderate Levels of Ethanol on Learning, Memory, and Dentate Gyrus Synaptic Inhibition in Adult Rats
APPENDIX H

Corrections/Additions to 6/98 Edition of Psych. Dept. Guidelines for Graduate Students

p. 4. WHO CAN HELP?
The Associate Chair for Undergraduate Education is now Gordon Hodge, 277-3019, ghodge@unm.edu.
The Graduate Student Advisor is Jennifer Lesh Houston.

top and middle of p. 10 ("APA requirements ...")
Recent revisions in the undergraduate curriculum (including separate course numbers for students taking primarily undergrad courses for graduate credit) require the following changes:
Change "Psych 444 Human Neuropsychology" to "Psych 344 Human Neuroscience".
Change "Psych 547 Psychopharmacology: Therapeutic Drugs" to "Psych 347/547 Drugs and Behavior".
Delete "Psych 447 Psychopharmacology: Drugs of Abuse".
Change "Psych 411" to "Psych 374" (same title).
Change "Psych 471" to "Psych 377/577" (same title).
Change "Psych 473" to "Psych 378/578" (same title).

bottom of p. 13 ("Developmental Major")
Change "Advanced Developmental (Psych 520)" to "Seminar in Developmental (Psych 520)".
Change "Adolescent Development (Psych 650)" to "Seminar in Adolescent Development" (Psych 650).
Change "Social Development (Psych 523)" to "Seminar in Social Development of the Child (Psych 523)".
Change "Cognitive Development (Psych 528)" to "Seminar in Cognitive Development (Psych 528)".

In addition you should be very careful to distinguish between these graduate courses for which Psychology students receive graduate credit and a set of three similarly titled undergraduate/graduate course "pairs" for which Psychology majors may NOT receive graduate credit:
Psych 324/524* Infancy, Psych 421/521* Advanced Developmental, and Psych 327/527* Social Development.

top of p. 14 ("Social Major")
Change "Attitudes (Psych 471/650)" to "Attitudes and Persuasion (Psych 377/577)".
Change "Social Cognition ... or Cognitive Development (Psych 528)" to "Social Cognition (Psych 650) or Seminar in Cognitive Development (Psych 528)".
Change "Psych 473/650" to "Psych 378/578" (same title).
bottom of p. 14 ("Psychopharmacology")
Change "Psych 547 Psychopharmacology: Therapeutic Drugs" to "Psych 347/547 Drugs and Behavior".
Delete "Psych 650 Psychopharmacology: Drugs of Abuse".

bottom of p. 17 ("Progress Report")
The last sentence of this section and of the page should be replaced with the following:

Research involvement, expeditious progress through the program, development as a teacher, service contributions, and (for clinical students) development of clinical skills are all important aspects of your graduate-student career. The feedback from your area committee will therefore include its evaluation of your performance on each of these 4 or 5 dimensions (including your research-involvement "grade" for the year; see Appendix J), the committee's judgment as to whether you should be considered eligible for financial aid (primarily determined by standing on the "satisfactory progress" dimension), and (optionally) a statement of your overall standing in the program. The letter containing this feedback will typically also include comments on your strengths and weaknesses and provide specific recommendations or contingencies. It becomes part of your permanent file.

p. 18 ("Satisfactory Progress")
Last September the Department faculty voted to revise the definitions of satisfactory progress to take into account whether a student already had a masters degree based on an empirical masters thesis and whether the student was in the Clinical area or one of the other areas of the program. The portion of this section above the paragraph that begins "Note that your status ..." should be replaced with the following:

---

**Definition of Satisfactory Progress (revised 9/11/98)**

<table>
<thead>
<tr>
<th>Progress Marker</th>
<th>Clinical Students</th>
<th>Students fr Other Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>with Thesis</td>
<td>with Thesis</td>
</tr>
<tr>
<td></td>
<td>wout Thesis</td>
<td>wout Thesis</td>
</tr>
<tr>
<td>Extra-Department thesis approved.</td>
<td>1st Spring</td>
<td>1st Spring</td>
</tr>
<tr>
<td></td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>Transfer credits approved.</td>
<td>1st Spring</td>
<td>1st Spring</td>
</tr>
<tr>
<td></td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>Thesis proposed.</td>
<td></td>
<td>na</td>
</tr>
<tr>
<td></td>
<td>2nd Fall</td>
<td>2nd Fall</td>
</tr>
<tr>
<td>Thesis completed.</td>
<td></td>
<td>na</td>
</tr>
<tr>
<td></td>
<td>3rd Spring</td>
<td>3rd Fall</td>
</tr>
<tr>
<td>Comps process initiated.</td>
<td>3rd Spring</td>
<td>3rd Fall</td>
</tr>
<tr>
<td></td>
<td>4th Fall</td>
<td>3rd Spring</td>
</tr>
</tbody>
</table>
---

---
Comps defended. 4th Fall 4th Spring 3rd Spring 4th Fall

Dissertation proposed. 4th Spring 5th Fall 4th Fall 4th Spring

Dissertation defended. As soon as we can get rid of you.

Additional Requirement for All Students, All Years: Maintain a 3.0 cumulative GPA.

Additional First-Year Requirements for All Students:
B- (or test out of, transfer credits for) all required courses.
Satisfactory completion of at least 9 hours per semester including 501,502,503,504,505 (both semesters) and 561.

Additional First-Year Requirements for Clinical Students:
Satisfactory completion of 532 and 600 (both semesters).

[Note that clinical students arriving without a thesis have the same deadline as non-clinical students for proposing a masters thesis, but an "extra" semester to complete it.]

Students who, for whatever reason, are not able to meet these guidelines, must file a petition for exemption as soon as it is apparent that a guideline will not be met. The petition must be reviewed by the student's committee on studies [this is the area committee until you have had a dissertation committee approved, at which point your dissertation committee becomes your committee on studies] and the appropriate area head before it goes to the Associate Chair for Graduate Education for a final decision. The petition should be detailed in terms of the specific request, the reasons for the request, and how the student plans to resume satisfactory progress if the petition is approved.

last sentence on p. 20
Replace with "The committee will then have ONE WEEK to compose the exam, which must be approved by the area head in the student's major."

p. 22, near top ("Advancement to Candidacy for the Ph.D.")
The Office of Graduate Studies has changed the sequencing of application for candidacy with respect to comps. The first sentence of this section should now read "Apply for doctoral candidacy after you have completed 12 hours beyond those used for the M.S. degree and AFTER you have passed the oral preliminary exam."
Replace the statement that begins "Students are eligible ..." with the following:
"Students are eligible for financial aid for no more than five years, except in unusual situations."

Appendix A, p. 31
The Department's Statement of Mission has been revised. While not extensive, the revisions are scattered throughout the old statement, so it seems simplest to simply reproduce below the full revised statement, which should replace current p. 31 of the Guidelines:

Appendix A
Department of Psychology
Statement of Mission

The Department of Psychology shares with other academic departments at the university its raison d'être: the discovery and dissemination of knowledge. It shares with other science departments a commitment to empirical research. The distinguishing feature of this purpose for a psychology department is that the knowledge being sought concerns the individual organism, and most typically the behavior of the individual person.

The UNM Department of Psychology embraces a number of goals which serve to give the program a distinctive flavor. These are reflected in the mission of the department, which is to

-- Create a supportive environment in which faculty and students associated with the department are encouraged to achieve their maximum potential as scholars.

-- Promote a scientific approach to psychology, emphasizing both experimental and correlational methodologies as historic traditions.

-- Encourage respect for and openness to a variety of theoretical, philosophical, and empirical approaches, with the view that the study of psychology is enriched by the interaction of multiple perspectives.

-- Value active research programs within the department and in collaboration with colleagues outside the department.

-- Maintain excellence in clinical and experimental psychology and foster the growth of neuroscience approaches to the study of learning, memory, and cognition.

-- Encourage and support effective teaching both in communicating psychology to undergraduates as an area of major study and a critical part of a liberal arts education, and in training graduate students at a professional level.

-- Train graduate students in the application of general experimental psychology in clinical and other professional settings.
-- Ensure that graduate students in all areas are well trained in methodology and ethics appropriate for their effective functioning as researchers and professionals.

-- Enable students to understand the development and operation of psychology in the context of diversity within the larger culture, and its application in the culture of the Southwest in particular.

-- Be actively involved in service to the university, the community, the state, and the profession.

-- Evaluate, in an ongoing fashion, our performance as a department with respect to our mission, and revise this Statement of Mission to accommodate to changing situations.

p. 32, Appendix B (Graduate Courses by Area)
Change "430" to "430/530" (same title).
Change "434" to "434/534" (same title).
(Note that 436/536* Family Psych and 439/539* Child Psychopathology are NOT available to Psych majors for graduate credit.)
Change "Psych 444 Human Neuropsychology" to "Psych 344 Human Neuroscience".
Change "Psych 547 Psychopharmacology: Therapeutic Drugs" to "Psych 347/547 Drugs and Behavior".
Delete "Psych 447 Psychopharmacology: Drugs of Abuse".

between pp. 32 & 33
Graduate courses for other areas were accidentally omitted from the 6/98 edition. Insert the following to complete the listings:

DEVELOPMENTAL

520 Seminar in Developmental Psychology
523 Seminar in Social Development of the Child
525 Seminar in Infancy
528 Seminar in Cognitive Development
650 Seminar in Adolescent Development

EVOLUTIONARY

650 Evolutionary Social Psych
650 Behavioral Genetics
LEARNING/COGNITION

563 Seminar in Human Memory. (3)
565 Seminar in Thought and Language. (Also offered as Ling and Ed Fnds. 565.)
566 Psychology of Bilingualism. (Also offered as Ling 566.)
567 Theories of Perception.
568 Cognitive Processes.
569 Seminar in Psycholinguistics
(Note that 360/560* Human Learning & Memory and 364/564* Perception are NOT available to Psychology majors for graduate credit.)

PERSONALITY

535 Psychological Evaluation: Personality Functions
536 Practicum in Psychological Evaluation
538 Seminar in Psychoanalytic Ego Psychology
572 Theories of Personality
650 Child/Adolescent Cognitive and Personality Assessment Seminar
650 Advanced Personality Assessment

QUANTITATIVE

300/500 Intermediate Statistics
501 Advanced Statistics.
502 Design and Analysis of Experiments
503L Advanced Statistics Laboratory.
504L Design and Analysis of Experiments Laboratory
505 Research Seminar.
506 Seminar in Mathematical Psychology.
601 Multiple Measures.

SOCIAL

374 Cross-Cultural Psych
375 Psych of Women
377/577 Attitudes & Persuasion
378/578 Social Interaction
571 Seminar in Social Psychology
573 Seminar in Cross Cultural Research
pp. 55 & 56, Appendix J (Parsing Credit for Research Behavior)
Replace this table with the following:

<table>
<thead>
<tr>
<th>Year in Program</th>
<th>Research Involvement</th>
<th>Grade of...</th>
<th>Requires at least</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>Satisfactory</td>
<td></td>
<td>An average of 12 hrs/wk in area B,C,D, or E; OR 6 hours in B,C,D, or E plus 9 in area A.</td>
</tr>
<tr>
<td></td>
<td>Good</td>
<td></td>
<td>Average of 20 hrs/wk in area B,C,D, or E; OR 12 hours in B-E plus 9 in area A; OR any significant contribution in D; OR any recognition from area E.</td>
</tr>
<tr>
<td></td>
<td>Exemplary</td>
<td></td>
<td>Regional or national D (presentation or submitted manuscript); OR regional or national E (i.e., anything in E except thesis or dissertation defense).</td>
</tr>
<tr>
<td>Second</td>
<td>Satisfactory</td>
<td></td>
<td>Same as &quot;Good&quot; for first year.</td>
</tr>
<tr>
<td></td>
<td>Good</td>
<td></td>
<td>Same as &quot;Exemplary&quot; for first year.</td>
</tr>
<tr>
<td></td>
<td>Exemplary</td>
<td></td>
<td>Any contribution in D2; OR any recognition at level E2.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OR 12 hours in B-E plus 9 in area A; OR any significant contribution in D; OR any recognition from area E.</td>
</tr>
<tr>
<td></td>
<td>Exemplary</td>
<td></td>
<td>Regional or national D (presentation or submitted manuscript); OR regional or national E (i.e., anything in E except thesis or dissertation defense).</td>
</tr>
<tr>
<td>Third</td>
<td>Satisfactory</td>
<td></td>
<td>Same as &quot;Good&quot; for first year.</td>
</tr>
<tr>
<td></td>
<td>Good</td>
<td></td>
<td>Same as &quot;Exemplary&quot; for first year.</td>
</tr>
<tr>
<td></td>
<td>Exemplary</td>
<td></td>
<td>Any recognition at level E2.</td>
</tr>
<tr>
<td></td>
<td>Satisfactory</td>
<td>Same as &quot;Exemplary&quot; for first year.</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>--------------</td>
<td>-----------------------------------</td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td>Same as &quot;Exemplary&quot; for third year.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exemplary</td>
<td>Same as for third year, but first-authored.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>What?</th>
<th>You're still here?</th>
</tr>
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</table>

(The section of "Adjustments for differences ..." remains unchanged.)
APPENDIX I

GRADUATE STUDENTS RATED EXEMPLARY IN RESEARCH PRODUCTIVITY
AY 1998-1999

**Behavioral Neuroscience**
- Robert Astur
- Faith Barrington-Hanlon
- Derek Hamilton
- Sandra Moses
- Laura Rowland
- Michael Thomas

**Cognitive/Learning**
- Chad Woodruff
- David Trumpower
- Amanda Price
- Aimee Knupsky
- Melissa Guynn
- Jackie Griego

**Clinical**
- Rob Anderson
- Seth Brown
- John Dencoff
- Chris Edgar
- Jennifer Harrington
- William Horan
- Rex Jung
- Paul Lesnik
- Vanessa Lopez
- Melissa Meade
- Erica Miller
- Dan Squires
- Denise Walker
- Scott Walters
- David Weers

**DPS**
- Kevin Bennett
- David Haley
- Chris Radi
- DeeDee Stroud
## APPENDIX J

### GRADUATE STUDENTS ACCEPTED FOR AY 1998-99

<table>
<thead>
<tr>
<th>NAME</th>
<th>ADVISOR</th>
<th>AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nariman Arfai</td>
<td>Dennis Feeney, Ph.D.</td>
<td>Behavioral</td>
</tr>
<tr>
<td>Neuroscience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>California</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joel Bish</td>
<td>Robert Egly, Ph.D.</td>
<td>Cognitive</td>
</tr>
<tr>
<td>Maryland</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mikyta Dougherty</td>
<td>William Miller, Ph.D.</td>
<td>Clinical</td>
</tr>
<tr>
<td>Georgia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nicole Gendler</td>
<td>Kathy Stansbury, Ph.D.</td>
<td>Developmental</td>
</tr>
<tr>
<td>California</td>
<td></td>
<td></td>
</tr>
<tr>
<td>John Houck</td>
<td>Robert Egly, Ph.D.</td>
<td>Cognitive</td>
</tr>
<tr>
<td>Indiana</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jennifer Jones</td>
<td>Akaysha Tang, Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Behavioral/Neuroscience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Mexico</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mariana Lanoue</td>
<td>Ron Yeo, Ph.D.</td>
<td>Clinical</td>
</tr>
<tr>
<td>New Mexico</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timothy Martin</td>
<td>Robert Egly, Ph.D.</td>
<td>Cognitive</td>
</tr>
<tr>
<td>New Mexico</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lisa Thomson</td>
<td>Kathy Stansbury, Ph.D.</td>
<td>Developmental</td>
</tr>
<tr>
<td>Washington</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joshua Zader</td>
<td>John Gluck, Ph.D.</td>
<td>Clinical</td>
</tr>
<tr>
<td>New Mexico</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX K

THE FACULTY AY 1998 - 1999
DEPARTMENT OF PSYCHOLOGY

AMRHEIN, PAUL C.
Cognitive psychology: psycholinguistics; picture-word processing; aging, cognition and motor control. Current language research concerns the representation and function of pragmatic, semantic and syntactic information in discourse. Ongoing picture-word processing research concerns the development of 'hybrid' models that account for cognitive processes involved in episodic and semantic memory-production tasks (i.e., drawing, writing, speaking) in monolinguals and bilinguals. Current aging research concerns age- and dementia-based changes in cognitive processes that pertain to the preparation and execution of movements, and picture-word processing.

BLANCHARD, JACK J.
Assistant Professor of Psychology and Psychiatry. Ph.D. State University of New York at Stony Brook, 1991.
Clinical Psychology. Research interests are in adult psychopathology with an emphasis on schizophrenia. Current NIMH funded research is directed at determining the role of emotion in schizophrenia and how emotion is related to the social and neurocognitive dysfunction characteristic of this disorder. The potential neuropathological mechanisms underlying emotional and social disturbances in schizophrenia are also being examined in collaborative projects employing Magnetoencephalography (MEG) and Magnetic Resonance Imaging (MRI). Finally, research is being conducted to examine etiological models of comorbid substance abuse in schizophrenia and bipolar disorder.

CIESIELSKI, KRISTINA T.
Associate Professor. Ph.D. Polish Science Academy (Nencki Institute of Experimental Biology), 1978.
Cognitive and clinical neuropsychology; brain event-related potentials; MRI and brain morphometry; development of normal and disordered human brain. Experimental approach is based on information-processing models and neuropsychological models of cognition, and integrates neurobehavioral, electrophysiological, neuroimaging and modeling techniques. A major goal is to describe the normal and pathological development of the frontal-cerebellar subsystem in humans with a particular focus on changes in mechanisms of selective inhibition.
COFER, LYNETTE FRIEDRICH
Professor. Ph.D. Cornell University, 1965.
Developmental psychology, human circadian rhythmicity as a mediator of personality development and cognitive performance, social development and gender differences, mediation of television effects, analyses of theoretical and empirical approaches to applied developmental research and family public policy. Current research includes analyses of Swedish longitudinal data base and new data collection in Sweden on individual differences in circadian rhythmicity and personality development and school performance.

DELANEY, HAROLD D.
Methodology, quantitative. Current research is in statistical methods, particularly those that are useful in investigations involving individual difference variables. Issues in experimental design and philosophy of science are also of interest. Interests in substantive areas include the psychology of religion, and individual differences in values and in cognition.

DOUGHER, MICHAEL J.
Professor and Department Chair. Ph.D. University of Illinois at Chicago, 1980.
Experimental and clinical behavior analysis. Primary research focuses on the experimental analysis of complex human behavior including stimulus equivalence and rule-governed behavior. Other interests include contextualistic methods of psychotherapy and psychotherapy research, and integrative psychotherapies.

EGLY, ROBERT
Assistant Professor. Ph.D. Arizona State University, 1990.
Cognitive neuroscience. My research focus is on understanding the cognitive processes and neural systems of visual attention and perception. A major component of my research program is the use of neurological patients (e.g., stroke, tumor, trauma) to identify the brain structures that control attending and perceiving in normal cognition, and to examine how various neuropathologies affect attending and perceiving.
FEENEY, DENNIS M.
Professor (and Professor of Physiology). Ph.D. University of California, Los Angeles, 1968.
Behavioral neuroscience, brain injury, recovery of function and epilepsy. In my laboratory we are conducting interdisciplinary studies of experimental brain injury in animals using a variety of methods, including electrophysiology, liquid chromatography, pharmacology, histological and behavioral measurements. Our goal is to understand and enhance behavioral recovery after brain damage in humans, and determine what commonly prescribed drugs may slow behavioral recovery.

GANGESTAD, STEVEN W.
Associate Professor. Ph.D. University of Minnesota, 1986.
Evolutionary psychology; social/personality psychology. General interests concern the ways in which humans' current psychological design is a product of evolutionary selection. Current research generally concerns this issue in regard to phenomena that occur within close relationships such as sexual relationships, friendships, and familial relationships. Other research concerns the developmental expressions of adaptations. Additional interests include individual differences, behavior genetics, psychometric theory, and philosophy of science.

GOLDSMITH, TIMOTHY E.
Assistant Professor. Ph.D. New Mexico State University, 1984.
Applied cognitive psychology, human factors, and statistics. My present research is focused on developing and validating methods for assessing and representing knowledge and skill. Under a grant from the FAA, I am currently attempting to improve the training and assessment of commercial airline pilots. Other research interests of mine include: psychological scaling, similarity, computer modeling, and human decision making.

GLUCK, JOHN P.
Clinical psychology, general experimental psychology. Interests include value changes during psychotherapy and the effects of early experience on development. In addition, I am very interested in the general area of bioethics, particularly professional clinical conduct and the ethics of human and animal research.
HAALAND, KATHLEEN Y.
Associate Professor. Ph.D. University of Rochester, 1972.
Clinical and experimental neuropsychology. Motor deficits are a common outcome of brain damage (e.g., stroke, Parkinson's disease, Huntington's disease). My research program focuses upon understanding the different cognitive processes (e.g., motor programming; encoding, storage and retrieval of motor programs; scheduling movements) which produce complex motor deficits after damage to cortical and subcortical areas of the brain. We have emphasized the dominance of the left hemisphere for controlling movements in both hands. We study the changes in motor processes in (1) stroke patients with focal damage to different parts of the left hemisphere, basal, ganglia and cerebellum, using structural imaging to relate area of brain damage and behavior; (2) Parkinson's disease; and (3) Alzheimer's disease. In our laboratory strong emphasis is placed on the integration of cognitive and neuropsychological approaches.

HARRIS, RICHARD
Professor. Ph.D. Stanford University, 1968.
Experimental social psychology, game theory, equity theory. Primarily interested in relatively formal (mathematical and computer simulation) models of social psychological phenomena, with emphasis so far on post-decision dissonance reduction, experimental games, and equity theory. A secondary interest is in the development of multivariate statistical techniques.

HODGE, GORDON K.
Presidential Teaching Fellow, Associate Professor, and Associate Chair for Undergraduate Education. Ph.D. University of California, Los Angeles, 1977.
Psychopharmacology, behavioral neuroscience, and teaching technologies. Current research is directed toward developing multimedia technologies for teaching in general and for the teaching of psychology in particular. This includes development and authoring of CD-ROM disks for use by both faculty in the classroom and students studying independently, as well as publishing on the World Wide Web.

MCDANIEL, MARK A.
Cognitive. Major research interests center on how encoding and retrieval processes influence learning and memory. Current projects are focused on 1) text processing and memory; 2) recall processes; 3) investigating prospective memory processes in younger and older adults and neuropsychological underpinnings; 4) understanding how people learn functional relations between stimulus and response variables; and 5) investigating causal concept learning in multivariate environments.
MILLER, WILLIAM R.
Regents Professor (and Professor of Psychiatry) and UNM Center on Alcoholism, Substance Abuse, and Addictions. Ph.D. University of Oregon, 1976. Treatment, prevention, and assessment of addictive behaviors; program evaluation research; cognitive-behavior therapies; motivation and self-regulation; psychology and spirituality.

PADILLA, ELIGIO R.
Associate Professor (and Associate Professor of Psychiatry). Ph.D. University of Washington, 1974. Clinical, cross-cultural and community. Current work focuses on higher educational policy and practice and the validity of traditional instruments for the assessment of intelligence among minority populations.

ROLL, SAMUEL
Professor (and Professor of Psychiatry). Ph.D., ABPP, ABFP. Pennsylvania State University, 1968. Clinical psychology, developmental psychology, forensic psychology. Using a psychoanalytic framework as a base, I am exploring cultural influences on the development of personality and cognition. This involves work in the area of dreams, early memories, cognitive assessment, personality assessment and psychotherapy. My research involves Anglo, Chicano, American Indian and South American subjects.

SMITH, JANE E.
Associate Professor and Director of Clinical Training Program. Ph.D. State University of New York at Binghamton, 1985. Clinical psychology. Research interests: psychophysiological assessment, assessment and treatment of eating disorders (bulimia, obesity and anorexia), alcoholic homeless individuals, dual diagnosis (substance abuse and chronic mental illness) and implosive (flooding) therapy.
STANSBURY, KATHY
Assistant Professor. Ph.D. University of California, Los Angeles, 1990.
Developmental psychology and behavioral neuroscience; emotional and
neurohormonal development. My work focuses on developmental competencies,
and individual differences in social, emotional, and neurohormonal domains in
preschool age children. More specifically, how do children learn to regulate their
emotional states and what impact does this process have on later developing skills?
In creating and testing a model of these developmental processes, I have made use
of several different paradigms, such as children’s entry into new peer and social
situations, and commonly occurring frustration situations, and studied a variety of
systems that may be contributing to this development, including caregiver
relationships, temperamental differences, psychophysiological factors (primarily
hypothalamic-pituitary-adrenocortical hormones), behavioral-risk contexts, and
differences in linguistic skills. I am also interested in prenatal influences on brain
development and later behavior, depression and neurohormones in mothers and
children, and developmental psychoneuroimmunology, as well as in basic
theoretical questions in the area of emotion in humans.

SUTHERLAND, ROBERT J.
Professor of Psychology and Neuroscience. Ph.D. Dalhousie University, 1980.
Cognitive and behavioral neuroscience, neuropsychology, learning and memory.
Primarily interested in exploring the anatomical and functional organization of
memory and related cognitive processes. The research includes combinations of
behavioral analyses, electrophysiological recording, neurotoxins, and
neuropharmacological techniques. Other goals are to understand in detail the
function of the hippocampal formation, the nature of amnesic symptoms in
Alzheimer’s disease, Korsakoff’s syndrome, epilepsy, cerebral trauma, and other
disorders. We also explore factors related to cognitive recovery after brain
damage.

TANG, AKAYSHA C.
Assistant Professor. Ph.D. Harvard University, 1995.
Cognitive neuroscience, behavioral neuroscience, computational neuroscience. My
research focuses on the role of neuromodulation in cognitive functions, specifically,
learning and memory, and neural coding. A combination of behavioral,
eletrophysiological, and computational methods is used to study the effect of
neuromodulators/neurotransmitters, such as Ach and GABA, at the cellular, network, and
behavioral levels. Examples of specific research questions on learning and memory
include: how are learning and memory affected in rats treated with the GABAb agonist
baclofen (behavioral study)? How are synaptic transmission and neuronal excitability
affected by the same treatment (brain slice electrophysiology)? How can the cellular
effects be related to the effects on learning and memory (computational models)?
WALDRON, HOLLY B.
Clinical psychology. Research interests focus on family interaction theories of psychopathology, family therapy process and outcome, and developing and evaluating effective assessment and treatment strategies for adolescent substance abuse and related behavior problems. Current research projects include evaluating cognitive-behavioral and family-based interventions for disturbed adolescents and examining family communication behaviors and cross-cultural variations in families of disturbed and nondisturbed adolescents.

YEO, RONALD A.
Associate Professor and Associate Chair for Graduate Education. Ph.D.
University of Texas, Austin, 1983.
Clinical and experimental neuropsychology. Research interests include individual differences in brain organization, neuroimaging, cerebral lateralization, genetic and environmental factors influencing brain development, and the neuropsychological bases of neurodevelopmental disorders.
<table>
<thead>
<tr>
<th>Name and Address</th>
<th>Phone</th>
<th>Professional Title</th>
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</table>
| Phillip W. Day, D.V. M.  
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University of New Mexico  
School of Medicine  
Basic Medical Science Building, G32  
Albuquerque, NM 87131 | 277-3936 | Assistant Professor (PT) |
| Peter DiVasto, Ph.D.  
Family Practice/Psychiatry 307  
Albuquerque, NM 87107-4811 | 277-4257  
277-2165 | Clinical Associate |
| Charles H. Elliott  
403 Dartmouth SE  
Albuquerque, NM 87106 | 843-2190 | Clinical Associate |
| William E. Foote, Ph.D.  
4308 Carlisle NE, Suite 208  
Albuquerque, NM 87107-4849 | 255-9494 | Clinical Assistant  
Professor |
| Kathleen Haaland, Ph.D.  
Psychology Services  
Veterans Administration Medical Center  
2100 Ridgecrest Drive SE  
Albuquerque, NM 87108 | 265-1711  
ext. 2440 | Associate Professor  
(Secondary, nonprobationary appointment) |
| Deborah Harrington, Ph.D.  
Veterans Administration Medical Center  
2100 Ridgecrest Drive SE  
Albuquerque, NM 87108 | 265-1711 | Associate |
| Mary Harris, Ph.D.  
Education Foundations  
University of New Mexico  
Albuquerque, NM 87131 | 277-2925 | Professor  
(Secondary appointment) |
<table>
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<tr>
<th>Name and Address</th>
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<td>Reid Hester, Ph.D.</td>
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<td>Clinical Associate</td>
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<tr>
<td>Frances Koenig, Ph.D.</td>
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<td>Clinical Associate</td>
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<tr>
<td>P. W. Kodituwakku, Ph.D.</td>
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<td>Clinical Associate (PT)</td>
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<tr>
<td>Milton Lasoski, Ph.D.</td>
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<tr>
<td>George Luger, Ph.D.</td>
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<td>Professor</td>
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<tr>
<td>Department of Computer Science</td>
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<td>University of New Mexico</td>
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<td>Charlene McIver, Ph.D.</td>
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<tr>
<td>John Moulton, Ph.D.</td>
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<td>Professor</td>
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<td>Theresa Moyers, Ph.D.</td>
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<td>Name and Address</td>
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<td>John Owen, Ph.D.</td>
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<td>Albert V. Vogel, M.D.</td>
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## APPENDIX M

### DEPARTMENT OF PSYCHOLOGY COLLOQUIA AY 1998 - 1999

<table>
<thead>
<tr>
<th>Colloquium Presented By</th>
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<tr>
<td>David Haley</td>
<td><strong>“Cognitive confounds and pain studies: Comparison of two protocols for separating pain-specific and cognitive activity”</strong> September 18, 1998</td>
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<tr>
<td>Rob Egly, Ph.D.</td>
<td><strong>“?”</strong> September 25, 1998</td>
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<td>Paul Amrhein, Ph.D., Michael Dougher, Ph.D., Rob Sutherland, Ph.D., Steve Gangestad, Ph.D.</td>
<td><strong>“Whither Psychology? Contrasting perspectives on Cognition: A Debate”</strong> October 2, 1998</td>
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<tr>
<td>David Trumpower</td>
<td><strong>“Using Expert Knowledge Structures to Guide Learning”</strong> October 9, 1998</td>
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<tr>
<td>Henry L. Roediger, III, Ph.D.</td>
<td><em>The Twelfth Annual Quad-L Lecture</em> <strong>“Illusions of Memory: Remembering Events That Never Happened”</strong> October 9, 1998</td>
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<td>A. David Redish, Ph.D.</td>
<td><strong>“Beyond the Cognitive Map: From Place Cells to Episodic Memory”</strong> October 23, 1998</td>
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<tr>
<td>Gene Stoner, Ph.D.</td>
<td><strong>“Surface Segmentation and Visual Motion Processing in Primates”</strong> October 30, 1998</td>
</tr>
</tbody>
</table>
Colloquium Presented By

Jack Blanchard, Ph.D.
Assistant Professor of Psychology
University of New Mexico
Albuquerque, New Mexico

Michael Haselmo, Ph.D.
Professor of Psychology
Boston University & Harvard University
Boston, Massachusetts

Faith Hanlon
Department of Psychology
University of New Mexico
Albuquerque, New Mexico

Christopher Thurber, Ph.D.
Department of Rehabilitative Medicine
University of Washington
Seattle, Washington

Christina Rodriguez, Ph.D.
Social and Behavioral Sciences
Arizona State University - West
Tempe, Arizona

Bonnie Klimes-Dougan, Ph.D.
National Institute of Mental Health
Bethesda, Maryland

Richard Harris, Ph.D.
Professor of Psychology
University of New Mexico
Albuquerque, New Mexico

Melissa Guynn
Department of Psychology
University of New Mexico
Albuquerque, New Mexico

Colloquium Title

“Hedonic capacity, schizophrenia, and schizophrenia proneness: Preliminary findings and theoretical excursions”
November 6, 1998

“Neuromodulation and Cortical Functions: Behavior, Physiology, & Computational Models”
November 20, 1998

“Changes in Adult Brain and Behavior caused by Amygdala and Adjacent Limbic Damage: Implications for the Etiology of Schizophrenia”
December 4, 1998

“Models of Childhood Homesickness: Clinical and Theoretical Implications”
February 4, 1999

“Identifying pathways to child physical abuse”
February 11, 1999

“Children at Risk for Depression: A Developmental Psychopathology Approach”
February 18, 1999

“Apparent Confirmation of Incorrect Interpretations of Factors”
March 12, 1999

“Theoretical Perspectives on Prospective Memory”
March 17, 1999
Colloquium Presented By

Mark McDaniel, Ph.D.
Professor of Psychology
University of New Mexico
Albuquerque, New Mexico

Samuel Roll, Ph.D.
Professor of Psychology
University of New Mexico
Albuquerque, New Mexico

Derek Hamilton
Department of Psychology
University of New Mexico
Albuquerque, New Mexico

Sarah Erickson, Ph.D.
Stanford Center for Research in Disease Prevention and Stanford University Medical School
Stanford, California

Jack Blanchard, Ph.D.
Assistant Professor of Psychology
University of New Mexico
Albuquerque, New Mexico

Rex Jung, Ph.D.
Clinical & Magnetic Resonance Research Center
UNM Health Sciences Center
Albuquerque, New Mexico

Colloquium Title

"Memory for Unusual Events: The Greeks Were Out of Order"
March 26, 1999

"About, my brains': Hamlet and Psychology"
April 1, 1999

"Place learning: Mental cartography or other?"
April 9, 1999

"Psychological Adaptation of Pediatric Cancer Survivors"
April 21, 1999

"Stress Reactivity in Schizophrenia: Traits, Mood, and Saliva"
April 23, 1999

*The Benjamin Haught Memorial Lecture*
"Biochemical Markers of Cognition in Disease and Health"

**Colloquia Cosponsored by CASAA AY 1998 - 1999**

Colloquium Presented By

Tamara L. Wall, Ph.D.
University of San Diego
School of Medicine
San Diego, California

Colloquium Title

"Lasting findings from the Seattle 500 Study and New Work on Brain and Behavior in Fetal Alcohol Syndrome"
November 9, 1998
Colloquium Presented By

Karl Mann, Ph.D.
University of Tuebingen
School of Medicine
Tuebingen, Germany

Brenda Miller, Ph.D.
Center for Research on Urban Social Work
and Violence
University of Buffalo
Buffalo, New York

Eliot Lawrence Gardner, Ph.D.
Albert Einstein School of Medicine
Bronx, New York

Joel William Grube, Ph.D.
Prevention Research Center
Berkeley, California

A. Thomas McLellan, Ph.D.
University of Pennsylvania
Philadelphia, Pennsylvania

Colloquium Title

"The Treatment of Alcoholism in Germany
And Quality-of-Life Outcomes"
February 12, 1999

"Women's Alcohol and Other Drug
Problems and Family Violence"
March 8, 1999

"The Neurological Bases for Marijuana's
Abuse Potential"
April 12, 1999

"Alcohol Advertising: Effects on the
Drinking Beliefs and Behaviors of Children
and Adolescents"
April 12, 1999

"Bridging the Treatment-Research Gap in
Addiction: A Summary of the Institute of"
May 3, 1999
APPENDIX N


The Department of Psychology Clinic continues to be a valuable and challenging part of the Psychology Department's educational environment. On the one hand, it is a fully functioning outpatient mental health clinic, providing quality therapeutic and assessment services to the Albuquerque community. At the same time, it is a training facility where graduate students in clinical psychology receive practical experience in this area. The challenge is to keep both missions functioning at a high level of excellence; neither training nor services can be seen as secondary if the Clinic is to fulfill its function.

The nature of the challenge may be seen in the fact that the combined services provided at the Clinic would provide a reasonable workload for about three full-time clinicians. Here, however, those services are provided by 30 student-clinicians at various stages of training and performing different functions. All of them must follow ethical and professional standards of practice of psychology. The reason this is possible is the academic preparation provided by the Department's faculty, especially the clinical faculty, and the on-going supervision donated by supervisors from the professional community. Each student-clinician, carrying a caseload of two or more cases, receives at least one hour of face-to-face supervision per week, usually individually and sometimes in small groups. Because of bright and responsible graduate students, competent educational preparation, and dedicated faculty and outside supervisors, the Clinic is a place where both of its missions can be carried out without contradiction.

SERVICES

Individual adult therapy remains the primary service of the Clinic, with a client population
that is varied in terms of age, ethnicity, employment status, education and presenting problems.

Generally the severity of referral issues is from mild to moderate. There is a frequent misperception that we serve primarily a University population; in fact, our referrals come from other agencies and practitioners, the Court, and self-referrals provide a cross-section of the community. Because of a sliding fee scale ($10 to $60 per hour), we do have a selection factor toward low-income individuals, but even this is not universal. The Clinic has had increased involvement in family, child and couples therapy over the years.

The closing of outpatient therapy services by the New Mexico Hospital Mental Health Center in 1990 has produced an apparently permanent waiting list of referrals, changing our intake procedures and, to some extent, affecting our services. This presents a challenge to our existing commitment to long-term therapy as a valuable service and training modality. In response to the waiting list and also because of the demands of treatment in the current health care environment, we have attended to issues of shorter-term treatment, time-limited models and the empirical foundations of various approaches in clinical meetings. The need for each student to have some experience in time-limited treatment will be a focus in the coming year.

At the same time, we continue to see the value of long-term treatment where this is appropriate, both in terms of proper treatment and for excellence of training. The tension among therapy models, rationales and methods to which students are exposed reflects an educational value of the department and will prepare students for the difficult challenges now facing the profession of clinical psychology whether in academic or treatment settings. Quite properly, for our research-based discipline, issues of empirical support and measurement of outcomes are expected to be increasingly emphasized in the years ahead at the Clinic.
This year ends the first full year of operation of our ADHD assessment program. As ADHD has been classified as a disability under the Americans with Disabilities Act and with more concern about this diagnosis, schools, businesses and individuals are turning to psychologists for better assessment. Clinic personnel Melissa Behrens-Blake, M.S. and David Ley, M.S. have collaborated with Sigifredo Saenz, M.S.W. of the UNM Counseling Assistance and Referral Service to develop and carry out a program which draws from previous experience at UNM with an adult population and on current research and theory. This project is now funding one graduate assistantship at the Clinic, and we anticipate it may provide paid work for others as it develops.

Dr. John Gluck took over the role of Associate Chair for Clinical Training this year from Dr. Jane Smith. Dr. Gluck initiated twice monthly Clinic Rounds as a way for students to share their cases and questions or problems they may have and also to bring in psychologists from the community to present case material and enhance student education. These have been well received by student-clinicians, and will resume in the fall.

PERSONNEL

The staff of the Clinic has consisted of Dr. Dan Matthews, Director (since fall 1988); Wanda Sharts, Office Manager (who moved from the Department in June 1991); David Ley, Graduate Assistant for the ADHD program; Melissa Behrens-Blake, our educational diagnostician; and Amanda Bunch.

Ms. Bunch has left the Clinic to pursue work more closely related to her goal of becoming a veterinarian. She was a dependable, friendly and funny member of our staff and her presence is missed.
David Ley took over the graduate assistant position on the ADHD assessment team in its first full year of operation. He performed the work at a high level of excellence and added his interest and knowledge of personality assessment to enrich our evaluations. We have ended up testing more children than we had expected, and Mr. Ley's exceptionally personable and charming demeanor was particularly obvious in his interactions with the children. He is also doing an outcome study for the Clinic as part of his dissertation project, an effort we hope will enhance Clinic treatment and training functions in the future.

The 1997 addition to our staff of Melissa Behrens-Blake has proved a very beneficial. Ms. Blake is an educational diagnostician specializing in the assessment of adult learning disabilities and the educational portion of ADD/ADHD evaluations. What began as an administrative arrangement to share space has become a valued working relationship with compatible aims. Ms. Behrens-Blake has knowledge and skills that complement and enhance the services and training we have traditionally provided. She has a strong interest in the neurological bases of the conditions she assesses and has provided consultation for our students and with our clients. The community's need for an ADHD assessment program (see above) was brought to our attention by Ms. Blake, and she has been one of three prime movers in its development.

Wanda Sharts reorganization of the Clinic continues to provide a steady foundation for our work here. She has provided not only an increase in the efficient operation of the Clinic, but also a calm and quieting presence that facilitates all our efforts in a sometimes stressful work environment. Her duties are numerous and varied, and she carries out each with productively and graciously. She is currently developing the accounting and billing system which will be needed for our ADHD assessment program.
I (Dan Matthews) am close to completing my eleventh year as Clinic Director. I remain active in New Mexico Psychological Association, serving this year as legislative co-chair and Director of Professional Affairs. Those roles have kept me involved with the changing status of psychology under movement to managed health care and with legislative and regulatory issues affecting our profession and enhance my knowledge of the academic and practice environments our students will be moving into. I continue to enjoy the Case Formulation practicum for first year students, Introduction to Clinical for second year students, and group as well as individual supervision of student-clinicians. This year, I also taught the Practicum in Psychological Assessment which was a challenge and enriching experience. My own clinical work is entirely through the Clinic, where I provide therapy and mediation. I am working closely with the ADHD team and refreshing my knowledge of theory, research and assessment in that area.

This is the time each year that we experience the loss of our "senior staff" - those who graduate or go on internship. Seth Brown, David Ley and Ella Nye have terminated or transferred their Clinic work and left for internship. Their work in the Clinic, their support for other students and the regular contacts in conversation and supervision are already sorely missed.

Finally, the quality of our services depends critically on the efforts of our clinical faculty and adjunct faculty who supervise therapy and assessment cases and support the knowledge, professional development and personal growth of the student therapists. These individuals deserve special thanks (they are listed elsewhere in this report, and need not be individually named here).

PHYSICAL SETTING

On March 1, 1997 construction began on a new classroom building which will occupy the entire block on which the building housing the Clinic formerly stood. The move necessitated by this
construction has resulted in more space and in some respects a better facility for the services we provide. Located at 1716 Las Lomas NE in a converted residence, the present building has offices for our three full-time staff, five therapy rooms, a waiting area and a student work space. Three therapy rooms are equipped for videotaping and live supervision is possible through remote video. A large converted garage is available for future use as classroom/research/group-therapy space, and has received some use for research and training. Clinic funds allowed the purchase of new furniture throughout the building and the remodeling of the building for our use, though minimal, made it into livable and workable space. Like our previous location, the homelike setting presents an inviting and comfortable environment for our clients and our work.

The building is also a work-in-progress. It lacks the observation room of our previous building and videotape equipment is currently awkwardly placed within two of the rooms rather than in remote locations. One therapy room is quite small (necessitated by the remodeling of the building) and would be improved with a borrowed light window and translucent glass door. We have only recently been given a firm commitment by the University that we will stay in this location, and remodeling is depending on need and finances.

RESEARCH

Almost continuously over the past seven years, students and faculty are using the Clinic facilities for their research. Currently, Rich Ogle is running his dissertation at the Clinic, primarily because of his need for place where research participants can be comfortable for sometimes extended periods of time. David Ley, as mentioned previously, is doing his dissertation in outcome research on the Clinic population. We also have students occasionally running their statistics in SPSS on the Clinic computers or preparing materials using our office equipment. We always
welcome the blending of science and practice in this environment.

SUMMARY

The Department of Psychology Clinic continues to be a pleasant and supportive environment for providing psychological services to the Albuquerque community. Each year, some of our services remain the same and we take on new projects while completing others. The Clinic is a congenial setting to develop the experience and skill of being a therapist and psychological evaluator. Through the efforts of faculty, student-clinicians, supervisors and staff, an atmosphere is maintained that is supportive of this sometimes stressful work. It is a good place to work, learn and grow—for student-clinicians, faculty and staff.

Prepared by

Dan Matthews, Ph.D. Clinic Director

and his assistant Wanda Sharts
APPENDIX O

DEPARTMENT OF PSYCHOLOGY SUPPORT STAFF AY 1998 - 1999

ADMINISTRATIVE SUPPORT STAFF

Department Administrator: Candace Blashak
Assists the Department Chair; administers all personnel and budgetary decisions necessary to execute University policies and procedures set by the Department Chair and faculty; oversees all budgetary activities in the Department; hiring and supervision of all staff; assists in hiring students, and technical personnel; coordinates with various University administrators on a variety of complex matters, including faculty contracts, student financial aid, staff compensation, and other matters; drafts policies, procedures, correspondence for the Chair; takes minutes at faculty meetings. Office management, preparation of a variety of administrative and instructional documents, faculty recruitment, tenure and promotion files, coordination of the department convocation activities, departmental receptions, and other special events. Bookholder and Paymaster.

Accounting Tech: Stan Bennett
Maintains records of fiscal and budgetary controls, ledgers, and other transactions for the Department. Processes routine financial documents and accounting transactions. Reconciles accounting records and analyzes routing accounting data. Serves as department bookholder. Assists in the development and coordinates the maintenance of area budgets. Processes part-time and full-time faculty contracts, GA and TA contracts. Building key coordinator. Responsible for the monthly tagging of department inventory and maintains inventory control.

Academic Advisor: Jennifer Lesh
Serves as department’s graduate admissions coordinator; primary liaison with public and prospective graduate and undergraduate students; responsible for administering student degree checks, counsels and advises graduate and undergraduate students in Psychology program regarding policies, requirements, academic standing, and related matters; maintains all graduate student files and records; coordinates comprehensive examinations and thesis and dissertation defenses; interfaces with Graduate Studies Office in policy areas; coordinates with Scheduling Office, Continuing Education Office, regarding department class schedules; assists top administration with hiring part-time faculty; is official liaison between department and visiting faculty; coordinates with Graduate Studies Office, College of Arts and Sciences, Curriculum Change Committee, and Office of Scheduling regarding revisions for University catalogs; prepares reports for outside agencies such as the American Psychological Association as requested. Performs other duties as requested by the department chair or department administrator.
Editorial Tech: Nancy Chavez
Edits and word processes complex manuscripts and grant proposals; provides word processing for department faculty prepares department annual report; writes and edits department quarterly newsletter; prepares information for “Faculty Publications and Creative Works”; serves as department representative for the United Way drive; is a bookholder with back-up duties for department administrator, academic advisor, and administrative assistant and is a paymaster.

Administrative Assistant: Louis Carrillo
Represents the department as first point of public contact; directs telephone calls and foot traffic as appropriate; has responsibility for maintaining supplies inventory, security of classroom equipment inventory, and maintenance of office copier; backup for Academic Advisor, back-up for Editorial Assistant for typing of syllabi, exams and correspondence; maintains department classroom schedule, and supervises two student employees, first contact for building keys.

Project Coordinator for Grants: DeeAnn Quintana
Coordinates all phases of extramural funding requests; examines all proposals for accuracy; trains and supervises project personnel; monitors and reports on direct and indirect costs associated with research grants; department liaison to the Office of Research Administration and Contract and Grant Accounting.

RESEARCH SUPPORT STAFF

Research Engineer: Patrick Sharp
Supports faculty, staff and graduate students with computer needs; responsible for electronic design, fabrication, troubleshooting, installation, computer upgrades, consulting, repair, and preventive maintenance for a vast assortment of electronic equipment; fabricates wood and metal products using a variety of equipment; responsible for annual department equipment inventory; advises Chair and department faculty regarding purchase, installation and maintenance of electronic equipment.

Supervisor Animal Husbandry: Ector Estrada
Supervises the daily operations of the Psychology Department’s animal colony, including animal husbandry and environmental control; functional supervisory responsibility for the other Animal Technician IV and two student employees; works with department’s veterinarian in treatment of laboratory animals and in monitoring compliance with the Animal Welfare Act; works under general supervision of Department Chair, Veterinarian, and Chair of Animal Care and Use Committee.
Senior Laboratory Animal Technician: Gilbert Borunda
Under limited supervision, maintains and breeds laboratory animals and functions as a section leader of student assistants; primarily responsible for daily care and preparation for surgery of laboratory animals; assists department veterinarian in all animal treatment; back-up for senior Laboratory Animal Technician IV.

Animal Research Coordinator: DeLaine King
Coordinates and supports all operational facets of a laboratory animal research facility, ensuring optimum usage of facilities and equipment, in compliance with all federal and state regulations pertaining to the conduct of animal research. Carries out specified research/experimental protocol and procedures as appropriate, and trains, guides, and oversees the activities of students engaged in animal research.

Veterinarian: Linda Contos, DVM
Provides preventive, acute and on-call medical treatment to a variety of departmental laboratory animals; provides professional management of animal research facility and monitors compliance with the Animal Welfare Act; provides relevant instruction to faculty, graduate and undergraduate students concerning care and treatment of laboratory animals; reports to Department Chair and Chair of Animal Use and Care Committee.

PSYCHOLOGY CLINIC SUPPORT STAFF

Clinic Director: Daniel Matthews, Ph.D.
Has overall administrative and fiscal responsibility for the Clinic and executes Clinic policies as set by the Department faculty; reports to the Department Chair through the Associate Chair for Clinical Training. Duties include triage of referrals to the Clinic, supervision of doctoral students, report writing, community relations and some direct clinical services, including assessment.

Administrative Assistant: Wanda Sharts
Works under general supervision and in support of Psychology Clinic Director, Psychology Department Chair, and Department Administrator. Assists in the formulation of Clinic policies and procedures; performs a wide variety of duties in the areas of budget, personnel, payroll, and related matters, and performs administrative work at the paraprofessional level; supervises student employee.
Certified Educational Diagnostician: Melissa Behrens-Blake
Participates in research projects conducted through the Department of Psychology as related to general disorders of neurological processing (including but not limited to dyslexia, learning disabilities, traumatic brain injury, schizophrenia and stroke/aphasia). Responsibilities include conducting extensive educational diagnostic evaluations as directly related to the specific requirements of the research project. Also serves as certified educational diagnostician in the department’s Psychology Clinic with diagnostic evaluations to be integrated into the client’s overall treatment program.
AMERICAN PSYCHOLOGICAL ASSOCIATION
COMMITTEE ON ACCREDITATION

1999 Annual Report for Doctoral Program

Date Submitted: 8/23/99

College/University/School: University Of New Mexico

Department or Division: Psychology

Name of Regional Accrediting Body: North Central

Current Regional Accreditation Status: Accredited

Director of Training/Program Director: John P. Gluck

Telephone: 505-277-3420

Fax: 505-277-1394

E-mail: igluck@unm.edu

Signature of Director of Training/Program Director:

Name of Person Completing this Form: John P. Gluck

Q1 Program specialty (circle most appropriate response):

1. Clinical
2. Counseling
3. School
4. Combined (specify): ____________________
5. Other (specify): ____________________

Q2 Indicate type(s) (e.g., Ph.D., Psy.D., Ed.D.) and number of degrees granted by your program in the 1997-98 academic year (September 1-August 31):

<table>
<thead>
<tr>
<th>TYPE OF DEGREE</th>
<th>NUMBER OF DEGREES AWARDED</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ph.D.</td>
<td>8</td>
</tr>
<tr>
<td>2. Psy.D.</td>
<td>0</td>
</tr>
<tr>
<td>3. Ed.D.</td>
<td>0</td>
</tr>
</tbody>
</table>

Q3 What was the average number of years to complete the program for students who graduated in 1997-98?

8.7
For the 1998-99 academic year:

1. Number who applied to program: 143

2. Number who were offered admission: 9

3. Number offered admission who enrolled in program: 6

Q5 Total number of students enrolled in the program for 1998-99: 4

Q6 To date in 1998-99, how many of your students:

1. applied for internships for 1999-00: 4

2. were placed in an internship for 1999-00: 3

   (2a) Of those placed, how many were placed with an accredited program: 3

   (2b) Of those placed, how many were placed with a non-accredited program: 0

   (2c) How many received full-time funded internships: 3

   (2d) How many received full-time unfunded internships: 0

   (2e) How many received part-time funded internships: 0

   (2f) How many received part-time unfunded internships: 0

3. have not been accepted by an internship for 1999-00: 1

PLEASE PROVIDE INFORMATION AS DESCRIBED IN TABLES 1-7:
Table 1 Student Demographic Information
Table 2 Student Professional Activities
Table 3 Faculty Demographic Information
Table 4 Faculty Professional Activities
Table 5 Students Admitted to the Doctoral Program
Table 6 Students Who Dropped Out of the Program
Table 7 Students Graduated from the Program
Table 1
Student Demographic Information

Please identify the number of students enrolled in the program during 1998-99 (including those on internship) by academic year of entry, who are:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>African American/Black</strong></td>
<td>M</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Caucasian</strong></td>
<td>M</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td><strong>Hispanic/Latino</strong></td>
<td>M</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>Asian/Pacific Islander</strong></td>
<td>M</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>American Indian/Alaska Native</strong></td>
<td>M</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td><strong>Multi-ethnic</strong>³</td>
<td>M</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>(individuals identifying with more than 1 of the above categories)</td>
<td>F</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total Number Currently Enrolled for Each Year of Entry</strong></td>
<td>M</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>5</td>
<td>3</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Academic Year (September 1—August 31).</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Number Subject to Americans with Disabilities Act</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Foreign Nationals</strong> (individuals who are not U.S. Citizens or who are not Resident Aliens)</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

³For those individuals who are categorized as multi-ethnic, be sure to only include them in this category and not in other ethnicity categories.
Please identify the number of students enrolled in the program during 1998-99 (including those on internship) by academic year of entry, who are:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Members of professional/research societies (including student affiliates)</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Authors/co-authors of papers or workshops at professional meetings</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>17</td>
</tr>
<tr>
<td>Authors/co-authors of articles in professional and/or scientific journals</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>Involved in grant-supported research (e.g. RA's)</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>17</td>
</tr>
<tr>
<td>Involved in teaching (on ongoing basis; e.g. TA's)</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Involved part-time in delivery of professional services on or off campus (including externship &amp; practicum placements, excluding internship)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

1 Academic Year (September 1—August 31).
2 Work published (or in press)/presented during 1998-99 academic year only. Books may be included.
# Table 3
## Faculty Demographic Information

For the 1998-99 academic year, please identify the number of faculty who are:

- **Core Program Faculty**
- **Other Program Faculty**
- **Other Contributiors**
- **Row Total**

<table>
<thead>
<tr>
<th>Category</th>
<th>M</th>
<th>F</th>
<th>M</th>
<th>F</th>
<th>M</th>
<th>F</th>
<th>M</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American/Black</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Caucasian</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>American Indian/Alaska Native</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Multi-ethnic</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Total Number of Faculty**

<table>
<thead>
<tr>
<th>Category</th>
<th>M</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>F</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>7</td>
<td>6</td>
</tr>
</tbody>
</table>

**Total Number Subject to Americans with Disabilities Act**

<table>
<thead>
<tr>
<th>Category</th>
<th>M</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Foreign Nationals**

<table>
<thead>
<tr>
<th>Category</th>
<th>M</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

1. Faculty who are committed for approximately 50% or more of their time to the program.
2. Faculty other than those identified as the program’s “core” faculty, but who have responsibilities within the program for teaching, advising, etc. This would include other faculty within the department and university that teach program courses.
3. Individuals that have a role in the program but to a more limited extent. This would include people who present seminars, provide practicum supervision, and teach as adjunct faculty.
4. For those individuals who are categorized as multi-ethnic, be sure to only include them in this category and not in other ethnicity categories.
Table 4
Faculty Professional Activities

<table>
<thead>
<tr>
<th></th>
<th>Core Program Faculty</th>
<th>Other Program Faculty</th>
<th>Other Contributors²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Members of Professional/Research Societies</td>
<td>10 (100%)</td>
<td>1 (100%)</td>
<td>5 (83%)</td>
</tr>
<tr>
<td>Authors/co-authors of papers at professional meetings⁴</td>
<td>10 (100%)</td>
<td>1 (100%)</td>
<td>2 (30%)</td>
</tr>
<tr>
<td>Authors/co-authors of articles in professional and/or scientific journals⁴</td>
<td>10 (100%)</td>
<td>1 (100%)</td>
<td>3 (50%)</td>
</tr>
<tr>
<td>Recipients of grants or contracts</td>
<td>3 (30%)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Involved in undergraduate teaching</td>
<td>8 (80%)</td>
<td>1 (100%)</td>
<td>2 (30%)</td>
</tr>
<tr>
<td>Involved in masters teaching</td>
<td>10 (100%)</td>
<td>1 (100%)</td>
<td>2 (30%)</td>
</tr>
<tr>
<td>Involved in doctoral teaching</td>
<td>10 (100%)</td>
<td>1 (100%)</td>
<td>2 (30%)</td>
</tr>
<tr>
<td>Involved in research supervision</td>
<td>10 (100%)</td>
<td>1 (100%)</td>
<td>6 (100%)</td>
</tr>
<tr>
<td>Involved in professional service supervision (including practicum)</td>
<td>10 (100%)</td>
<td>0</td>
<td>6 (100%)</td>
</tr>
<tr>
<td>Engaged in delivery of professional services</td>
<td>4 (40%)</td>
<td>0</td>
<td>6 (100%)</td>
</tr>
</tbody>
</table>

¹Faculty who are committed for approximately 50% or more of their time to the program.
²Faculty other than those identified as the program’s “core” faculty, but who have responsibilities within the program for teaching, advising, etc. This would include other faculty within the department and university that teach program courses.
³Individuals that have a role in the program but to a more limited extent. This would include people who present seminars, provide practicum supervision, and teach as adjunct faculty.
⁴Work published (in press)/presented during 1998-99 academic year only (September 1—August 31). Books may be included.

For the 1998-99 academic year, please identify the number of faculty who are:
Table 5  
Students Admitted to the Doctoral Program

Please provide the following information for ALL students admitted to the program for academic year 1998-99. DO NOT PROVIDE STUDENT NAME; instead, please number students by year of admission (i.e., 98.001, 98.002, 98.003, etc.).

<table>
<thead>
<tr>
<th>Identification Number</th>
<th>Undergraduate Institution</th>
<th>Year of Undergraduate Degree</th>
<th>Undergraduate GPA (4 pt. Scale)</th>
<th>GRE Verbal</th>
<th>GRE Quant</th>
<th>GRE Analytic</th>
<th>GRE Advanced Psych Test</th>
<th>Graduate Semester-Hour Equivalent Credits Transferred (if applicable)</th>
<th>Part-or-Full-time Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>98-01</td>
<td>University of New Mexico</td>
<td>1995</td>
<td>3.2</td>
<td>620</td>
<td>640</td>
<td>600</td>
<td>-</td>
<td>-</td>
<td>FT</td>
</tr>
<tr>
<td>98-02</td>
<td>Eastern Michigan University</td>
<td>1994</td>
<td>3.05</td>
<td>470</td>
<td>560</td>
<td>550</td>
<td>450</td>
<td>12</td>
<td>FT</td>
</tr>
<tr>
<td>98-03</td>
<td>University of Texas, El Paso</td>
<td>1997</td>
<td>3.91</td>
<td>530</td>
<td>560</td>
<td>570</td>
<td>680</td>
<td>-</td>
<td>FT</td>
</tr>
<tr>
<td>98-04</td>
<td>Kenyon College</td>
<td>1995</td>
<td>3.82</td>
<td>720</td>
<td>690</td>
<td>710</td>
<td>690</td>
<td>-</td>
<td>FT</td>
</tr>
<tr>
<td>98-05</td>
<td>University of New Mexico</td>
<td>1997</td>
<td>3.5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>580</td>
<td>-</td>
<td>FT</td>
</tr>
<tr>
<td>98-06</td>
<td>University of Calif., Los Angeles</td>
<td>1993</td>
<td>3.1</td>
<td>420</td>
<td>540</td>
<td>560</td>
<td>610</td>
<td>-</td>
<td>FT</td>
</tr>
</tbody>
</table>
Table 6
Students Who Dropped Out of the Program

Please provide the following information for ALL students who dropped out of the program during academic year 1997-98. DO NOT PROVIDE STUDENT NAME; instead, please number students by year of admission (i.e., 89.001, 92.001, 92.002, etc.).

<table>
<thead>
<tr>
<th>Identification Number</th>
<th>Date Left Program</th>
<th>Reason for Leaving</th>
</tr>
</thead>
<tbody>
<tr>
<td>98-06</td>
<td>6/99</td>
<td>Transferred to graduate program in art.</td>
</tr>
</tbody>
</table>

...
Table 7

Students Graduated from the Program

Please provide the following information for ALL students who graduated from the program during the 1997-98 academic year. If you do not have information on a particular graduate, please place "unknown" in the appropriate space. DO NOT PROVIDE STUDENT NAME; instead, please number students by year of entry (i.e., 88.001, 88.002, 88.003, etc.). If employment is in a postdoctoral residency, leave "employment setting" blank and indicate corresponding code under "postdoctoral setting." Please use the codes provided in the appendix following this table for internship setting (column 1), postdoctoral/employment setting (column 2), and postdoctoral/employment activity (column 3). Feel free to duplicate this page to list all students who graduated from the program.

<table>
<thead>
<tr>
<th>Identification Number</th>
<th>Internship Setting</th>
<th>Postdoctoral Setting</th>
<th>Postdoctoral Title/Activity</th>
<th>Employment Setting</th>
<th>Employment Title/Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yeo</td>
<td>87.01</td>
<td>7</td>
<td>33</td>
<td>Research Clinic</td>
<td>1, 2, 3, 4, 5, 6</td>
</tr>
<tr>
<td>88.01</td>
<td>9</td>
<td>9</td>
<td>Resident</td>
<td>2, 3, 4, 5, 6</td>
<td>4</td>
</tr>
<tr>
<td>89.01</td>
<td>4</td>
<td>9</td>
<td>2, 3, 4, 5, 6</td>
<td>4</td>
<td>1, 2, 3, 4, 5, 6</td>
</tr>
<tr>
<td>89.02</td>
<td>33 Child Guidance Center</td>
<td>33</td>
<td>Resident</td>
<td>1, 2, 3, 4, 5, 6</td>
<td></td>
</tr>
<tr>
<td>::oyo::</td>
<td>90.01</td>
<td>7</td>
<td>33</td>
<td>Research Clinic</td>
<td>1, 2, 3, 4, 5, 6</td>
</tr>
<tr>
<td>90.02</td>
<td>9</td>
<td>99</td>
<td>Resident</td>
<td>1, 2, 3, 4, 5, 6</td>
<td></td>
</tr>
<tr>
<td>90.03</td>
<td>7</td>
<td>7</td>
<td>1, 2, 3, 4, 5, 6</td>
<td>1, 2, 3, 4, 5, 6</td>
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</tr>
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<td>90.04</td>
<td>7</td>
<td>7</td>
<td>Resident</td>
<td>1, 2, 3, 4, 5, 6</td>
<td></td>
</tr>
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</table>

*If applicable, please provide multiple codes.*
### Appendix
Codes for Internship Setting, Employment Setting, and Activity

<table>
<thead>
<tr>
<th>Column 1—Internship Setting Codes</th>
<th>Column 2—Employment/Postdoctoral Setting Codes</th>
<th>Column 3—Activity Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Community Mental Health Center</td>
<td>1. Community Mental Health Center</td>
<td>1. Administration</td>
</tr>
<tr>
<td>3. Medical Center</td>
<td>3. Medical Center</td>
<td>3. Consultation</td>
</tr>
<tr>
<td>4. Military Medical Center</td>
<td>4. Military Medical Center</td>
<td>4. Psychotherapy</td>
</tr>
<tr>
<td>5. Private General Hospital</td>
<td>5. Private General Hospital</td>
<td>5. Research</td>
</tr>
<tr>
<td>7. Veterans Affairs Medical Center</td>
<td>7. Veterans Affairs Medical Center</td>
<td>7. Teaching</td>
</tr>
<tr>
<td>8. Private Psychiatric Hospital</td>
<td>8. Private Psychiatric Hospital</td>
<td>33. Other (e.g., community-based intervention)—please specify</td>
</tr>
<tr>
<td>9. State/County Hospital</td>
<td>9. State/County Hospital</td>
<td>33. Other (e.g., community-based intervention)—please specify</td>
</tr>
<tr>
<td>10. Correctional Facility</td>
<td>10. Correctional Facility</td>
<td>33. Other (e.g., community-based intervention)—please specify</td>
</tr>
<tr>
<td>11. School District/System</td>
<td>11. School District/System</td>
<td>33. Other (e.g., community-based intervention)—please specify</td>
</tr>
<tr>
<td>12. University Counseling Center</td>
<td>12. University Counseling Center</td>
<td>33. Other (e.g., community-based intervention)—please specify</td>
</tr>
<tr>
<td>13. Medical School</td>
<td>13. Academic Teaching Position</td>
<td>33. Other (e.g., community-based intervention)—please specify</td>
</tr>
<tr>
<td>14. Consortium</td>
<td>13a. doctoral program</td>
<td></td>
</tr>
<tr>
<td>33. Other (e.g., consulting)—please specify</td>
<td>13b. masters program</td>
<td></td>
</tr>
<tr>
<td>13c. 4-year community college</td>
<td>13d. community/2 yr. college</td>
<td></td>
</tr>
<tr>
<td>13e. adjunct professor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Medical School</td>
<td>16. Medical School</td>
<td></td>
</tr>
<tr>
<td>33. Other (e.g., consulting)—please specify</td>
<td>16. Medical School</td>
<td></td>
</tr>
<tr>
<td>33. Other (e.g., consulting)—please specify</td>
<td>16. Medical School</td>
<td></td>
</tr>
<tr>
<td>44. Student</td>
<td>99. Not Currently Employed</td>
<td></td>
</tr>
</tbody>
</table>
I am pleased to submit this report covering the third year of my second term as department chair. The 1998/99 academic year witnessed several important developments with respect to our faculty and students.

A. Significant Achievements

Among the achievements and accomplishments of the Sociology Department in 1998/99, there are several of which we are especially proud.

The Sociology Convocation was held in the Student Union Ballroom on Saturday, May 15th at 3:30 p.m. A total of 65 undergraduates received Bachelor of Arts degrees from the Department of Sociology with the following substantive breakdown: 27 Sociology majors; 38 Criminology majors. An estimated 800 persons were in attendance including family and friends. This year, the Department heard presentations from two Sociology graduating seniors, David Berg and Dawn Walstrom. Jodi Chapman was awarded the McGee award for best essay by a Sociology student. The Department also awarded honors to two Sociology Honors students; David Berg (magna cum laude) and Dawn Walstrom (magna cum laude). In addition, the Department recognized the accomplishments of graduating seniors with grade point averages above 3.45: Rochelle Apodaca, Katharina Babcock, Lorraine Baca, David Berg, Wendy Bridges, Lisa Cook, Jeannette Danner, Jorge Garcia Atilano, Lisa Golden, Samuel Hurtado, Sarah Kurhajetz, David Piper, and Dawn Walstrom. Master of Arts degrees were awarded to Judith Ann Driscoll, Wendy Kappy, David McCanna, and Tassy Parker. A Ph.D. degree was awarded to Shannon Morrison.

Drs. Ray Liedka and Beverly Burris were featured in the Fall 1998 edition of UNM’s “Inside Arts & Sciences” newsletter. The article on Dr. Liedka discussed his appointment as assistant professor to the Department of Sociology after serving two one-year appointments as visiting professor. The article on Dr. Burris discussed her research on computerization in the workplace. Dr. Burris’s research revealed that “[E]xpert workers... experience greater levels of autonomy, skill, and input into decision-making. Non expert sector workers, however, typically find... their work is more closely supervised and controlled... and that they are excluded from decision-making.” Dr. Gary LaFree was featured in the March 1, 1999 edition of UNM’s “Campus News”. The article discussed his receiving the Harry Frank Guggenheim Foundation award to study global homicide crime waves. Dr. Nelson Valdés was featured in the UNM Daily Lobo in a story about the field seminar he has each year in Cuba. Dr. Valdés said that participants in the seminar gain a greater appreciation of how Cuban culture, economics, and politics have changed or are different from typical American preconceptions.
The Department of Sociology held its annual faculty retreat on September 25, 1998. The retreat focused on course requirements in research methods and statistics and theory in the graduate program.

**B. List of Faculty Publications, Research, Committee Participation**

**Dodd H. Bogart**

Committee Participation

Chair, Faculty Senate Budget Committee
Undergraduate Committee, Arts & Sciences
Chair, Undergraduate Committee, Sociology Department

**Lisa Broidy**

Publications


Committee Participation

Research and Computer Use Committee, Sociology Department
Undergraduate Committee, Sociology Department

**Beverly H. Burris**

Publications


Committee Participation

Co-Chair, Arts & Sciences Faculty Women’s Caucus
Associate Chair, Sociology Department
Co-Chair, Graduate Committee, Sociology Department

Richard M. Coughlin

Publications


Research and Creative Work


Work in progress: Revision of paper on attitudes toward the welfare state in Sweden in the 1990s.

Work in progress: Article on the Communitarian citation patterns, 1988-98.

Committee Participation

University Software Site License Committee
Executive Committee, Sociology Department

Robert A. Fiala

Sabbatical leave, Fall 1998 and Spring 1999
Research and Creative Work

Completed Project:

"Maquila Employment and Fertility in Mexicali, Mexico: A Study of the Dynamics of Productive and Reproductive Relations." With Susan Tiano. This paper is currently under review. It will likely be published during the 1999/2000 academic year.

Projects in Progress:


"Higher Education and the Expansion of Professional Employment: An Assessment of Institutional Theories of Educational Expansion." Work was done on the project during 1999. It has been submitted for presentation at the 2000 ASA Conference.

Committee Participation

Chair of undergraduate honors thesis for a student in the Anthropology Department.

Felipe Gonzales

Research and Creative Work


"La Junta de Indignación: Hispano Collective Repertoire" submitted to *Western Historical Quarterly*.

"El Jefe: Bronson Cutting and the Hispanics of NM" submitted to *Pacific Historical Review*.

Committee Participation

Executive Committee, Sociology Department
Recruitment Committee, Sociology Department
Teachers' Institute, Arts & Sciences
Library Committee, Faculty Senate
Graduate Committees for the following students:
  Charles Clark (Latin American Studies)
  Lisa Donaldson (Sociology)
  Elvie Landauer (American Studies)
  Steve Martinez (American Studies)
  Deinya Phenix (Sociology)
  Gloria Vaquera (Sociology)
  Karen Washburn (Sociology)

Jane C. Hood

Sabbatical leave, Fall 1998 and Spring 1999.

Publications


Research and Creative Work

In press:

Review of *Gender Vertigo* by Barbara Risman (Yale University Press, 1998) to be published in a forthcoming issue of *Gender & Society* (Sage)

Encyclopedia articles on “case study analysis,” and “cult of domesticity” for *Encyclopedia of Feminist Thought,* Ed Lorraine Code to be published by Routledge.

Work in progress:

Finished entire first draft of mss for *Perspectives on Gender* which will be published in 2000 by Wadsworth. Currently being revised for publication.

Continued work on male provider role research, ethnographic sampling book prospectus, and began work on review essay on work & family roles.

Gathered additional field notes for oral history study of children of communists.
Committee Participation

Chair of Undergraduate Committee: revised McGee guidelines, worked on transfer credit issues
Graduate Committee for:
  Gwen Hunnicut
  Lisa Donaldson
  Juanita Spitler
  Julie Griffin (Anthropology)
  B. K. Manuelito (Anthropology)

George Huaco

Research and Creative Work

Huaco, George. *Marx and Sociobiology*, accepted for publication by the University Press of America.

Committee Participation

Recruitment Committee, Sociology Department
Outcomes Assessment, Sociology Department
Library-reading room coordinator, Sociology Department

Miguel E. Korzeniewicz

Sabbatical leave, Fall 1998 and Spring 1999

Publications


Gary D. LaFree

Publications


**Research and Creative Work**

**Funded Research:**


**Committee Participation**

Chair, University Committee on Education for Accreditation
Curriculum Committee, Sociology Department
Raymond V. Liedka

Research and Creative Work

NIJ $21,551 "Effects of changes over time in the numbers and composition of State Prison Populations on the level of crime" 6 months.
NSF $167,130 "Prisons and Crime Control" 24 months.

Committee Participation

Undergraduate Committee, Sociology Department
Methods Task Force, Sociology Department

Phillip A. May

Publications


Research and Creative Work


University of New Mexico, $120,000. "Supplement (from Associate Provost for Research and Arts and Sciences) to the New Mexico Access to Research Careers Program," July, 1995 - June, 2000. FY 1998 = $24,000.


Center for Substance Abuse Treatment (CSAT) and Navajo Nation, $465,000. Evaluation and Technical Assistance for Alcohol Treatment Programs. April, 1995 - March, 1999. FY 1998 = $90,000.


Committee Participation

Chair, CASAA Executive Committee
Member, Advisory Board, Campus Office of Substance Abuse
Member, Bernalillo County DWI Advisory Board

Gilbert W. Merkx

Publications


**Research and Creative Work**


**Committee Participation**

Chair, UNM Campus Planning Committee.
Chair, UNM Committee on Governance.
Advisory Committee to the Associate Provost for Research.
Provost’s Ad Hoc Committee on Library Issues.
Chair, Latin American Institute Grants and Awards Committee.
Latin American Institute Policy Committee.

**John M. Roberts, Jr.**

**Publications**


Research and Creative Work


Committee Participation

Executive Committee, Sociology Department
Curriculum Committee, Sociology Department
Research and Computer Use Committee, Sociology Department

Art St. George

Research and Creative Work


Paul Steele

Publications


Committee Participation

Chair, Curriculum Committee, Sociology Department
Susan B. Tiano

Publications


Research and Creative Work

a. Articles


b. Funded Research

"A Preliminary Analysis of Non-Formal Instrumental Support in Albuquerque," Department of Family and Community Service, City of Albuquerque, 1998-99, $24,000

c. Invited talks


Committee Participation

Membership on Committee for International Sociology
Membership on International Committee of Sociologists for Women in Society
Graduate Committee, Sociology Department
Recruitment Committee, Sociology Department
Intracollegiate Committee for Latin American Studies (ICLAS)

Bert Useem

Publications

Research and Creative Work


Committee Participation

Recruitment Committee, Sociology Department

Nelson P. Valdés

Research and Creative Work

Conducted research in Cuba on the re-stratification of Cuban society. Also, editing a book on Cuban Contemporary Society.

Committee Participation

Chair, Latin American Institute Policy Committee.
Faculty member in charge of dealing with Y2K for Sociology Department
Research and Computer Use Committee, Sociology Department

Richard L. Wood

Publications


Research and Creative Work

In progress: Research Partnership for Community Policing
Richard L. Wood, principal investigator
National Institute of Justice, U.S. Department of Justice
October 1998 to August 2000: $177,124

Completed: Transitions: Creating a Culture of Community Policing
Richard L. Wood, principal investigator
National Institute of Justice, U.S. Department of Justice
January 1997 to August 1998: $151,396

Committee Participation

Co-Chairperson, Graduate Committee, Sociology Department
Library Committee, Latin American and Iberian Institute
Publications Committee, Latin American and Iberian Institute
Religious Studies Committee
Executive Committee, Institute for Social Research

C. Graduate Program

Awarded Doctoral Dissertations, Masters’ Theses
Sociology Department/Summer ’98, Fall ’98, Spring ’99

<table>
<thead>
<tr>
<th>Author</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mara Fridell, M.A.</td>
<td>Building Power, Siting Waste: Politics, Legacy and Social Stratification in Localized Capitalist-Community Struggle</td>
</tr>
<tr>
<td>Wendy Kappy, M.A.</td>
<td>Ferdinand Tonnies: A Classical Theorist Reconsidered</td>
</tr>
<tr>
<td>David McCanna, M.A.</td>
<td>Mortgages and the Distribution of Life Insurance in New Mexico</td>
</tr>
<tr>
<td>Shannon Morrison, Ph.D.</td>
<td>Women’s and Men’s Social Support Systems: A Comparative Analysis</td>
</tr>
<tr>
<td>Tassy Parker, M.A.</td>
<td>American Indian Health Care: Identifying Sources of Disharmony in the Doctor-Patient Relationship</td>
</tr>
<tr>
<td>Deinya Phenix, M.A.</td>
<td>Spatial Patterns in Hate Crime, Hate Groups, and Anti-Hate Law: A Geography of Hate</td>
</tr>
</tbody>
</table>
The graduate program in Sociology continued to make progress with 18 new admissions and 1 readmit for 1998/99. Out of those 18 admitted, 7 students joined the program with 3 being supported during their first semester on GA/TA assistantships. The Sociology Graduate Student Association (SGSA) remained active with Debbie Allnock and Sandy Woerle serving as co-presidents.

The Fifth Annual Graduate Student Colloquium was held on April 16, 1999 at 2:30 p.m. in the Sociology Commons. The presenters were as follows: Charles Clark (Customary Rights and Land Tenure Conflicts in the Mayan Tropics), Jerry Daday (Corporate Culture in a High Tech Corporation), David McCanna (Causal Relations and Life Insurance in New Mexico), Juanita Spitler (A Post-structural Feminist Analysis of Anorexia Nervosa), and Gloria Vaquera (Low Graduate Degree Production Among Latina/os: An Issue of Social, Cultural, and/or Human Capital).

The Spring 1999 Dolores Gonzales Colloquy Series (sponsored by the Raza Graduate Student Association and the Center for Regional Studies) featured two Sociology graduate students: Sylvanna Falcón (US-Mexico Border Militarization and Human Rights), March 11, 1999 and Gloria Vaquera (Low Graduate Degree Production Among Latina/os: An Issue of Social, Cultural, and/or Human Capital), May 6, 1999.

Rebecca Frerichs received an RPT grant for $600. Andrea Hoplight-Tapia was selected to receive one of the Outstanding TA Awards for 1998/99. She is one of three graduates student instructors in the university to receive this recognition for excellent teaching. Andrea was also awarded the Dean’s Dissertation Award for Spring 1999. Debra Allnock and Kate Hovey received the Regents Fellowship for 1999. Gwen Hunnicut and Tassy Parker were featured in the Spring 1999 edition of the “Inside Arts & Sciences” newsletter in a profile of undergraduate honors students continuing their education in graduate school. Debra Allnock accepted a research position with the Department of Energy’s Russian Technopark Project, an international and interdisciplinary project to study the preservation of high-tech and scientific professions in the former USSR. Debra will be in Russia for one year. The following graduate students presented papers at the Pacific Sociological Association in Portland, Oregon in April, 1999: Nell Damon, Andrea Hoplight-Tapia, and Sandy Woerle.

D. Appointments

Dr. Richard Coughlin continued to serve as the Chair of Sociology.

Dr. Felipe Gonzales continued to serve as the Director of the Southwest Hispanic Research Institute.

Dr. Gary LaFree continued to serve as the Director of the Institute for Social Research (ISR).
Drs. Raymond Liedka and Lisa Broidy joined the department as assistant professors. Dr. Liedka received his Ph.D. from Cornell University; Dr. Broidy received her Ph.D. from Washington State University.

Dr. Phillip May continued to serve as the Director of the Center for Alcoholism, Substance Abuse and Addictions.

Dr. Gil Merkx continued to serve as the Director of the Latin American Institute.

Dr. Susan Tiano continued to serve as Associate Dean of the College of Arts and Sciences.

Dr. Nelson Valdes continued to serve as the Director of the Latin American Data Base.

E. Leaves of Absence, Sabbaticals, Departures

Dr. Tomás Atencio retired from the position of Lecturer III in June of 1999.

Drs. Robert Fiala, Jane Hood, and Miguel Korzeniewicz all took sabbatical leave during the 1998-99 academic year.

F. Colloquia Series

The Institute for Social Research hosted a brown bag lecture by Dr. Christine Rack titled, “Vectors of Dominance: Intersections and Interactions in Overt and Covert Competition” from 12-1:30 pm on July 22, 1998.

Dr. Beverly Burris gave a proseminar to the Sociology Department graduate students 12-1 pm on Wednesday, September 2, 1998.

Dr. Gary LaFree gave a proseminar to the Sociology Department graduate students from 12-1 pm on Wednesday, September 9, 1998.

The Institute for Social Research hosted a brown bag lecture by Dr. David Jackson titled, “Fuzzy Logic, Fuzzy Sets, and Fuzzy Bears — All very cuddly once you get to know them” from 12-1:30 pm on Wednesday, September 10, 1998.

Dr. Richard Coughlin gave a proseminar to the Sociology Department graduate students from 12-1 pm on Wednesday, September 16, 1998.

Dr. Miguel Korzeniewicz gave a proseminar to the Sociology Department graduate students from 12-1 pm on Wednesday, September 23, 1998.
Dr. Richard Wood gave a proseminar to the Sociology Department graduate students from 12-1 pm on Wednesday, September 30, 1998.

Dr. George Huaco gave a proseminar to the Sociology Department graduate students from 12-1 pm on Wednesday, October 7, 1998.

Dr. Jane Hood gave a proseminar to the Sociology Department graduate students from 12-1 pm on Wednesday, October 14, 1998.

Dr. Paul Steele gave a proseminar to the Sociology Department graduate students from 12-1 pm on Wednesday, October 21, 1998.

Dr. John Roberts gave a proseminar to the Sociology Department graduate students from 12-1 pm on Wednesday, October 28, 1998.

Dr. Felipe Gonzales gave a proseminar to the Sociology Department graduate students from 12-1 pm on Wednesday, November 4, 1998.

Dr. Ray Liedka gave a proseminar to the Sociology Department graduate students from 12-1 pm on Wednesday, November 11, 1998.

Dr. Dodd Bogart gave a proseminar to the Sociology Department graduate students from 12-1 pm on Wednesday, November 18, 1998.

Dr. Nelson Valdés gave a proseminar to the Sociology Department graduate students from 12-1 pm on Wednesday, November 25, 1998.

Dr. Bert Useem gave a proseminar to the Sociology Department graduate students from 12-1 pm on Wednesday, December 2, 1998.

The Institute for Social Research hosted a brown bag lecture by Scott Goold, MA, titled, "Pursuing Public Opinion" from 12-1:30 pm on Monday, October 20, 1998.

Mike Gravel, former U.S. Senator from Alaska, presented a colloquium titled, "Responsibility: Key to Political and Economic Governance" on Friday, November 13, 1998. The talk was co-sponsored by the College of Arts & Sciences, Economics, Political Science, Sociology, and the Kelso Institute.

The Sociology Department and the College of Arts & Sciences co-hosted a colloquium presented by Dr. Immanuel Wallerstein titled, "What's Old About Globalization? What's New About World Disorder?" at 4 pm on Thursday, December 4, 1998.
Dr. Howard Waitzkin, Professor and Director of the UNM Department of Family and Community Medicine presented a colloquium to the Sociology Department titled, “Is Our Work Dangerous? Should It Be?” from 4-5 pm on Friday, December 5, 1998.

The Institute for Social Research hosted a brown bag lecture by Dr. Ben Hunt of Southern Methodist University titled, “Predicting Politics: Applications for War, Alliances, and Markets” from 12-1:30 pm on February 5, 1999.

Dr. Leslie Sklair, London School of Economics, presented a colloquium to the Sociology Department titled, “Competing Conceptions of Globalization” at 3:30 pm on Friday, February 19, 1999.

Dr. Frances Fox Piven of the City University of New York presented a colloquium titled, “Making Welfare Reform Work” on Thursday, March 4, 1999. The talk was cosponsored by Political Science, Sociology, and the College of Arts & Sciences.

Bonnie Berry, Director of Social Problem Research at Gig Harbor, WA, presented a colloquium to the Sociology Department titled, “Social Rage: Emotion and Cultural Conflict” on Friday, March 26, 1999.

Dr. Milagros Pena, Assistant Professor of Sociology at NMSU, gave a talk sponsored by the Southwest Hispanic Research Institute titled, “Latina Religious Practice: Expanding Measures of Religiosity,” at 2 pm in the Special Events room of Zimmerman Library on Friday, March 27, 1999.

Dr. Randall Collins of the University of Pennsylvania presented a lecture to the Sociology Department titled, “Emotional Dynamics Among Social Movements” on Monday, April 26, 1999.

The Institute for Social Research hosted a brown bag lecture by Dr. Charles Ragin of Northwestern University titled, “Comparing social systems: a fuzzy set approach” from 12-1:30 pm on Wednesday, June 3, 1999.

G. Report from ISR

See attached.
INSTITUTE FOR SOCIAL RESEARCH

ANNUAL REPORT
1998/1999

Prepared by:
Gary LaFree, Director
Robert Wilson, Research Coordinator
Judith Bernhard, Administrative Manager
The Institute for Social Research (ISR) was originally founded in September 1987, as the Institute for Criminal Justice Studies (ICJS). In July 1992 the ICJS affiliated with the College of Arts and Sciences and the Department of Sociology and the name was changed. The ISR operates entirely on contracts and grants from local, state, and federal agencies and from private foundations. The Institute is governed by an Executive Committee, consisting of all research investigators with current projects at the Institute. The Executive Committee elects a Research Director, who must be approved by the Chair of the sociology Department and the Dean of the College of Arts and Sciences.

The ISR’s major goals are to:

1. Provide an organizational environment in support of research in the social sciences; and

2. Strengthen the links between research and teaching, and especially by providing research experience for graduate and undergraduate students.

The organizational environment of the ISR is a major asset. It allows for the development of research skills and professional competence to help prepare students for careers in academic and applied research settings. The physical environment of the ISR includes a reception and communications area that has a switchboard, intercom and other features that aid good communication. There is a large meeting room that can accommodate up to 50 persons and can serve as a seminar room. Most office space is in open rooms with modern office landscaping. There are currently 40-50 personal computers used at ISR. The ISR encourages interaction among students, staff, senior researchers and principal investigators. The pleasant environment and diverse work hours facilitate the development of a professional sense of involvement and commitment. In recent years the ISR has moved toward standardizing pay scales for all student employees. These scales give automatic raises for academic achievement.

The organizational structure of the Institute for Social Research for 1998/1999 is shown in Table 1. The ISR Director, in consultation with an executive committee, is responsible for the overall operation of the Institute. Dr. Gary LaFree served as ISR Director in 1998/1999. Gary resigned as Director effective June 30, 1999. Dr. Bert Useem became the new ISR Director for the 1999/2000 academic year.

Members of the 1998/1999 Executive Committee are shown in Table 2. The ISR added several full-time research scientists to its Executive Committee this year: Dr. Susan Brumbaugh, Dr. Shannon Morrison, and Dr. Amelia Rouse are all conducting ISR projects. At the same time, two long term ISR PI’s announced their plans to retire this year: both Pete DiVasto and Dr. Patrick McNamara have decided to leave the ISR after finishing up their current projects. Dr. Pete DiVasto was the first director of the original Institute for Criminal Justice Studies.
The ISR front office now has three major staff positions. Robert Wilson, Research Coordinator, is responsible for maintaining relationships with granting agencies and generating new contracts and grants. Bob is now working for the ISR on a half-time basis. Accounting, payroll, publishing, reception, community relations and an array of other activities are the responsibility of the central administrative unit which is under the supervision of Judith Bernhard. For most of this year, Okchu Lee served as ISR accountant. However, Okchu was replaced midyear by Carolyn Souther. Carolyn is now responsible for doing monthly budget reports on the approximately thirty-five active ISR accounts. The accounting position was switched from half to full-time this year.

Most current research occurs within either research groups and centers within the Institute or through the efforts of individual Principal Investigators. Below is a brief description of each group or project, its activities, and its contribution to the research and teaching mission of the ISR and the University.

**ISR Research Groups and Projects**

**Criminal and Juvenile Justice Coordinating Council, (CJJCC), Dr. Chris Birkbeck**

During the year, the ISR continued to provide research, policy and administrative support to the New Mexico Criminal Justice Coordinating Council. Chris Birkbeck served as Executive Director for the CJJCC and represented it at the legislative session from January to March 1999. The Legislature passed, and the Governor signed into law, a bill containing new provisions for meritorious deductions on prison sentences. Sentencing guidelines legislation was approved by the Legislature but not signed by the Governor, and the Council is now working on a revised version to meet some of the Governor's concerns. These legislative initiatives drew heavily on statistical and legal research prepared at the ISR.

Other ISR staff working on council projects during 1998/1999 included: Dr. Susan Brumbaugh, Martha Fernández, Nora Wilson, and Judith Bernhard.

**Publications**


During 1998/99, the CJJCC supported one graduate and one undergraduate student:

♦ Aki Takeuchi worked with the CJJCC during 1998/1999 conducting data preparation and analysis (in SAS) on a large set of records for juvenile justice referrals in New Mexico. During the academic year, Aki finished her course work in sociology and is taking doctoral qualifying exams in the Fall.

♦ Martha Fernández worked as a research assistant on several CJJCC-related projects during 1998/1999. Martha completed her undergraduate studies at UNM (major: criminology) and graduated in Spring 1999. Martha has received training in data collection techniques (using self-report questionnaires with juvenile delinquents: compiling criminal history and related information from files in the adult and juvenile justice systems). She has also been trained in SPSS, specifically in the areas of data file creation, data entry, data quality checks, and statistical analysis. Upon graduation, Martha joined ISR as a full-time member of the support staff.

Program Evaluation Research Center (PERC), Dr. Richard Boyle

During 1998-99, Dr. Richard Boyle’s research group has reached the middle part of two large scale, four-year projects. First, the “Family Support Services for Grandparents and Other Relatives” project is now well underway. Using an improved database system developed for a related project, Dr. Boyle’s group has been filing quarterly reports with the National Abandoned Infants Assistance Research Center.

Dr. Boyle’s group is also well into a project called “Starting Early, Starting Smart” (SESS). This project has primarily involved Dr. Boyle, Dr. Shannon Morrison, and graduate student Elena Letourneau. These three project members represented the Institute for Social Research on a steering committee of the thirteen sites that have been funded as part of the SESS national program. Dr. Boyle and Elena Letourneau developed a database system which nine of the 13 sites have chosen to use in their program. Shannon Morrison played a key role as part of the services integration subcommittee.

Students attached to these projects continue to make progress toward their academic goals. In particular, Shannon Morrison received her PhD in August 1998 and was granted a postdoctoral fellowship by the University of New Mexico. Colin Olson and Erika Derkas continued with their graduate studies. Erika is taking her PhD qualifying comprehensive exams the October. Rebel Palm passed her qualifying exams in Spring 1999. Ms. Palm may use data from ISR for her dissertation. Michelle Downey was accepted into the Master of Social Work at New Mexico Highlands University and begins her studies there this fall. Dr. Boyle received training in “Results Mapping” at the Pacific Institute for Research and Evaluation, Chapel Hill, in Spring 1999. Elena Letourneau received extensive training in Access database while working at
ISR this year. All of the staff have received training in Solution Focused Therapy during the past year. Dr. Boyle is scheduled to give a guest lecture at the School of Social Work at New Mexico Highlands University in the Fall of 1999.

**Explaining Instability in the New Mexico Female Prison Population, Dr. Susan Brumbaugh**

This project, funded by the National Institute of Justice, examines factors affecting the growth or decline in the female prison population in New Mexico over a ten year period. The ISR is working in conjunction with the Corrections Department to collect data related to changes in the female prison population. Time series models are being used to analyze trends and relevant factors affecting these changes.

Data have been collected by the Corrections Department on the number and type of admissions and releases, available probation slots, and capacity. ISR staff have collected data on New Mexico population figures, unemployment rates, arrest rates and public opinion on crime. These data have all been coded and are currently being analyzed. We are also attempting to include a national component to complement the analysis of New Mexico trends.

The project staff include Dr. Susan Brumbaugh and Dr. Gary LaFree as Co-PI's. Dr. Raymond Liedka is serving as a computer consultant. Graduate student Kristine Denman has assisted with data collection.

**The Center for Criminal Justice Studies (CCJS), Dr. Peter DiVasto**

One of the first projects in the precursor to the ISR - The Institute for Criminal Justice Studies - was to provide psychological testing and evaluation of applicants for positions within the New Mexico Department of Corrections. That project lasted for seven years, ending in 1994 with more than 4,000 completed interviews. The CCJS was formed in 1993 as the unit responsible for carrying out the last round of psychological interviews and has been involved in providing psychological testing and evaluation for other criminal justice agencies in New Mexico.

In 1998, Dr. DiVasto, co-principal investigator Amelia Rouse, and Mariah Davis were contracted by the Village of Corrales Police Department to participate in their Sandoval County Community Oriented Policy Effort (SCCOPE II). A project report has been completed.

**The Center for Applied Research and Analysis, Dr. Paul Guerin**

The Center for Applied Research and Analysis (CARA) focuses on applied social research, and evaluation research. CARA currently has contracts with the Administrative Office of the Courts, the Second Judicial District Court, the New Mexico Corrections Department (community corrections), the Albuquerque Police Department, and the National Institute of Justice. CARA was successful in securing a National Institute of Justice "ADAM" contract which is a multi-year drug and alcohol data collection and analysis effort. One of the changes in CARA this year was
the appointment of Robert Hyde as Associate Director.

Between July 1998 and June 1999, CARA had 16 funded projects. Together, these projects represent $530,000 in total funding. Most of CARA’s projects are multi-year and ongoing. CARA’s currently funded projects, projects under development, and past funded projects are as follows:

**Currently Funded Projects**

* Arrestee Drug Abuse Monitoring Program (ADAM)
* City of Albuquerque Public Housing Resident Survey
* Evaluation of the Administrative Office of the Courts Drug Courts
* Evaluation of the Bernalillo County Metropolitan Drug Court
* Evaluation of the City of Albuquerque Public Housing Drug Elimination Program
* Evaluation of the First Judicial District Court Adult Drug Court
* Evaluation of the Second Judicial District Court Adult Drug Court
* Evaluation of the Second Judicial District Court Juvenile Drug Court
  * Evaluation of the Third Judicial District Court Adult Drug Court
* Evaluation of the Third Judicial District Court Juvenile Drug Court
* Evaluation of the Thirteenth Judicial District Court Juvenile Drug Court
* Investigator Initiated Research: Drugs and Alcohol and their Connections to Domestic Violence
* Local Evaluation of the City of Albuquerque Weed and Seed Program
* Research and Evaluation of Community Corrections Programs, New Mexico Corrections Department
* Research with the Metropolitan Criminal Justice Coordinating Council (MCJCC)
* Residential Substance Abuse Treatment (RSAT) for State Prisoners Program

**Projects under Development**

* Albuquerque Public Schools Dropouts and Substance
Abuse
* Evaluation of the Pueblo of Acoma Substance Abuse Prevention Project
* Evaluation of the Eighth Judicial District Court Juvenile Drug Court
* New Mexico Corrections Department: Comprehensive Approaches to Sex Offender Management Evaluation
* New Mexico Corrections Department: Corrections and Law Enforcement Family Support Demonstration Project Evaluation
* Parenting and Family Strengthening Prevention Interventions Research and Evaluation
* Research and Evaluation on Corrections and Sentencing: Which Sanctions Work Best?
* Research Diverting Children from a Life of Crime (New Mexico Legislature)
* Statewide Outcome Evaluation of New Mexico Drug Courts
* Substance Abuse Treatment Capacity Expansions in Targeted Areas of Need Research and Evaluation

Past Funded Projects

* Albuquerque Police Department/Character Counts
* Community Corrections (8/97-699)
* Evaluation of the Second Judicial District Court Adult Drug Court
* Evaluation of the Albuquerque Gang Intervention and Prevention Program
* Evaluation of the Albuquerque Target Cities Project
* Evaluation of the Residential Substance Abuse Treatment for State Inmates Program
* Research with the Metropolitan Criminal Justice Coordinating Council (MCJCC), Bernalillo County: Jail Snapshot Study and Criminal Justice System Flowchart
* Research with the Metropolitan Criminal Justice Coordinating Council (MCJCC), Bernalillo County: Mental Health Study for Jail Inmates
* Technical Assistance to the Albuquerque Gang Intervention Program
* Uniform Crime Reporting Program for New Mexico
Between June 1, 1999 and July 30, 1999 CARA has completed a number of reports and other scholarly activities:

### Community Corrections Program Research

<table>
<thead>
<tr>
<th>Title</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status Report: Probation and Parole Officer Basic Training and Job Performance</td>
<td>1999</td>
</tr>
<tr>
<td>Status Report: Probation and Parole Officer Computer Training and Usage</td>
<td>1999</td>
</tr>
<tr>
<td>Validation of the Risk/Needs Assessment for Use in New Mexico: Preliminary Findings</td>
<td>1999</td>
</tr>
<tr>
<td>Status Report: Probation and Parole Officer Job Satisfaction</td>
<td>1998</td>
</tr>
<tr>
<td>Status Report: Unit Cost System for Services</td>
<td>1998</td>
</tr>
</tbody>
</table>

### Residential Substance Abuse Treatment for State Prisoners Program Evaluation

<table>
<thead>
<tr>
<th>Title</th>
<th>Date</th>
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</table>

### Research with the Metropolitan Criminal Justice Coordinating Council

<table>
<thead>
<tr>
<th>Title</th>
<th>Date</th>
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</thead>
<tbody>
<tr>
<td>Final Report: Mental Health Survey</td>
<td>1999</td>
</tr>
<tr>
<td>Final Report: Bernalillo County Criminal Justice System Flow Chart</td>
<td>1999</td>
</tr>
<tr>
<td>Final Report: Feasibility Study for an Integrated</td>
<td>1999</td>
</tr>
</tbody>
</table>
Criminal Justice Information System

Target Cities Project

Title
Albuquerque Target Cities: Preliminary Findings
published in Journal of Psychoactive Disorders
September 1999

Uniform Crime Reporting

Title
Crime in New Mexico 1997

Date
1999

1998

Funding for CARA in 1998/1999 came from the following sources:

* Center for Substance Abuse Treatment, SAMHSA
* Department of Family and Community Services, City of Albuquerque
* Department of Housing and Urban Development (HUD) through the City of Albuquerque
* Drug Court Programs Office
* Local Law Enforcement Block Grant through the Albuquerque Police Department
* Metropolitan Criminal Justice Coordinating Council (MCJCC)
* National Institute of Justice
* New Mexico Administrative Office of the Courts
* New Mexico Children, Youth, and Families Department
* New Mexico Corrections Department
* New Mexico Department of Public Safety
* New Mexico State Legislature
* Second Judicial District Court

Twenty-three students have been regular employees at CARA between July 1, 1998 and June 30, 1999. They are listed below. In addition, we have employed another approximately 15 undergraduate and graduate students as interviewers for the ADAM project.

Student Employees and Staff

<table>
<thead>
<tr>
<th>Name</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debbie Allnock, M.A.</td>
<td>Graduate</td>
</tr>
</tbody>
</table>

8
CARA staff members and other employees attended the following conferences and gave the following presentations during 1998/1999:

Paul Guerin:

Conferences:

Presentations:

Panel Presentation. *Evaluation Results Related to Drug Court Programs in New Mexico.* New


**Jeff Halsted:**

**Conferences:**

**Presentations:**


**Sandy Woerle:**

**Conferences:**

**Debbie Allnock:**

**Presentations:**

**Audrey Merriweather:**

**Conferences:**
New Mexico Association of Drug Court Professionals 1998.

**Stormi Grefhenreed:**

**Conferences:**
New Mexico Association of Drug Court Professionals 1998.
Robert Hyde:

Conferences:

Sarah Kurhajetz:

Conferences:
New Mexico Association of Drug Court Professionals 1998.

The Statistical Analysis Center (SAC), Dr. Gary LaFree

The New Mexico SAC is supported by a basic grant from the Federal Bureau of Justice Statistics, which funds similar centers throughout the United States. The SAC has been funded at the ISR for 11 years. Recent changes in the Bureau of Justice Statistics funding criteria allow the SAC to propose specific research projects with appropriate budgets. This change has had the positive effect of allowing the New Mexico SAC to engage in specific research that is of interest to New Mexico criminal researchers and policy makers.

Dr. Gary LaFree served as SAC Director in 1998/99. Dr. Christopher Birkbeck and Dr. Susan Brumbaugh worked on SAC projects in 1998/99 as senior researchers. Students employed on SAC projects this year included: Gwen Hunnicutt, David Littlefield, Aki Takeuchi, Martha Fernández and Lawrence J. Coca. Staff support included Nora Wilson, Bob Wilson and Judith Bernhard. Gwen is currently writing a proposal for an MA degree, David is working toward an MA degree, Aki will be taking comprehensive PhD exams in the Fall, Martha completed her BA degree in the Spring, and Lawrence is working on his BA degree.

During the past year the SAC has worked on three major research projects. The first is a follow-up study of juvenile access to firearms and how the criminal justice system functions to regulate firearm use. The final report has received a good deal of enthusiastic praise from the Bureau of Justice Statistics. An earlier study on the same topic was published this year in the Criminal Justice Policy Review. We are also working on replication of this study in Caracas, Venezuela through the work of Professor Luis Gerardo Gabaldón, who was visiting professor at the ISR last year. Interviews for the firearms project were collected by a group of ten UNM undergraduate students supervised by Gwen Hunnicutt.

The second major project is a study of violent juvenile offenders in New Mexico’s adult and juvenile corrections systems. We completed a final report for this project in Spring 1999. The report compares the treatment of juvenile offenders who have been sentenced to either juvenile or adult probation or prison. With a national movement toward sentencing juveniles as adults, we were especially interested in how juveniles now being handled by the adult system are being
treated. We are currently rewriting the report and plan to submit it for publication.

The third major SAC project this year has been a detailed study of the connections between jails and prison in New Mexico. We began the study by completing a comprehensive census of all New Mexico’s county jails. We have drawn a large sample of inmates leaving New Mexico jails and also entering New Mexico jails. This unique project will provide detailed information on the connection between jails and prisons in New Mexico. All data for the project were collected by David Littlefield, Nora Wilson, and Martha Fernández. Data collection was completed several months ago. Drs. Chris Birkbeck and Susan Brumbaugh are currently doing data analysis for the financial report.

The Institute, through the SAC, continues to supervise the research contract for the Criminal and Juvenile Justice Coordinating Council (CJJCC). The CJJCC is officially a state agency chaired by Gary LaFree, who was appointed by the Governor of New Mexico. The CJJCC is composed of representatives from most of the criminal justice agencies in New Mexico, with a mandate to advise and make recommendations on matters relating to criminal and juvenile justice. These include recommendations to the legislature concerning proposed changes in laws relating to criminal and juvenile justice, and making recommendations on policy concerning criminal sanctioning and sentencing guidelines. Dr. Christopher Birkbeck, formally of the UNM Sociology Department, is the Executive Director of the Coordinating Council.

The SAC was awarded the Phillip Hoke National Award for Excellence in Analysis (Research and Policy Analysis Category) by the Justice Research and Statistics Association, for its reports on Controlling New Mexico Juveniles’ Possession of Firearms. The award was presented at the JRSA Annual Meeting in September, 1998.

In addition, Dr. LaFree runs several criminology grants through the SAC office. In 1998/99 these included a project on international homicide rates, funded by the Harry Frank Guggenheim Foundation; and a project examining street crime trends in 70 large U.S. cities, funded by the National Science Foundation.

SAC Related Publications


Statistical Analysis, Dr. Raymond V. Liedka

Dr. Raymond Liedka has been an ongoing consultant and participant on several projects currently underway at ISR. Ray has been especially active with two major projects with Dr. Bert Useem. Ray has also provided consultation to Susan Brumbaugh and Chris Birkbeck for the Criminal and Juvenile Justice Coordinating Council. Dr. Liedka has also worked extensively with Aki Takeuchi on computer programming.

Research for Education and Law Enforcement Center (RELEC), Dr. Amelia Rouse

The ISR has provided support to the Sandoval County Community Oriented Policing Efforts by conducting focus groups, a telephone survey of 1350 county residents, and a mail survey of employees in all of the participating law enforcement agencies. All of these methods were developed in concert with representatives from the community. The results of the telephone survey were presented in a series of meetings with the chiefs of police and the sheriff, and at a press conference. We are currently working on a final report due in December 1999.

Project Estrella has just completed its first year of a three-year demonstration grant funded by OJJDP. Over 180 children in the Gadsden Independent School District participated in hands-on learning activities and structured recreation three days a week from January to May 1999. This program was designed to increase school retention rates, increase cognitive abilities and
decrease delinquent behaviors among third thru eighth grade children in Anthony and Chaparral, New Mexico. Both quantitative and qualitative measures are collected for the evaluation of the impact of Project Estrella.

Jiri Stelzer is using this study population for his dissertation. He successfully defended his dissertation proposal and has accepted a one year professorship at the University of Valdosta, Georgia while he finishes his dissertation.

Publications


Research Projects, Dr. Paul Steele

Dr. Paul Steele’s research is geared toward improving community social programs and policies. His research group is considered the research and evaluation component of the SAFE 2000 initiative, which makes the ISR an active partner in the Albuquerque Metropolitan Area’s coordinated attempt to reduce serious youthful violence. Toward that end Dr. Steele has been active in needs and resources assessments and long range strategic planning activities for SAFE 2000.

During Summer 1999 Cynthia Lucero, a UNM Research Opportunity Program intern, worked with Dr. Steele on SAFE 2000.

APD/UNM Partnership, Dr. Richard Wood

The APD/UNM research partnership began in January 1997 with a $150,000 research grant from the National Institute of Justice (NIJ). Dr. Wood trained five graduate students in participant observation and interview research methods, and familiarized them with research on police in community settings, with institutional review board procedures, and with interpretive data analysis methods. In addition, Dr. Wood spent numerous hours conducting field research with APD officers and administrators. The project completed community data collections in 1997. Data collection within APD is on going.

The original project of the APD-UNM Research Partnership, an NIJ-funded ethnographic study of the transition toward community policing, concluded at the end of 1998. This original project focused on department-wide implementation of community policing in a moderately large,
urban police department, and in particular its impact on the day-to-day police culture among officers. A full report from that project was submitted to NIJ in February 1999. That report covers the transformation of the organizational culture of policing through mid-1998, when a new Chief of Police was brought in from the outside to head the Albuquerque Police Department.

With re-funding from the National Institute of Justice and reaffirmation by new chief Gerald Galvin of the Albuquerque Police Department’s commitment to the collaboration, the UNM-APD Research Partnership entered a new stage at the end of 1998. The new project moves us away from pure research into an approach that combines continuing research with an effort to feed our findings from the original project back into the Department. The intent of this new stage is to help APD more effectively operate as a “learning organization,” by using our writing to promote some critical reflection within the department regarding where it has been, where it is now in its implementation of community policing, and where it is going in the future. By promoting critical reflection within a police organization which, like most such organizations, tends to be swamped by daily demands, we hope to advance the transformation of organizational culture that is much sought by reformist police leaders but little documented.

Research Associate Mariah Davis presented a paper from this research at the 1999 annual meetings of the Academy of Criminal Justice Sciences in Orlando, Florida. Davis, Research Associate Dr. Amelia Rouse, and the principal investigator co-authored papers presented at the 1998 NIJ National Conference on Policing. Dr. Wood will be presenting an additional paper at the 1999 American Criminological Society meetings. Additional papers are under development for submission to Social Problems and Criminology.

The Partnership employs one undergraduate student, and Mariah Davis joined ISR as a staff Program Coordinator in January 1999.

**Corrections Research, Dr. Bert Useem**

Dr. Useem, the new director of the ISR, has several ongoing funded research projects. Dr. Useem has a large National Institute of Justice grant to evaluate the impact of prison work programs on inmates’ future recidivism and employment prospects. Along with Dr. Anne Piehl of Harvard University and Dr. Ray Liedka from UNM, Dr. Useem has also received funding from the National Science Foundation to study the impact of imprisonment on crime rates. Finally, Drs. Useem, Piehl and Liedka currently have a grant application being reviewed at the Harry Frank Guggenheim Foundation that will gauge the impact of imprisonment on crime rates in 14 developed countries.

**ISR Related Publications**


Summary: Graduate Students at ISR
One of our major institutional goals has been to advance the educational careers of the students affiliated with the ISR. An indication of this commitment is the number of students who either completed or substantially advanced their Ph.D.s and M.A.s while working at the ISR during the past year. Table 3 shows a summary. In 1998/99 ISR provided direct or indirect support for 3 doctoral dissertations.

Table 3 about here

Current Projects and Research
The ISR currently has 22 active contracts and grants, totaling about $2 million. Additional grant applications are pending. These grants and contracts are summarized in Table 4. Table 4 shows that the ISR, counting multi-year totals, currently has $2.8 million in contracts and grants. However, when we take into account projects that are already partially completed, and multi-year projects, the current annual value of ISR projects is about $3.4 million.

Table 4 about here

Table 4 also shows that we have been successful at moving our funding focus toward the federal level. Of the 30 active projects, 15 are now federally funded. While the ISR is still characterized by relatively low IDC returns, we also have made progress here. At present, 21 (72.4%) of our projects have IDC rates of 20% or higher.
Table 1: Organizational Chart

UNIVERSITY OF NEW MEXICO

COLLEGE OF ARTS & SCIENCES
  Michael Fischer, Ph.D., Dean

DEPARTMENT OF SOCIOLOGY
  Richard Coughlin, Ph.D., Chair

INSTITUTE FOR SOCIAL RESEARCH
  Gary LaFree, Ph.D., Director

ADMINISTRATIVE UNIT
  Judith Bernhard, Admin. Mgr.
  Carolyn Souther, Accountant

RESEARCH COORDINATOR
  Robert Wilson

ISR CENTERS AND PROJECTS

CENTER FOR CRIMINAL JUSTICE STUDIES
  Peter DiVasto, Ph.D.

CENTER FOR CRIMINAL JUSTICE COORDINATING COUNCIL
  Christopher Birkbeck, Ph.D.
  Susan Brumbaugh, Ph.D.

CENTER FOR APPLIED RESEARCH & ANALYSIS
  Paul Guerin, Ph.D.

CRIMINAL & JUVENILE JUSTICE COORDINATING COUNCIL
  Richard Wood, Ph.D.

APD/UNM PARTNERSHIP
  Richard Wood, Ph.D.

STATISTICAL ANALYSIS CENTER
  Gary LaFree, Ph.D.

EVALUATION RESEARCH
  Paul Steele, Ph.D.

PROGRAM EVALUATION RESEARCH CENTER
  Richard Boyle, Ph.D.
  Shannon Morrison, Ph.D.

RESEARCH FOR EDUCATION & LAW ENFORCEMENT CENTER
  Amelia Rouse, Ph.D.

CORRECTIONS RESEARCH PROJECTS
  Burt Useem, Ph.D.
  Ray Liedka, Ph.D.
Table 2. ISR Executive Committee, 1998 - 1999

Gary LaFree, Ph.D., Director
Christopher Birkbeck, Ph.D.
Richard Boyle, Ph.D.
Susan Brumbaugh, Ph.D.
Pete DiVasto, Ph.D.
Paul Guerin, Ph.D.
Raymond Liedka, Ph.D.
Shannon Morrison, Ph.D.
John Roberts, Ph.D. (Represents Sociology Department)
Amelia Rouse, Ph.D.
Paul Steele, Ph.D.
Bert Useem, Ph.D.
Richard Wood, Ph.D.
Table 3. Graduate Student M.A. and Ph.D. Progress at the ISR, 1997/1998


<table>
<thead>
<tr>
<th>TABLE 4. ACTIVE PROJECTS 1998/1999</th>
</tr>
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<tbody>
<tr>
<td><strong>SAC</strong></td>
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<tr>
<td>LaFree current w/ contract Fed/BJS</td>
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<tr>
<td>148,857.00</td>
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<td>992.00</td>
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<td>LaFree/ Guerin current w/ contract Fed/NIJ</td>
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<td><strong>3rd Judicial District Court</strong></td>
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<td>Guerin current w/ contract NM/AOC</td>
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<td><strong>Database Review</strong></td>
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<td>Steele current w/ contract Bemalillio Co.</td>
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<td><strong>Mental Health/BCDC</strong></td>
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<td>Name of Project</td>
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<tr>
<td>Sentenced Offenders</td>
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<td>Eval of 1st and 3rd Judicial Drug Courts</td>
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<td>Flow Chart of Criminal Justice Process in Bernalillo County</td>
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<td>APD/UNM Comm. Parking</td>
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<td>Prison Population Change</td>
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<tr>
<td>Guggenheim</td>
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<tr>
<td>RSAT</td>
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<tr>
<td>Prison &amp; Crime Control</td>
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<td>PHDEP</td>
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</tbody>
</table>
I. TEACHING FACULTY AND STAFF

A. Tenured and Tenure Track Faculty

**Spanish**

- John Bergen
- Garland Bills
- Anthony Cárdenas
- John Lipski
- Tey Diana Rebollo
d- Enrique Lamadrid
- Susan Rivera
- Adriana Estill
- Antony Higgins
- Michael Kidd
- Kimberle López
- Miguel López
- Judy Maloof

**Portuguese**

- Jon Tolman
- Margo Milleret

B. Visiting Professors

- Maria Dolores Gonzales

C. Lecturers

- Laura Araujo-Salinas
- Andrés Armijo
- M. Emilia Chuquín
- Rachel Gersh
- Raquel Martinez
Patricia Rosas Reed

D. Emeritus Professors

Rubén Cobos
Pelayo Fernández
Rosa Fernández
Angel González
Tamara Holzapfel
Albert Lopes
Raymond MacCurdy
Marshall Nason
Alfred Rodríguez
Sabine Ulibarrí

E. Teaching Assistants

Ph.D.

Jorge Andrade
Stephanie Becker
Rosa Campos-Brito
Esther Brown
Rosa Campos
Patricia Catoira
José Juan Colín
Gabriela Díaz
Myriam Eguía
Beth Epstein
Fernanda Ferreira
Kristina Galindo Knudsen
Paul Goldberg
José Esteban Hernández
Devin Jenkins
Sangsuk Kim
Eduardo López
Shigeko Mato
Marcos Romero
Martha Ruiz-García
Xochitl Shuru Estrada
Jean Silesky
Cathleen Tarp
Rena Torres-Cacoullos
M.A.

Lucia Anglada
Gilson Borges
Marcel Browne
Veronica Calvillo
Vera Castro
Christy Chapman
Mario Encinias
Miguel Estrada
Jaime Gelabert
Elka Ghosh
Zeferino Gomez-Martinez
Barbara Gonzales
April Maschmeier
Maria Reyes Munoz
Lisa O'Grady
Benito Quintana
Meredith Rininger
Olga Rios
Marcos Romero
Linda Ryter
Elaine Shenk
Gretchen Snyder
Sutter Sugar
Megan Thornton
Andrew Tistadt
Heather Wyatt

F. Office Staff

Rosario Johnson, Department Administrator
Ivana Cerna, Administrative Assistant III
Esther Marquez, Administrative Assistant II
Rosita Pickle, Administrative Assistant I

G. Work Study Team

Lisa Apodaca
Francisco Sanchez
Mark Waltermire

H. Degrees Awarded

Ph.D. in Romance Languages/Spanish
Summer 1998


Susana Rivera Mills, Dissertation title. “Language Use and Language Attitudes among Hispanics in a Northern California Community.”

Master of Arts/Spanish Fall 1998
Maria de Abajo
Guadalupe Rivera

Master of Arts/Spanish Spring 1999
Veronica Calvillo
Subhadra Elka Ghosh
Zeferino Gómez Martínez
Benito Quintana Owen
María Reyes Muñoz
Meredith Rininger
Olga Ríos Deras
Sutter Sugar
Andrew Charles Tistadt
Heather Denise Wyatt

Bachelor of Arts/Spanish Major Fall 1998
Christina Corcoran
Sandra Ramírez

Bachelor of Arts/Spanish Major Spring 1999
Guillda G. Archibeque
Michelle R. Baca
Laura A. Chávez
Victoria D. Díaz
Teresa P. Fernández
Karen Fiechter
Patrizia Alizia Flores
Geneva García
Alma Patricia Giner
Roberta Teresa Griego
Jason M. Hammons
Mishelle Lynn Mitchell-Jurado
Ramadhan F. Kyalimpa
Edward M. Lujan
Dalinda L. Martínez
Julia Ortega
Kally Margot Peterson
Jesús Alejandro Rodríguez
Lourdes FDGA Rodríguez
Jesse J. B. Rutherford
Bernadette Marie Santiago
Danny H. Whelan
Rebecca Medrano Wright

BA/BS-Spanish as a Second Major Fall 1998

Carlos Acosta
Camille Berrones
Eric Carrillo
Kathleen Cuadros
Trista Dunagan
César González
Heather Hanson
Jesse Johnson
Margaret Keller
Todd Meinecke
Charlotte Price
Kimberly Ravenscraft
Paola Robles
Lily Smedshammer
Maria Rita Tapia
Melissa Valdez
William Wheeler
BA/BS-Spanish as a Second Major Spring 1999

Amber M. Arave
Elizabeth Arvizu
Trista R. Bachand
Yvonne S. Baldonado
Leah M. Collins
Anita F. Cordova
Martha L. Galindo
Karina I. Gallegos
Laura L. Garibay
Natalie M. Gonzales
Monica E. Gurule
Lucrecia R. Jaramillo
LeAnn J. Lucero
Margaret E. Maier
Trevor Martenson
Gregory T. Martínez
Frederick D. Melendres
Karla L. Miller
Daniel Molina
Katherine M. Nash
Dave Nielson
Anna M. Nogar
Antonio L. Ortega
Tenille M. Otero
Brenda Y. Pacheco
Denise Padalik
José M. Perea
Sandra O. Pérez
Lucy Blake Ranney
Monica Romero
Phillip J. Romero
Alma Rosa Silva-Bañuelos
Erika R. Solís
Amy C. Sorensen
Shane Stromei
Sabrina L. Turner
Jennifer R. Vigil
Lissa G. Vigil
Angie Vila
Brian Willemín
II. COURSES OFFERED

A. Summer 1998

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Portuguese

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B. Fall 1998

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**Portuguese**

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director was Dr. Joyce Leavitt. During the Spring 1999 break, Prof. Enrique Lamadrid took a group of students to Valencia, Spain, where they participated in the *fallas* (Mardi-Gras style floats and statues) ceremonies.

Undergraduate enrollments in Spanish continue to increase dramatically, not only at the lower-division (100 and 200) level, but at the upper division (300 and 400) level as well. The department has added numerous sections on a contingency basis, and continues to expend considerable effort to meet student demand. In the Spring 1999 term the department initiated a new computerized placement exam, which will provide a more finely-grained placement instrument for incoming students, and will also be an integral component of undergraduate outcomes assessment.

Finally, two department faculty members were honored in Spring 1999. Prof. Tey Diana Rebolledo was named UNM Regents' Professor, and Prof. Emeritus Sabine Ulibarri was awarded an honorary doctorate at the Spring 1999 commencement.

A. Visiting Professors

The Department of Spanish and Portuguese was joined, in the Fall, by Professor María Dolores Gonzales, who received her Ph.D. from the University of New Mexico, 1992.

B. New Assistant Professors

Professor Adrianna Estill received her Ph.D., Comparative Literature, Cornell University,
Ithaca, 1997; Professor Miguel López, received his Ph.D., Hispanic Languages and Literatures, University of California at Berkeley, 1998 and Professor Judy Maloof, received her Ph.D., Spanish Literature, University of California, San Diego, 1991.

C. Resignation
Professor Antony Higgins resigned at the end of the academic year 1998-99.

D. Retirement
Professor John J. Bergen retired at the end of the academic year 1998-99.

E. Awards
1. Professors
Tey Diana Rebolledo, was the recipient of one of the 1999 Regents’ Professor Award on May 1999.

Jon Tolman, was conferred the rank of Officer of the Order of Rio Branco by the President of Brazil, Fernando Henrique Cardoso, for his long and outstanding educational and cultural work on behalf of Brazil in the United States. The award was presented by the Ambassador of Brazil, Paulo Tarso Flecha de Lima, at a ceremony that took place at the Brazilian Embassy in Washington, D.C., November 9, 1998.

Sabine Ulibarrí, received an Honorary Doctor of Letters degree at the UNM Commencement ceremony of 1999.
2. Graduate Students

Laura Araujo-Salinas, won the Conceptions Southwest Contest for Fiction.

José Juan Colín, won the Conceptions Southwest Contest, 2nd place for Poetry.

Kristina Knudsen Galindo, received a UNM Teaching Excellence Award.

Martha Ruiz García, won the Conceptions Southwest Contest, First Place for Poetry.

Rena Torres-Cacoullos, received a Latin American Institute Ph.D. Fellowship for the third academic year (1998-99).

3. Staff

Rosario Johnson, received an International Excellence Award on May 10, 1999.

IV. DEPARTMENTAL ACTIVITIES

A. Lectures and Conferences Sponsored by the Department of Spanish and Portuguese

On October 8-9, 1998 the department hosted Professor Marina Scordilis Brownlee, from the University of Pennsylvania, who delivered lectures: “Genealogies in Crisis: María de Zayas in 17th-Century Spain.” and “Exploring the Senses: ‘Fertile Tongues, and ‘Circumcised Lips’ in Medieval Spanish Literature,” as the first Annual Alfred Rodríguez Lecture Series speaker, Ortega Hall Reading Room. She also met with graduate students.

Los Pastores, The New Mexican Shepherds Play with La Gran Pastorela De
Belen, on December 3, 1998, at 7:00 pm. Professor Enrique Lamadrid organized and directed the event.

**Professor Nuria Sagarra**, candidate to the Applied Linguistics Position presented “The Longitudinal Role of Working Memory on SLA,” on February 2, 1999, at 3:00 pm at Ortega Hall Reading Room.

**Annual Conference:** On February 4-6, 1999, the Department of Spanish and Portuguese hosted its 8th annual Conference on Ibero-American Culture and Society. The topic was “Looking for Oñate’s Foot: cultural/Chicano/border studies in the Nuevo Mexico Cuatro Centenario,” organized by the Hispanic Southwest faculty. The conference attracted over 60 papers by scholars from throughout the country. The event allowed departmental graduate students to present papers, chair sessions, meet with scholars, and aid in abstract selection and conference organization.

Doris Meyer, a Professor from Hispanic Studies at Connecticut College presented, “A Conversation with Doris Meyer” on March 3, 1999 at 12:00 pm, Ortega Hall Reading Room.

Patricia Rosas Lopátegui, “La Odisea de Elena Garro” on April 13, 1999 at 3:00 pm, Ortega Hall Reading Room.

Nuria Vilanova, Visiting Professor from Universidad de Baja California, Tijuana,
presented “El Perú ficcionalizado desde los Andes” on April 16, 1999 at 2:30 pm, Ortega Hall Reading Room.

Zenobia Azogue C., Bolivian Actress and Director presented a dramatization of 10 poems of Bolivian contemporary poets: Alcira Cardona, Silvia Mercedes Avila, Oscar Cerruto, Franz Tamayo, Yolanda Bedregal, Armando Soriano Badani, Mery Flores, Octavio Campero Echázú, Eddie Quintana y María Virginia Estenssoro and an Homage to Federico García Lorca, a dramatization of his poems: “Preciosa y el Aire,” “La cogida y la muerte,” “La sangre derramada,” and “Alma ausente” on April 21, 1999 at 3:00 pm, Ortega Hall Reading Room.

On April 30, 1999 the department held the Teresa de Cartagena symposium, in which a panel of distinguished scholars from around the world delivered papers on the works of an important but little-studied medieval Spanish writer. Prof. Anthony Cardenas was the prime organizer of this event, which was attractive to graduate students and faculty alike.

B. Invited Talks


C. Papers Read by Faculty


Anthony Cárdenas, 1) “El Lapidario alfonso: la fecha problemática del códice escurialense h.I.15.” XIII Congreso de la AIH, at Universidad Complutense in Madrid, Spain, 3-10 July, 1998; 2) “Hacia una aproximación al diablo en la literatura medieval española. Desde ‘Dominus’ a ‘Dummteufel,” at the 80th Annual Meeting of the American Association of Teachers of Spanish and Portuguese, Madrid, Spain, August 7-10, 1998; 3) “Compacting with Hell: A Popular and Learned Approach in Medieval Spain,” at the 23rd MAMA Conference, at the University of Kansas, Kansas City, Kansas, February 26-


Miguel López, 1) “Constitución del sujeto femenino en la novela indigenista mexicana,” at the XI Conferencia Internacional de Literatura Femenina Hispánica, Phoenix, Arizona,


Tey Diana Rebolledo, 1) “Jugando a la vida con poemas: las escritoras chicanas, una vista histórico-cultural, at the Encuentro de poesía hispánica de los Estados Unidos, at the Universidad de Sevilla, Spain, September 8-12, 1998; 2) “Green Chile Stew: Picante

Susan Rivera, 1) “Un espejo azul frente a los espejos sombrios del Callejón del Gato,” at the Congreso de literatura española contemporánea, Málaga, Spain, November 9-13, 1998; 2) “Los ‘motivos del desterrado’ en la poesía de José Pascual Buxó y Manuel Durán,” at the Louisiana Conference on Hispanic Languages and Literatures, Tulane University, New Orleans, Louisiana, February 24-28, 1999.

D. Papers Read by Graduate Students


Arturo Fernández-Gibert, 1) “Anglicisms in the Spanish-language press of pre-statehood New Mexico (1890-1912): Their process of incorporation and their sociolinguistic significance,” at the 27th Annual meeting of Linguistic Association of the Southwest, Arizona State University, Tempe, Arizona, October 9, 1998; 2) “La Voz del Pueblo: la construcción de la identidad neo-mexicana en la prensa del territorio de Nuevo


Andrew Tistadt, “Focus and Quotative Like: A Necessary Dichotomy?” 2nd Annual
High Desert Linguistics Society Conference, University of New Mexico, Albuquerque, New Mexico, March 1999.


**E. Other Research Projects or Creative Works in Progress or Completed during period**

**Antony Higgins**, developed work on research project on parodic and satirical literature written in Spanish America during the colonial period, titled “Questioning Authority: the Role of Satirical Literature in the Formation of a Public Sphere in Colonial Mexico.”


F. Activities in Learned and Professional Societies

Garland Bills, Executive Director for Linguistic Association of the Southwest. 2) attended 27th annual meeting of the Linguistic Association of the Southwest, Phoenix, Arizona, October 10-12, 1998.

Anthony Cárdenas, attended the UCLA Symposium on Medieval Occult, Los Angeles, California, April 23, 1999.

María Dolores Gonzales, chaired a panel at the Linguistics Association Southwest Conference, Phoenix, Arizona, October 9-11, 1998.


Enrique Lamadrid, Director, Conexiones Program, Morelia, Mexico, July 1998. Co-Sponsored by UNM Department of Spanish and Portuguese, General Honors Program.

John Lipski, 1) attended the Modern Languages Association Conference on doctoral students at the University of Wisconsin, Madison, Wisconsin, April 15-18, 1999; 2)

**Jon Tolman**, participated as a consultant at the PEN Club International meeting in New York, November 5-9, 1998.

**G. Other Professional Activities (exhibits, off campus talks, etc.)**


**Anthony Cárdenas**, organized a one-day symposium on Teresa de Cartagena, at the Department of Spanish and Portuguese, the papers were read at Ortega Hall Reading Room, April 30, 1999.

**Anthony Higgins**, 1) served as reader and book reviewer for the journal *Colonial Latin American Historical Review*; 2) served as reader for journal *Latin American Research Review*.

**Michael Kidd**, Outside reviewer for International Flamenco Festival sponsored by the New Mexico Endowment for the Humanities.

**Enrique Lamadrid**, Festival Director: “Moros y Cristianos, Comanches and Matachines:
Four Centuries of Indo-Hispano Folk Celebrations in New Mexico,” University of New Mexico’s Cuarto Centenario Festival, with Chimayó Moros y Cristianos, Jémez Pueblo Matachines, San Juan Pueblo Tewa Dancers, and Los Comanches de la Serna Dancers, September 25-26, 1998. Raised $16,000 from the NM Office of Cultural Affairs and private sources.


Judy Maloof, 1) attended training session on conducting oral history research, sponsored by KUNM; 2) Associate Editor, Voces: A Journal of Chicana/Latina Studies, University of California, Davis.

Tey Diana Rebolledo, 1) Exhibit “Nuestras Mujeres” Traveling Photographic Exhibit, Albuquerque Museum, 1998; 2) Fellow: The Liguria Study Center For the Arts and Humanities, Italy, 1998.

H. Non-teaching University, College, and Department Service

John Bergen, 1) Undergraduate advisor for Fall 1998 semester; 2) Chair of search committee for the Spanish linguistics position for Fall 1998; 3) served on the Honorary degree committee for Fall 1998; 4) represented the department at Parent’s Day, August 1998; 5) represented the department at African American Day, November 1998; 6) served as a reader on two completed Ph.D. dissertations, Summer 1998.
Garland Bills, 1) Chair for the Department of Linguistics; 2) Graduate Advisor for the Department of Linguistics; 3) member of the Grants and Awards Committee for Latin American and Iberian Institute; 4) President for Faculty Concilium on Latin America and Iberia for the Latin American and Iberian Institute; 5) member for Interdisciplinary Committee for Latin American Studies for the College of Arts and Sciences; 6) member for Coordinating Committee for Educational Linguistics for the College of Arts and Sciences; 7) member of Faculty Senate Budget Committee (and Subcommittee on Indirect Costs) for the University of New Mexico; 8) Director, dissertations in progress: Arturo Fernández-Gibert, Robin Fettes, and Keith E. Watts; 9) Committee member dissertation in progress: Devin Jenkins, Eduardo López, Roger L. Parks, Martha Ruiz García, Rena Torres-Cacoullos; 10) Comprehensives examiner for graduate degree candidates in Spanish & Portuguese, in Linguistics and in Latin American Studies.

Anthony Cárdenas, 1) Graduate Advisor for the Department of Spanish and Portuguese, Academic Year 1998-99; 2) Undergraduate Committee for the Department of Spanish and Portuguese, Fall 1998; 3) Senior Promotion Committee for the College of Arts and Sciences.

Adriana Estill, 1) Activities Committee; 2) organizing committee for 8th Annual Department conference.

Antony Higgins, 1) served on Undergraduate Committee, Department of Spanish and Portuguese; 2) served on Graduate Committee, Department of Spanish and Portuguese;
3) served on Activities Committee, Department of Spanish and Portuguese; 4) served on Fellowships and Grants Committee, Latin American and Iberian Institute.

Michael Kidd, 1) Undergraduate Committee for the Department of Spanish and Portuguese; 2) Advisory Committee for the Department of Spanish and Portuguese.

Enrique Lamadrid, 1) UNM Press Committee; 2) College of Fine Arts: Regional & Folk Arts Steering Committee; 3) Southwest Hispanic Research Institute Faculty Associate; 4) Chair, Dissertation Committee, Elvira Desachy; 5) Member, Dissertation Committee, Tey Marianna Nunn.

John Lipski, 1) Chair, Senate Graduate Committee; 2) Chair, Arts and Sciences committee on the training of teaching assistants; 3) Director, Dissertations in progress: Myriam Eguia, Fernanda Ferreira, Devin Jenkins, Huer Kyung, Rena Torres-Cacoullos.

was of Hispanic origin, and one was a woman.
Department of Speech & Hearing Sciences

July 1, 1998 – June 30, 1999

Submitted by

Kenneth D. Frandsen
Professor and Interim Chair, Department of Speech & Hearing Sciences

1. Significant development during the academic year, 1998-1999

Associate Dean Ken Frandsen was re-appointed to the position of Interim Chair for the upcoming academic year from August, 1999 through May, 2000. Barbara Rodriguez began her appointment as Assistant Professor of Speech & Hearing Sciences. Bopanna Ballachanda was awarded tenure at the conclusion of his probationary period. The Department conducted two national searches for new faculty but was unable to recruit suitable appointees for these positions.

Research

Faculty of the Department continued to expand and diversify their programs of research.

Curriculum and Advisement

The Degree requirements were modified for inclusion in the UNM Catalog 1999-2001. These modifications included restructuring of the sequence of courses representing clinical practicum assignments. The addition of new courses in audiology and speech language pathology and associated changes in the specific courses required for the bachelor’s and Master’s degrees.
The Distance Program continued, through the Department was not granted the opportunity to search for a person to coordinate practicum assignments outside of Albuquerque. As specified at the time the program was planned, the Department will not continue the program beyond the bachelor’s degree offerings unless the position is filled.

**Scholarships**

The Richard B. Hood Scholarship was awarded for the second time. Two students were recipients. The Fred Chriest, Sr., scholarships were awarded. Funds for the Bruce E. Porch Scholarship continued to accrue.

**ASHA Accreditation**

The Department’s Second annual report since its accreditation renewal was accepted.

**Audiology Clinic**

The directorship of the Audiology Clinic, combined with that of the UNM Speech-Language-Hearing Center, in the previous academic year, was held by Nadynne Myers. The department continued its cooperative arrangement with the UNM Health Sciences Center’s Audiology Clinic involving shared responsibility for staffing and operating that clinic.
Special Programs and Events

Augmentative Communication Program
In August, 1998, Ms. Kate Blaker led a group to Comunidad Crecer in Mexico City for additional clinical and cultural experiences and to enjoy intensive work on their Spanish speaking skills. Other members of the group included Saundra Anderson, Annette O'Connor, Elizabeth Jaramillo, Colleen Garrity, Brenda Lucero, Melissa Sandoval, Craig Tucker, and Reuben Castillo, Adaptive Equipment Specialist.

Albuquerque Public Schools Programs
The Albuquerque Public Schools program continued to provide 4 clinical supervisors and additional financial support.

Leadership Training Program
The Leadership Training Program (LEND) was in its fourth year of a 5-year cycle. Several students participated. The program continued to provide student financial support, multicultural clinical opportunities, interactions with many disciplines, professional travel, and experiences with the legislative process.

Allied Health Interdisciplinary Program for Rural Areas
The Allied Health Interdisciplinary Program was in its fourth year of a 5-year cycle. The program continues to provide an opportunity for students in the various health related disciplines to learn together and gain an understanding and appreciation for the expertise that each brings to the solution of health problems. It also continues to use the Problem-
Based Learning Approach of the UNM School of Medicine with the experience extended to the rural setting through clinical placements and the use of centralized library resources.

**Annual Picnic**

The Department held its seventh annual picnic on Saturday, September 12, 1999 at Snow Park. Faculty, staff, undergraduate, non-degree, and graduate students were invited. Approximately 100 persons attended.

**Faculty-Student Attendance at National Conventions and Conferences**

Several students, faculty and staff members attended the American Academy of Audiology Convention, Miami, Florida, April 30 – May 2, 1999. Faculty members also attended the American Speech-Language-Hearing Association Convention in San Antonio, Texas, November 17-21, 1998.

**Holiday Party**

The Annual Holiday Party was held December 1, 1998. The event was a dinner. Approximately 50 faculty, staff, students, and family members were in attendance.

**December Graduation Reception**

The December Graduation was celebrated by a reception in the Department before the UNM Commencement ceremony, December 18, 1998. Bachelor’s level graduates were presented certificates and master’s level graduates were presented a UNM pin by Dr.
Richard Hood, Professor Emeritus and past department chair. The event was attended by approximately 50 faculty, staff, graduates, and family members.

**NSSLHA Eighth Annual Southwest Conferences**

The Eighth Annual Southwest Conference on Communicative Disorders was held March 11, and 12, 1999. It was designed for attendance by both students and professionals, though it was put on by students. The event was held at the Albuquerque Convention Center and was comprised of four blocks of four simultaneous sessions throughout the day on Thursday and Friday. A recognition reception was held following the final session on Friday.

**May Graduation Reception**

The May Graduation was celebrated by the reception at the Albuquerque Country Club following the UNM Commencement ceremony. Dr. Geronimo Dominguez, Dean, Continuing Education, served as the speaker. Bachelor’s level graduates were presented certificates and master’s level graduates were presented a UNM pin by Dr. Richard Hood, Professor Emeritus and past departmental chair. The event was attended by faculty, staff, graduates, and family members.

2. **Plans and Recommendations for the new Future**

The College of Arts & Sciences, in conjunction with faculty of the department will conduct a national search for a professor and chair during the 1999-2000 academic year. Following the successful conclusion of this search steps should be taken to fill the
department's open faculty position in Audiology created by the resignation of Tabitha
Parent, to sustain and enhance the department's contractual relationship with the
Albuquerque Public Schools, to initiate the graduate level portion of the department's
Distance Education Program, to strengthen the department's capability in research and to
pursue the planning and construction of improved physical facilities for the department's
instruction, research and clinical services.

3. Separations from staff
   a. David Yegerlehner, Clinical Audiologist, 11/98
   b. Mary Oelschlaeger, Assistant Professor of Speech & Hearing Sciences, 7/98
   c. Tabitha Parent, Visiting Assistant Professor of Speech & Hearing Sciences, 7/98

4. Publications of the division; Publications of individual faculty/staff

Finn, Patrick

Recovery without treatment: A review of conceptual and methodological consideration
across disciplines. In Cordes, A.K. and Ingham, R.J. (Eds.) Toward Treatment Efficacy

Unassisted recovery from stuttering: A research program. In Healey, E.C. and Peters,
H.F.M. (Eds.) 2nd World Congress on Fluency Disorders: Proceedings. Amsterdam:
Nijmegen University Press (1998)

Patterson, Janet

Expressive vocabulary development and word combinations of Spanish-English bilingual

The development of play. In Westby, C., Haynes W. and Shulman, B. (Eds.)
Rodriguez, Barbara

Recommending intervention for toddlers with specific language learning difficulties: We may not have all the answers but we know a lot. (with Olswang, L.B. and Timler, G.). *American Journal of Speech Language Pathology.* (1998) 7, 23-32.

**Professional Memberships and Leaderships**


d. Ballachanda, B.B., Reviewer, *Journal of American Academy of Audiology*

e. Blaker, K., Member, Membership Committee, New Mexico Speech, Language and Hearing Association.

f. Blaker, K., Member, Training and Recruitment Committee, New Mexico Speech, Language and Hearing Association

g. Blaker, K., Preceptor, Allied Health Interdisciplinary Program

h. Blaker, K., Director, Mexico City Augmentative Communication Clinic, Comunidad Crecer, Mexico City, August 1998

i. Finn, P., Reviewer, *Journal of Speech & Hearing Research*

j. Finn, P., Reviewer, *American Journal of Speech-Language Pathology*

k. Myers, N., Participant, Project Access, The State of New Mexico, Department of Education

l. Myers, N., Options Committee, The New Mexico Speech, Language and Hearing Association
m. Patterson, J., Faculty Mentor, The University of New Mexico Research Opportunity Program

n. Riensche, L.L., Participant, Project Access, The State of New Mexico Department of Education

o. Soto-Gomez, Y., Team member of the Unified Education System inclusive classrooms. Longfellow Elementary, Albuquerque, New Mexico

p. Soto-Gomez, Y., Member, Bilingual Committee, Longfellow Elementary School, Albuquerque, New Mexico

q. Soto-Gomez, Y., Member, Technology Team, Longfellow Elementary School, Albuquerque, New Mexico

5. **Outside sponsored research and training**


   ($93,317 + 4 professional staff)
Significant Developments:
This was a year of substantial growth and development for the program. Our most important accomplishment this year was the approval in December of the B.A. degree in Women Studies. Our first major, Adriana Nieto, graduated in May 1999. We are slowly developing a number of majors and expect the program to grow as a result of having the degree. Students may major in Women Studies alone, or in a double major with another unit. The minor was also revised. The requirements for these programs are in Appendix 1.

With the inauguration of the major, the Executive Committee decided to embark on a program of curriculum revision. Our curriculum has not been revised for at least 15 years. The College of Arts and Sciences provided a grant to support this work. We are linking outcomes assessment and curriculum revision. The grant paid for one of our instructors, Ann Skinner-Jones, to develop and implement our first outcomes assessment. This was accompanied by a retreat for 20 affiliated faculty to consider the WS curriculum. We were encouraged by the willingness of faculty to participate in the retreat, and consider it a hopeful sign for the future. On the basis of the findings of the first assessment, and building on the ideas developed in the retreat, next year a curriculum committee will offer proposals for revising our curriculum.

We offered 22 courses through our funding (including several independent studies), and listed another 8 as TW courses from other departments. Our total enrollments for the fall and spring semesters was 415. We offered four courses in the summer 1999 session with a total of 75 students. These numbers, we believe, are much lower than they would be if we had consistent, full-time faculty teaching our courses.

Staff:
The Program was governed this year by the Director, Shane Phelan, and the Executive Committee composed of Jane Slaughter (History), Susan Dever (Media Arts), Dorothy Chansky (Theater and Dance), and Rinita Mazumdar (Women Studies).

We remained without tenure-track lines this year, although the funds from our visiting professor line remained in the part-time instruction budget. In July 1999 those funds were restored on a permanent basis.

We hope to hire Catherine Ramirez as a joint appointment with English beginning in August 2000. She is a superbly trained spousal hire who fills our needs in Chicana Studies and literature.

Our long-time administrative assistant, Bessie Gallegos, left in April to join the Real Estate Office. Our new administrative assistant, Christine Serino, joins us from North Campus where
she facilitated youth programs for UNMH and Albuquerque Public Schools.

Another significant staff development this year was the appointment of Jill Heine as student advisor. Since our faculty lines became vacant, we had used graduate assistants as advisors. This was found unsatisfactory, as the G.A.s did not have time to learn the program or the university before their term ended. This year we hired Ms. Heine for five hours a week. She regularized advisement, drew up the documents related to the new major, liaised with the Arts and Sciences advisors, and prepared our graduation ceremony. Students and A&S advisors have remarked on how successful she was. We hope to regularize this position in the future, but at this time we have not been authorized to make this position permanent. Restoring faculty lines to Women Studies would make it possible for us to have a faculty member in this position.

**Publications and Professional Activities:**
Because our faculty is largely part-time instructors, we do not have many publications to report. We did, however, have an active professional year. The National Women's Studies Association annual convention was held in Albuquerque in June 1999, and UNM participated in planning and coordination, including sponsoring the reception following the keynote speech. We co-hosted a hospitality suite with the Women's Resource Center.

Shane Phelan presented papers at the National Women's Studies Association, the American Political Science Association, the Western Political Association, the International Communication Association, and the American Society for Aesthetics. She gave invited lectures at a conference in Berlin on Queering Democracy, and at UCLA and the University of Nevada, Las Vegas. She served as Chair of the APSA Committee on the Status of Lesbians and Gays in the Profession and the Plenary Committee of NWSA.


Our four graduate assistants also were active in their fields and in women studies. Cymene Howe presented papers at the annual meetings of the American Anthropological Association and the American Ethnological Association. Catherine Kleiner presented a paper at the Western Historical Association meeting. Tresa Thomas presented papers at the Cultural Anthropology Annual Meeting, the Society for Applied Anthropology, and at several UNM-sponsored conferences. Monica Torres participated on a panel at American Studies Association meeting. In addition, each of these students won a fellowship this year: Howe, Kleiner, and Thomas for dissertation research, and Torres to attend a seminar at the Smithsonian Institution. Three graduate student instructors and former graduate assistants completed their Ph.D.s this year, and all three received tenure-track jobs.

The Women Studies Oral History Project, coordinated by Shane Phelan and Ann Nihlen, began
interviewing people connected to the Women Studies in the founding years of 1969-75. Drs. Phelan and Nihlen, with Carmen Salazar and Monica Torres, presented a workshop on their work at the annual meeting of the National Women’s Studies Association in June 1999. They received a $1100 RAC grant.
During the last year, the FRI continued many of the activities of the previous years, but our Board also took the opportunity to review these, and to consider other opportunities to connect with faculty and students on our campus, and to enhance our reputation nationally.

Administration
As in previous years, our Board consisted of faculty from the colleges of Arts and Sciences, and from Fine Arts. Jane Slaughter (History) continued to direct the Institute with the able assistance of Anthropology graduate student Tresa Thomas. In the Spring of 1999, Jane Slaughter announced that she would be resigning from the director's position at the end of Fall 1999. Tresa Thomas, the recipient of a large grant for dissertation research, ended her work with the Institute in May. Both of these positions will be filled at appropriate points in 1999-2000. We will continue to seek new Board members with the goal of including both departments and colleges not already represented.

Sponsored Lectures
In Fall 1998, Debbie Boehm (Ph.D. candidate in Anthropology), the winner of our annual graduate student paper prize, presented her research in a lecture entitled "The Articulation of Ethnicity and Gender in New Mexico." Also in Oct. Dorothy Chansky (Assist. Prof. of Theatre) presented a lecture, "Memory, Manhood, Management and 'Mentalities': The CCC Mystery and Its Audience," based on research partially funded by an FRI Faculty Small Grant. That same month the FRI helped to sponsor a lecture by Prof. Kay Gamel (UC Santa Cruz), "No Laughing Matter: Rape in Roman Comedy" as part of the series on classical comedy/theatre. Spring 1999 our Visiting Scholars also presented lectures reflecting their past and current research (see below).

Visiting Scholars
This year our visiting scholars were Encarnacion Gutierrez Rodriguez (Ph.D. Sociology, Johann-Wolfgang Goethe University, Frankfurt am Main) and Kathy Miriam (Ph.D., History of Consciousness, UC Santa Cruz). As beginning professionals, both Encarnacion and Kathy were able to take advantage of the expertise of various feminist scholars on our campus, and worked with graduate students in reading and writing groups. Gutierrez Rodriguez' Spring lecture, "Subjectivities between Nationalism and Transnationalism: The Example of Germany," focused on her research in "female subject configurations in the context of migration in Germany." Miriam's lecture, "Disciplining Feminism: Academia and the Decline of the Feminist as Public Intellectual," attempted to answer the question of how professional successes as feminist academics might manage to silence political actions and efficacy. As in the previous year, we were able to offer "free" housing to the scholars in one of the university-owned houses on campus. This arrangement once again proved of great benefit for all concerned!
# UNM-LOS ALAMOS ANNUAL REPORT

**REPORTING PERIOD: JULY 1, 1998 - JUNE 30, 1999**

## TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significant Developments</td>
<td>1</td>
</tr>
<tr>
<td>Significant Plans &amp; Recommendations</td>
<td>5</td>
</tr>
<tr>
<td>Appointments to Staff/Faculty</td>
<td>15</td>
</tr>
<tr>
<td>Separations of Staff/Faculty</td>
<td>15</td>
</tr>
<tr>
<td>Publications</td>
<td>16</td>
</tr>
<tr>
<td>Outside Professional Activities</td>
<td>16</td>
</tr>
<tr>
<td>Outside Sponsored Research</td>
<td>18</td>
</tr>
</tbody>
</table>
SIGNIFICANT DEVELOPMENTS DURING THE ACADEMIC YEAR

Progress on Overall Institutional Goals for FY 1998-1999

- Progress was made this past academic year in improving internal and external customer services but additional work needs to be done in this area especially as it pertains to the telephone system and staff maintaining open door policies to assist students and the general public.

- Internal and external communications have been improved but work still needs to be done in this area. More specifically, the officers representing the staff council and the faculty assembly were invited to attend monthly administrative staff meetings. In addition, general staff meetings continue to be held on a regular basis. “Stall News” was implemented to publicize activities on campus to the student body, faculty, and staff. A number of ad-hoc committees were established to deal with such issues as parking, recruitment and retention.

- A number of faculty and staff members afforded themselves the opportunity to enroll in the Quality Management course this past academic year.

- Individualized Education Plans (IEPs) were developed for most staff members.

- The voters of Los Alamos County responded positively to the needs of UNM-LA by passing a General Obligation Bond totaling $1.5 million.

- Budgetary management and training sessions were provided to the faculty and staff and the budgeting process was open to all interested parties.

- Distance Education programs and services were expanded through Instructional Television, e-mail classes, and live classes were conducted in a number of communities in Sandoval County.

- The North Central Association Accreditation Self-Study Report was completed in a timely fashion with the input of all sectors of the campus community.

- An equipment replacement plan was developed and implemented. The time frame for the majority of replacement revolves around a three-year cycle.

- Consolidation of computer labs was completed.

- Development and enhancement of our websites progresses (continual project.)

- Staff development in computer use progresses (continual project.)

Progress on Branch Academic Services Goals for FY 1998-99

- There was a 10% increase in overall Headcount and a 5% increase in overall FTE for 1998-1999, which exceeded the goal of increasing overall enrollment (Headcount and FTE) by 3%.

- The number of full-time students was increased by 15%, from 275 in 1997-1998 to 318 in 1998-1999. This exceeded the 1998-1999 goal of increasing full-time students by 5%.
The number of courses that were offered via alternative instructional methodologies (i.e. email and ITV) increased from four to nine. This resulted in a 125% increase, which greatly exceeded the goal of a 20% increase.

The number of credit course offerings increased by 6% over 1997-1998. The goal was to increase by 5%.

Credit offerings at off-site locations increased by 66%, from 15 in 1997-1998 to 25 in 1998-1999. The goal was to increase by 10%.

There was a 17% increase in awards from alternative funding sources and some proposals are still pending. The goal was to increase funding by 10% in 1998-1999.

In terms of Community Education/Customized Training goals, three new funding sources were identified (the goal was two). They are the Tsay Corporation, MCSE Pilot Project and the LANL Science Education Summer contract.

The SBDC increased funding by 23%.

Received a RASEM Grant for $10,000 for 1998 Children’s College and a $ 1,000 LANL Foundation Grant was received for the 1999 annual Parenting Seminar.

Increased customer service base by 20% in providing computer and non-computer training courses to public and private agencies which include the Los Alamos Public Schools, Zia Credit Union, and the Tsay Corporation.

UNM-LA SBDC co-sponsored with the Los Alamos Chamber of Commerce the “Los Alamos Smiles” customer service workshops with enrollment in excess of 400.

Equipped computer-training laboratories with all new upgraded computer hardware.

Initiated “one-on-one” computer training for Customized Training/Community Education.

Advisement increased the number of alternative funding sources by 17%. The goal was to increase monies by 10%.

The total number of GED recipients increased by 23% from 40 in 1997-1998 to 57 in 1998-1999.

The number of GED recipients enrolling in post-secondary programs increased by 100% from 14 in 1997-1998 to 28 in 1998-1999. The goal was to increase by 30%.

ABE enrollment at off-campus sites increased by 27% to a total of 331 in 1998-1999.

A new GED program was initiated at Sandia Pueblo and a new GED program was initiated at Hacienda Valmora in Alcalde.

With a $6,906 grant from the NM Coalition for Literacy, UNM-LA strengthened the volunteer tutoring program.

With a $8,636 grant from United Way, UNM-LA expanded the English as a Second Language Program.

Two Bernalillo Adult Learning Center students received NMAEA scholarships to use for post-secondary education.
The Career Resource Center was successful in increasing the number of co-operative education work slots by 118% from 16 in 1997-1998 to 35 in 1998-1999. The goal was to increase by 25%.

Significant progress was made in the coordination with Division Heads and Faculty Development Committee to expand the types and number of professional development opportunities for faculty. The goal was to offer a minimum of two opportunities per semester. In actuality the following were offered:
1. ADA/Special Needs Workshop
2. Branch Campus Faculty Conference
3. ITV Training for Faculty (one per semester)
4. Web Page Design Workshop (one per semester by Dennis Davies-Wilson)
5. Technology Workshop (Spring Semester by Russ Stolins)
6. On-line Distance Education Technology Conference offered through the University of Hawaii.

- Updated UNM-LA Faculty Handbook
- Created new ASS and Certificate in Network Administration.
- Created new ASS and Certificate in Business and Technical Communications.
- Completed review of academic administrative positions (Division Head/Curriculum Coordinator) and revamped job descriptions.
- IPDP’s were developed by all Core Faculty.
- Identified and initiated search process of three new full-time faculty positions.
- A new Library Director and Library Information Specialist III were identified.
- Guides to using various electronic databases available in the library were created to enhance patron service.
- ProQuest Direct periodical database was added to other electronic database offerings.
- A large capacity LAN printer was purchased and installed, and two new slide projectors were purchased enhancing support services.

- The bookstore was just 3% shy of reaching its goal of receiving 100% of book orders before the start of classes.
- Student Housing is on its way to reaching its goal 85% occupancy. Currently student housing is 47% occupied. Increase marketing efforts for 1999-2000 should increase this to the target percentage.
- Because the target occupancy for student housing was not reached in 1998-1999, none of the kitchenette equipment was upgraded. This will be a goal for 1999-2000.
Staff developed personal and departmental mission statements and goals that align with the mission statement of the institution.

Facilitated two workshops on “The Seven Habits of Highly Effective People.” One as an Introduction and one with Physical Plant Staff. Offered the workshop as a three-credit course for summer 1999 session and fall 1999 semester.

Conducted an independent study workshop on “Principal Centered Leadership.”

Conducted a presentation for the Advisory Board and community for the February 1999 Local General Obligation Bond Election.

Obtained legislative support for additional funding of the Student Services building.

Contributed and obtained support for the November 1998, State General Obligation Bond campaign.

Automated the internal financial system for implementation during the fall 1998 semester.

Had four department staff members participate in Quality Management course during the 1998-1999 academic year.

Created an evaluation tool based on Stephen Covey’s “Win-Win Agreements” by December 1998. Conducted staff evaluations in June 1999 and used the tool as a measure for merit based pay for FY 1999-2000.

Created IEP’s for all interested staff members.

Provided summer Student Housing facilities to summer educational bridge programs.

Working with Physical Plant Staff to implement a regular schedule for maintaining grounds.

Significant Accomplishments Not Included in 1998-1999 Goals & Objectives

- Raised over $40,000 through the Foundation Development Committee for scholarships and other activities.
- Established two new scholarships through the Foundation for students: The Jim Sagel Memorial Scholarship and the Scholars Scholarship.
- Hired first full-time faculty member, Dr. Kate Massengale in the Communications & Journalism Department.
- Advertised for three full-time faculty positions in Math, Computer Science/Computer Technology and Science positions to be filled for the 1999-2000 academic year.
- Was able to obtain a commitment of $5,000 from Radian International to augment the funding of the salary of a full time Computer Science/Computer Technology faculty member during the 1999-2000 Academic year.
- Two new pieces of art were acquired for the campus permanent art collection. Teresa Archuleta-Sagel donated the following digital prints: “Apparitions,” valued at $1,500 unframed and “Digital Milagros,” valued at $1,500 unframed.
SIGNIFICANT PLANS AND RECOMMENDATIONS, 1999-2000

OFFICE OF THE EXECUTIVE DIRECTOR

Overall Institutional Goals

• Explore the feasibility of instituting a Child Care Center at the institution in cooperation with Los Alamos National Laboratory in conjunction with the development of an early childhood education curricula.
• Explore the possibility of creating a full academic year calendar and expanding the core curriculum offerings.
• In conjunction with the Advisory Board, student, faculty, and staff create a tuition policy.
• Maximize student success by improving and continually assessing enrollment management techniques including recruitment, counseling, testing, placement, and retention activities. Implement new scholarship programs.
• Increase the number of full time students by 8%.
• Increase overall enrollment (Headcount and FTE) by 4% in credit programs, Adult Basic Education, Community Education and Computer Application Training.
• Increase the occupancy rate of the Student Apartments by 15%.
• Expand customized training offerings (credit and non-credit) by 10%.
• Continue implementation of the Outcomes Assessment Program.
• Develop and implement administrative/facility structure for off-campus sites and identify local people to administer the sites.
• Enhance external funding resources to supplement the needs of the institution.
• Increase outside funding by 10% through the Foundation Development Committee for scholarships and other institutional needs not funded by state resources.
• Obtain funding to complete and release funds from the 1999 Challenge Donation by June 30, 2000.
• Solicit an additional $5,000 from local area businesses to augment the CIS/CT full time faculty position’s salary.
• Acquire one new piece of art for the campus permanent art collection.
• Continue the annual lecture series by offering lectures during the spring 2000 semester. Develop a comprehensive internal and external community survey/needs assessment that can assess the effectiveness of all departments, services and programs on campus by the fall 1999 semester.
• Develop an Economic Impact Study of UNM-LA on Los Alamos County and surrounding areas.
• Complete work on expanding parking in existing lots.
• Relocate all offices and programs from Building 2 in preparation for construction of new Student Services Building.
• Complete the New Student Services building.
• Upgrade facilities and equipment with the use of the G.O. Bond funds.
• Implement an Energy Conservation Program.
• Implement an evaluation form and procedure for all staff based on the UNM policy.
• Develop a standardized evaluation policy for all faculty.
• Incorporate new full-time faculty and staff members into the institution.
• Maintain and update Individualized Education Plans (IEPs) for all staff members and Individual Professional Development Plans (IPDPs) for all faculty members.
• Re-evaluate the effectiveness and feasibility of all current standing and ad-hoc committees. Improve internal and external Customer Services.
• Improve internal and external communication.
• Provide an open, safe and hospitable campus climate by responding to complaints, and/or issues with a written plan for improvement and continuous feedback to those involved.
• Insure the transfer of the space occupied by Flow Science in Building 6 from Los Alamos Public Schools to UNM-Los Alamos.

Public Affairs
• Produce marketing videos on an ongoing basis to promote campus offerings.
• Produce videotape to recruit out-of-state students and foreign students.
• Produce ads for cable television to market the institution.
• Publish the annual report to the community by November 1999.
• Work with Student Government and the Computer Center to market the availability of free e-mail accounts to students and educate students on how to use e-mail.
• Work with Student Government to identify social and cultural activities for UNM-LA students.
• Promote UNM-Los Alamos in north central New Mexico by offering a minimum of four promotional events and attending a minimum of 20 community events.
• Maintain campus exposure in local media to keep the community informed of college activities and events.
• Maintain the campus' positive relationship with the community and continue to work on ties with the community by working with local businesses and organizations.
• Develop a marketing plan to recruit out-of-state/foreign students.
• Market student housing. Enhance student-housing publications, in conjunction with Student Housing Coordinator, by December 1999.
In conjunction with Instruction department, complete revised catalog by May 2000.

**Computer Facilities**
- Finalize and complete Y2K Preparation by October/November 1999.
- Purchase, configure and install a main server for start of fall 1999 Semester.
- Replace and upgrade computer equipment around campus from G.O. Bond funds beginning July 1, 1999.
- Completely rebuild and maintain campus websites.
- Integrate operating systems to provide single sign-on functionality.
- Bring network into Student Services building.
- Provide a minimum of four in-service workshops for faculty and staff on e-mail, new software programs, etc.
- Staff Development for Technician and Manager: Increase technical knowledge concerning the integration of all operating systems currently used on campus, their configuration, optimization and maintenance.
- Educate students on how to use e-mail.

**Student Government**
- Work with Student Services staff and Student Government Advisors to develop four social and cultural activities for students on campus and at student housing.
- Work with Computer Center and Public Affairs to market the availability of free e-mail accounts to students and educate students on how to use e-mail.
- Work with Student Services staff to organize a second new student orientation, a few weeks into the spring semester 1999 and the fall semester 2000.

**Staff Council**
- Improve upon and/or re-establish a new mechanism for staff recognition.
- Plan activities for staff to socialize by September 15, 1999.
- Contact main campus to explore the possibility of allowing two hours a week for employees to exercise (approximately 20 minutes daily).

**Faculty Assembly**
- Establish a mechanism for faculty recognition by October 15, 1999.
- Plan a minimum of 3 activities for faculty to socialize by October 15, 1999.
• Ensure that all faculty complete an Individualized Professional Development Plan by
November 1, 1999.

INSTRUCTION

Credit Instruction
• Re-evaluate the class schedule and course offerings to better meet the needs of students (i.e.,
check for overlapping course times and ensure that core classes are offered every semester
and during day and evening hours.)
• Work with main campus to overcome the bureaucratic obstacles of instituting one-half credit
courses.
• Determine the number of full time faculty to hire for the 2000-2001 academic year by
November 1999.
• Explore the possibility of establishing self-paced computer courses.
• Explore the possibility of using volleyball courts at student housing for PE classes.
• Increase overall enrollment (Headcount and FTE) by 4%.
• Increase number of full-time students by 8%.
• Increase number of courses offered via alternative instructional methodology (i.e., e-mail,
Web-base, ITV) by 25%.
• Develop ITV concurrent enrollment courses for regional high school students.
• Increase number of credit course offerings by 5%.
• Expand off-site credit offerings by 20%.
• In cooperation with Computer Center staff, upgrade technology in all computer laboratories
by the beginning of the fall semester.
• Upgrade science laboratory equipment by the end of the spring 2000 semester.
• Develop administrative/facility structure for off-campus sites by fall 1999.
• In coordination with other academic administrators complete revision of Faculty Handbook
for distribution in August 1999.
• Incorporate new full-time faculty into faculty structure by the fall 1999 semester.
• Identify new curricula for program development by spring 2000 (i.e., Resort Management,
Early Childhood Education, Russian Institute).
• Identify needed revisions in existing programs and implement by spring 2000.
• Complete revised catalog by May 2000 (in conjunction with Public Affairs Representative).
• Continue implementation of outcomes assessment program in all discipline areas.
• Increase number of faculty professional development activities in coordination with Division
Heads and Faculty Development Committee.
• Expand efforts to secure alternative funding sources (i.e., contracts, and grants) with a 10% increase in 1999-2000.
• In coordination with Student Services personnel and faculty, identify and implement additional retention strategies.
• In cooperation with Division Heads, Curriculum Coordinators, and core faculty, develop a performance evaluation instrument for administrative and instructional assignments by the end of fall 1999 semester.
• Continue to improve and enhance internal/external customer service skills of all personnel through continued training and professional development efforts.
• Rejuvenate advisory boards for vocational/technical programs by end of fall semester.

Community Education/Customized Training
• Expand Customized Training to include more non-degree certification programs.
• Increase profitability of the LANL Computer Applications Training Program by 5%.
• Increase overall enrollment by 4%.
• Establish Microsoft Certified Systems Engineer Training program by the fall 1999 semester.
• Conduct survey of customer base to better determine needs of community by the end of the spring 2000 semester.
• Develop a comprehensive plan to promote CE/CT by the spring 2000 semester.
• Identify a minimum of three alternative funding sources (i.e., contracts, and grants) to increase support funds by 5%.

Tutorial Center
• Coordinate services with the College Readiness Program to fully implement the College Cornerstone Program in the fall 1999 semester.
• Coordinate with UNM/EOP and Student Services to implement ADA training to all faculty and staff by the end of the 1999-2000 academic year.
• Increase number of students served by 10% over 1998-99.
• Increase number of volunteer tutors.

Adult Basic Education
• Increase the number of volunteer tutors from 31-36 and continue to share volunteers and training sessions with the Tutorial Center.
• Review and assess curricular guidelines for all ABE subject areas by June 2000.
• Expand promotional and partnership activities to include a minimum of four public presentations and two festival activities.
• Offer workshop in Family Literacy and English Literacy to all ABE sites by August 2000.
• Improve office procedures, task assignments and internal communication skills to enhance services by January 2000.
• Increase overall enrollment by 4%.

Library
• Expand available library services through the web on an ongoing basis.
• Organize and offer a dynamic Library Skills instruction program by the beginning of the fall 1999 semester.
• Assess the process for reorganizing and cataloging the Southwest Collection by the end of the summer 1999 session.
• Explore feasibility of implementing a “Friends of the Library” fundraising campaign by the end of fall 1999.
• Provide state-of-the-art electronic services on an ongoing basis.

Instructional Television
• Increase awareness level of faculty and staff regarding electronic communication possibilities by providing a minimum of two presentations/training sessions per semester.
• Seek alternative funding sources to enhance services provided by ITV Center and increase revenue.
• Train additional support personnel by the end of summer 1999 to enable center to offer expanded flexibility.
• Expand course offerings through UNM branch consortium by 20%.
• Produce general updated recruitment videotape for the institution by the beginning of the fall 1999 semester.
• Establish ITV courses during the hours of 8:00 a.m. and 5:00 p.m. beginning during the fall 1999 semester.
• Assist Public Affairs Representative in producing marketing videos on an ongoing basis to promote campus offerings.
• Assist Public Affairs Representative in producing videotapes to recruit out-of-state students and foreign students.
• Assist Public Affairs Representative in producing ads for cable television to market the institution.
• Tape “UNM-LA Today!” public affairs show on a regular monthly basis.
STUDENT SERVICES

Overall Department
- Explore the feasibility of instituting a Child Care Center at the institution in cooperation with Los Alamos National Laboratory during the fall 1999 semester.

Advisement
- Improve the mechanism for providing students with information on transfer credits to four-year institutions. (i.e., availability and use of UNM catalog, transfer guides, degree checklists). Market the availability of transfer sheets for various majors.
- Improve and expand Transfer Day activities by the spring 2000 semester.
- Improve efficiency in student record storage and maintenance to provide more immediate internal and external service.
- Access and adjust where necessary the student registration process to incorporate a wider team approach (including student employee) to more effectively serve customers.
- Expand College Fair and College Day activities by spring 2000 to offer students transfer and/or job opportunities.
- Enhance coordinated efforts to encourage students to seek advisement (possibly by group, program, etc.), by end of the fall 1999 semester.
- Identify and attempt to secure alternative funding sources to enhance support services with 10% increase over 1998-99.
- Promote the newly incorporated College Cornerstone Program.
- Expansion of services/partnerships through special focus programs (i.e., New Beginnings, School-to-Work, URM/F) to increase enrollment and improve retention through the spring 2000 semester.

Admissions and Registration
- Train advisors, Division Heads and Curriculum Coordinators in the student IDMS system by the spring 2000 semester to facilitate access to information.
- Organize training for identified staff to enable branch to directly download statistical information by the end of the fall 1999 semester.
- Utilize on-campus technology to send reports via e-mail by the end of the fall 1999 semester.
- Provide a minimum of two training sessions for student and on-call employees on admissions processing to facilitate services to students in upcoming semesters with a minimum of one session per semester.
- Provide staff with training in changes in FERPA regulations by offering a minimum of one training session per semester.
- Continue to increase communication between and among branch registration offices to better coordinate branch wide service efforts.

Career Resource Center
- Identify a new Center Coordinator by the end of the fall 1999 semester.
- Identify and conduct a minimum of two market co-operative education opportunities for liberal arts students during the fall 1999 semester.
- Develop an open door policy to better serve the needs of clientele.
- Seek alternative funding sources to assist in providing additional resources and equipment for the Career Resource Center.
- Update database of area employers to assist students/clients in identifying job opportunities to be completed by the end of the spring 2000 semester.
- Promote Career Resource Center through web page development with initial completion by fall 1999.
- Provide a minimum of one career development workshop/series per semester.
- Promote credit generating Cooperative Education Program and expand number of slots and placements by 10% over 1998-99.

DEPARTMENT OF BUSINESS OPERATIONS

Business Office
- Formalize process with departments to increase their responsibility in the area of purchasing and receiving for implementation by July 1, 2000.
- Automate purchasing procedure to paperless flow by July 2000.
- Enhance systems and billings to third parties.
- Continue to develop team concept to better serve departments.
- Cross train employees on an ongoing basis.
- Continue to provide timely financial information to departments.
- Provide training to internal customers in purchasing procedures. Prior to the commencement of the budget process for the FY 2000-2001.

Human Resources
- Share department "staff evaluation form" with other departments by August 1, 1999.
- Provide Civil Rights Training to supervisors by December 1999.
• Provide safety training and new employee orientation to staff on campus rather than at main campus by July 1, 2000.
• Obtain training so that the staff hiring procedures can be done completely at the Los Alamos Campus by July 1, 2000.
• Explore the possibility of handling hiring procedures for faculty on campus rather than at main campus by July 1, 2000.

Telecommunications
• Devise and implement a policy on the use of voice mail by August 1999.
• Provide ongoing education to staff on features of new telephone systems.
• Obtain training in telecommunications software so that changes to the system can be done in-house thereby reducing costs for the college by December 1999.
• Provide staffing plan to insure effective coverage of the switchboard/reception area during working hours prior to the commencement of each semester.

Bookstore
• Identify areas for expansion into New Bookstore by April 1999.
• Develop a Business Plan to generate additional revenue by July 1, 1999.
• Develop customer satisfaction system/questionnaire as part of a campus-wide comprehensive survey prior to occupying New Bookstore by April 1999.
• Cross train employees.

Student Housing
• Develop a quality assessment survey for students living in housing to obtain feedback as part of a campus-wide comprehensive survey by December 1999.
• Designate one apartment as a recreation room/student lounge prior to the fall 1999 semester.
• In conjunction with Student Government and Physical Plant Staff, purchase and install exterior patio furniture by December 1999.
• Develop maintenance and replacement schedule for major equipment units by July 1, 2000.
• Increase accountability with Business Office
• Enhance public relations publications to promote student housing by December 1999 (in conjunction with Public Affairs Representative).
• Increase occupancy rate by 15%.
• Improve and maintain grounds on a regular weekly schedule.
• In cooperation with Student Government, purchase and install volleyball courts at student housing complex by spring 2000.
Physical Plant

- Improve exterior lighting on campus, in parking lots and walkway to Sullivan Field by October 1999.
- In cooperation with UNM-Albuquerque and the contractor/architect, ensure that the heating and ventilation problems in the Learning Resource Center are resolved by December 31, 1999.
- Identify resources to correct the heating/ventilation problem in the lower level of the Learning Resource Center and Heating problem in Building 6.
- Complete construction of Student Services building in a timely and effective manner with minimal disruption to the campus by summer 2000.
- Develop a maintenance and equipment replacement schedule for systems on campus (air conditioning, heating, ventilation) by July 1, 2000.
- Xeriscape campus grounds and maintain them on a regular basis (start with front parking lot).
- Explore the possibility of developing a Community Education Xeriscaping Class and using the grounds as a working area.
- Remodel Building 6 restroom facilities by July 1, 2000.
- Complete expansion & renovation of rear parking lot by the fall 1999 semester.
- Negotiate with local area merchants for additional parking during construction of student services building before the fall 1999 semester.
- Develop team projects to effectively use staff.
- Renovate Building 1 (including showers) by the fall 2000 semester.
- Seek bids to operate the food service program in the new Student Services Building by December 31, 1999.
- Update and maintain information signs on campus (ongoing).
- Develop a schedule for comprehensive plan to correct health and safety problems identified on campus by December 31, 1999.

Financial Aid

- Efficiently and effectively advise and counsel student employees and financial aid recipients.
- Increase the number of incoming freshman through effective outreach and recruitment efforts by 5%.
- Develop strategies to assist in the retention of students on campus.
- Develop and implement customer survey/questionnaire by the spring 2000 semester.
- Increase Financial Aid by 10% to those students receiving aid.
- Work cooperatively with main campus on the Quality Assurance Program.
Increase retention of Lottery Scholarship students by 10%.

Implementing a mandatory meeting with all Financial Aid applicants during the academic year.

Assist the Foundation Development Committee in raising additional funds for student scholarships.

Implement training of student employees and supervisors during the fall 1999 semester.

Establish scholarship deadlines that meet the needs of UNM-LA students and high school students.

Maintain an open door policy to better serve the needs of students, faculty and staff.

### STAFF/FACULTY APPOINTMENTS

<table>
<thead>
<tr>
<th>Name</th>
<th>FTE</th>
<th>Position</th>
<th>Area</th>
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<tbody>
<tr>
<td>Kate Massengale</td>
<td>1.0</td>
<td>Assistant Professor</td>
<td>Communication &amp; Journalism</td>
<td>08/17/98</td>
</tr>
<tr>
<td>Constance Callaway</td>
<td>1.0</td>
<td>Administrative Assistant I</td>
<td>Office of Instruction</td>
<td>08/31/98</td>
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<tr>
<td>Sandra Bilbo</td>
<td>0.75</td>
<td>Administrative Assistant I</td>
<td>Adult Basic</td>
<td>09/08/98</td>
</tr>
<tr>
<td>Sandra B. Tobin</td>
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<td>Program Coordinator</td>
<td>Student Services</td>
<td>10/14/98</td>
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<tr>
<td>Irma Sutphin</td>
<td>1.0</td>
<td>Accounting Technician</td>
<td>Finance</td>
<td>12/14/98</td>
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<tr>
<td>Dennis Davies-Wilson</td>
<td>1.0</td>
<td>Lecturer in Librarianship</td>
<td>Library</td>
<td>12/03/98</td>
</tr>
<tr>
<td>Richard Norton</td>
<td>1.0</td>
<td>Library Info Specialist III</td>
<td>Library</td>
<td>02/15/99</td>
</tr>
<tr>
<td>Annabelle Martinez</td>
<td>1.0</td>
<td>Custodian</td>
<td>Housing</td>
<td>05/12/99</td>
</tr>
<tr>
<td>Eugene Ortiz</td>
<td>1.0</td>
<td>Mgr. Facility Services</td>
<td>Physical Plant</td>
<td>06/21/99</td>
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### STAFF/FACULTY SEPARATIONS

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<tr>
<th>Name</th>
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<tr>
<td>Lorraine Dominguez</td>
<td>Administrative Assistant I</td>
<td>Office of Instruction</td>
<td>07/03/98</td>
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<tr>
<td>Joey Sandoval</td>
<td>Accounting Tech</td>
<td>Finance</td>
<td>09/04/98</td>
</tr>
<tr>
<td>Linda Schappert</td>
<td>Lecturer in Librarianship</td>
<td>Library</td>
<td>10/31/98</td>
</tr>
<tr>
<td>Sandra B. Tobin</td>
<td>Program Coordinator</td>
<td>Student Services</td>
<td>04/05/99</td>
</tr>
<tr>
<td>William Bowdich</td>
<td>Mgr. Facility Services</td>
<td>Physical Plant</td>
<td>05/24/99</td>
</tr>
<tr>
<td>Michael Padilla</td>
<td>Sr. Public Affairs Rep.</td>
<td>Director's Office</td>
<td>06/01/99</td>
</tr>
</tbody>
</table>
PUBLICATIONS

STAFF

Michael Padilla
- Wrote various articles, concerning the UNM-Los Alamos campus, for the Los Alamos Monitor, Los Alamos County Chamber of Commerce Newsletter, Rio Grande Sun and the Journal North.

FACULTY

Dennis Davies-Wilson
- User guides for LIBROS, FirstSearch, ProQuest Direct, and Encyclopedia Americana Online databases.

OUTSIDE PROFESSIONAL ACTIVITIES

STAFF

Dr. Carlos B. Ramirez
- Member, New Mexico Association of Community Colleges
- Ex-Officio Member, Regional Development Corporation
- Member, Dennis Chavez Foundation
- Member, TRADE
- Member, Northern New Mexico Council for Excellence in Education
- Member, Tri-County Higher Education Association (THEA)

Michael Padilla
- Fuller Lodge Art Center Board of Directors, served on the education committee
- Los Alamos Chamber of Commerce Board of Directors
- Los Alamos Red Ribbon Planning Committee
- Town in Transition Steering Committee, participated in the production of "Talk of the Town." a monthly cable program on PAC 8
- Los Alamos High School Senior Appreciation Night Committee
• Los Alamos Citizens for a Healthy Community

Dr. Phyllis A Mingus-Pepin
• New Mexico Higher Education Assessment Conference, February 25-26, Albuquerque, NM.
• National Association of Student Personnel Administrators Annual Conference, March 26-30, New Orleans, LA.
• New Mexico Commission on Higher Education Articulation and Transfer Taskforce
• NMACC Performance Indicator Project Taskforce
• New Mexico Two Year Dean of Instruction Association, Fall 1998, Winter 1999, and Spring 1999 meetings

Kay Binkley
• Technical Assistance Workshop for Hispanic Serving Institutions, August 18-19, 1998, San Jose, CA.

Patricia M. Chavez
• LANL Foundation 1998 Grant Review Committee, Grant Reviewer, Community Outreach Programs, September 1998, Santa Fe, NM
• Professional Association of Continuing Education (PACE), “tools of the Trade: Renovating Continuing Education”, 10th Anniversary Conference, April 7-9, 1999, San Juan College, Farmington, NM
• Quality New Mexico, “Creating Quality Partnerships” – The Official conference of the Quality New Mexico Awards, March 18 & 19, 1999, Albuquerque Convention Center, Albuquerque, NM
• Coalition of Service Providers, Monthly Meetings, January 1999 – Present, First United Methodist Church, Los Alamos, NM

FACULTY

Dennis Davies-Wilson
• New Mexico Consortium of Academic Libraries (NMCAL), Summer Retreat, July 29, 1998; Albuquerque, NM, Fall Retreat, October 19, 1998; Las Vegas, NM, Library Legislation Day, February 11, 1999; Santa Fe, NM
• Music Library Association (MLA), Annual Conference, March 17-21, 1999; Los Angeles, CA.
• Bibliographic Control Committee, Recording Secretary and Webmaster Bibliographic Control Committee Website Processes Group, Chair
• Música Antigua de Albuquerque (professional early music ensemble); Albuquerque, NM, Regular performance season. Educational and community outreach performances
• Opera Southwest Orchestra, 2nd bassoonist; Albuquerque, NM, Don Pasquale, January 1999
• Don Giovanni, April 1999

Mary Jane Giesler
Two Year College Association, Annual Conference, presentation, October 15-18, 1998, New Orleans, LA

OUTSIDE SPONSORED RESEARCH
No UNM-Los Alamos faculty or staff members participated in outside sponsored research.
UNM-VALENCIA CAMPUS

ANNUAL REPORT

FOR THE PERIOD

JULY 1, 1998 – JUNE 30, 1999

Alice V. Letteney
Campus Executive Director
UNM-VALENCIA.CAMPUS

ANNUAL REPORT

1998-99

CONTENTS

INTRODUCTION...........................................................................................................1

I. INSTRUCTION ........................................................................................................3

II. STUDENT SERVICES..........................................................................................16

III. BUSINESS OPERATIONS..............................................................................23

IV. PROGRAM DEVELOPMENT ..........................................................................26
INTRODUCTION

Highlights at the University of New Mexico-Valencia Campus

1. Significant Developments

Construction began on a 32,000 square-foot Community/Student Center in February 1998. The Center will house a 4,500 square-foot child care center, a large multi-purpose space with seating for about 800 where events such as lectures and cultural performances can be held, presentation classrooms, and classrooms with specialized equipment for new courses such as food service, and office space for community education programs and student government. The project, which is being funded by a $5 million local bond issue, also includes renovation of the existing 8,000 square-foot Student Center that currently houses the campus bookstore, cafeteria kitchen and dining area.

According to a New Mexico Commission on Higher Education report released this year ("Graduation Rates at New Mexico's Public Post-Secondary Institutions — 1999"), UNM-Valencia Campus had the highest transfer rate of any two-year college in New Mexico at 65 percent. The report looked at data for a ten-year period from fall 1987/88 to fall 1998. The study also reported that at 30 percent, UNM-Valencia had the highest percentage of students who completed bachelor's degrees as compared to other NM community college students.

The college completed its NCA Self-Study and was visited by the NCA Accrediting sub-committee in January. Alice Letteney, Campus Executive Director, served on the Main Campus Self-Study Committee.

2. Program Developments:

The UNM-Valencia Campus received a $35,000 Strengthening Institutions Planning Grant from the U.S. Department of Education in October. The funds were used to write and apply for two Strengthening Institutions Development Grants that were completed this spring. (The $2.1 million development grant which was awarded in August, 1999 will be used to develop programs that strengthen student and success retention efforts, create a centralized management information system, and create a development office.)

Working with the Continuing Education Center at UNM-Main Campus, the Valencia Campus became a certified MicroSoft training center this spring and plans to begin offering its first courses in fall 1999. This certification allows participants to take advantage of the benefits of MicroSoft certified instructions and to become certified MicroSoft professionals or Systems Engineers.

The Valencia Campus Welfare-to-Work Program (SU PARTE) (Sign Up! People Acting Responsibly Through Employment) received $30,000 from the state Department of Labor and $30,000 from the state Department of Education for computer software to train clients in basic skills, English as a Second Language, and career exploration. SU PARTE, which since its inception in 1998 has assessed 2,032 clients, placed 550 in paid employment and helped 150 enroll in college, also received another $28,000 from the Department of Education to purchase 20 laptop computers and a computer server.

3. Honors and Awards:

An international award was presented to UNM-Valencia Campus by the International Association of Personnel in Employment Security. The Group Award of Merit recognized the cooperation between the campus and the state Department of Labor in the location of the workplace development center at the campus. The award was presented in July 1998 in San Juan, Puerto Rico.

The Valencia Campus Adult Basic Education Program was named 1998-99 Program of the Year by the New Mexico Adult Education Association. Among the accomplishments cited for the award were an increase in enrollment of 25 percent and a GED completion rate of 20 percent. About 30 percent of the graduates enroll in college at the Valencia Campus following their graduation.
Two Valencia Campus students were named to the All-State Academic Team, sponsored by the NM Association of Community Colleges, in recognition of their high achievements. Laquie Campbell and Anthony Wroten of Los Lunas received a $300 education stipend and were awarded a full-tuition scholarship to the New Mexico public four-year college or university of their choice.

Miriam Roman-Chavez, Associate Professor of Biology, received the first annual Community College Mentor Award from the Society for Advancement of Chicanos and Native Americans in Science at their annual meeting October 8, 1998, in Washington, D.C.

Luella Roberts, a 1999 UNM-Valencia Campus graduate, was named a Morris K. Udall Scholar and the recipient of a $5,000 scholarship. The Udall Foundation grants scholarships to students who demonstrate a commitment to fields related to the environment, and to Native American and Alaska Native students in fields related to health care and tribal policy. Roberts plans to continue her studies in environmental science at UNM-Main Campus.

Two students were placed with HACU summer internships: Laurene Simmons in Lubbock, Texas with the USDA and Gretchen Storms in Sioux Falls, SD with NASA. These students were placed in positions associated with their majors in Computer Science.

Alice Letteney, Campus Executive Director, was chosen President-Elect of the New Mexico Association of Community Colleges in June. She is the first woman to serve as President-Elect in NMACC's history.

4. Community Outreach

"Weaving Math and Science through Valencia County" was the theme for a conference that attracted some 50 elementary and secondary school teachers from Belen, Los Lunas, and Bernalillo to the UNM-Valencia Campus in October 1998. Funded by a grant from the National Science Foundation's Collaborative for Excellence in Teacher Preparation, the conference also drew about 50 students who are studying to become teachers at UNM and UNM-Valencia Campus.

Working with the local chapter of the American Association of University Women, the campus sponsored a day-long series of workshops for seventh and eighth grade girls from the local schools in November. About 150 girls attended the workshops in the event called "A Sister-to-Sister Summit." The workshops were planned based on what the girls said they were interested in and included self-esteem, career choices, and make-up tips. KOB-TV news anchor Carla Aragon was the keynote speaker.

In collaboration with its SU PARTE welfare-reform program, the campus sponsored a women's health conference in April. The day-long conference, which included a health fair and workshops on nutrition, diet, and exercise, drew about 125 participants both from the welfare-reform program and the community at-large.

The college exceeded its $30,000 Development Board fund-raising goal.

5. Campus Executive Director's Office

Major activities of the Campus Executive Director, Dr. Alice Letteney

a. Professional and Community Activities

1) New Mexico Association of Community Colleges—Secretary/Treasurer (President-Elect for 1999-2000)
2) American Association of Community Colleges Workforce Development Commission
3) Perkins State Planning Committee
4) Attended National Association of Community College Trustees and the Hispanic Association of Colleges and University national meetings.
5) Vice-President, American Association of University Women, Valencia County Branch
6) In the absence of a full-time Development Officer, served as the college's Development Officer, spearheading the successful Development Board Campaign, and the successful Title III Planning Grant effort
7) Served on Main Campus NCA Committee
8) Represented UNM-Valencia Campus at Belen Academic Decathlon
9) Middle Rio Grande Business and Education Collaborative Board
10) ACI Education and Workforce Committee
11) Valencia County Hispano Chamber Award “Most Informative Award,” October, 1998
12) Guest Speaker, Habitat for Humanity Banquet
13) Belen Rotary Scholarship Committee
14) Greater Los Lunas Chamber of Commerce (President-Elect); Belen Chamber of Commerce (Ex-Officio Board Member)
15) Valencia County Hospital Committee

6. Human Resources Office

Highlights

a. Kathy Meech, Branch Human Resources Representative, served on the Main Campus EMIS Committee which developed electronic hiring processes slated to be implemented in the fall of 1999

b. The Valencia Campus Human Resources Office was selected by the Main Campus Human Resources Office to pilot several of its programs

Hires:

a. Deborah Montoya, Administrative Assistant II, hired May, 1999
I. INSTRUCTION

A. Significant Developments

1. Overall
   b. Continued implementation of outcomes assessment program
   c. Continued assessment of programs of study and effectiveness of course scheduling
   d. Improved communications through the use of technology

2. Credit Programs
   a. Curriculum Development
      1. Creation of Health and Fitness Education associate degree program
   b. Equipment
      1. Replacement of PCs for basic computer skills lab
      2. Replacement of PCs for CAD lab
   c. Scheduling
      1. Continued implementation of use of rating matrix to hire adjunct faculty
   d. Out-of-District Instruction (administered by Community Education) in Socorro, Moriarty, Estancia and Magdalena and Central NM Correctional Facility
      1. Socorro: 78 students
         Fall 1998: ENGL 101, CIS 120T, MATH 100T, ENGL 100T cancelled
         Spring 1999: MATH 120T, SOC 101, CIS 120T
      2. Moriarty: 50 students
         Spring 1999: CIS 120T, ENGL 101, HIST 260, SPAN 101
      3. Estancia: 30 students
         Fall 1998: CIS 120T
         Spring 1999: CIS 120T, HIST 260
      4. Magdalena: 51 students
         Fall 1998: SPAN 101, CIS 120T canceled, ENGL 010T canceled
         Spring 1999: ENGL 010T, CIS 120T, SPAN 102, SPC ED 293
      5. Central New Mexico Correctional Facility: 55 students
         (Contract for up to 6 credit course per calendar year)
         Fall 1998: SOC 101
         Spring 1999: POL SC 200, C&J 221, SPAN 101, SOC 101
3. Non-Credit Programs

a. Adult Basic Education

1) Awarded “Program of the Year” by the New Mexico Adult Education Association (NMAEA).

2) Enrollment increased by 24%.

3) One hundred and seventy-three students passed the GED; 62 of those participated in the campus ABE graduation ceremony.

4) Prepared for the interagency collaboration pilot project, UNIDOS.

5) Cynthia Storey-Carrasco received “Employee of the Year” by the campus ABE program.

6) Debbie Collier, student, served as vice-president for two organizations, BLAST and VCLC, and represented New Mexico and the VALUE conference in Indianapolis.

7) Coordinated and hosted annual conference for the Central Region.

8) ESL students organized to collect funds for Hurricane Mitch Relief Fund.

9) Awarded mini-grant from Project 353 for research and development project, “Early Retention in ABE.”

10) Students spoke to community members about their experiences at Open House.

11) Sylvie Larimore de Lara, Coordinator of the Valencia County Literacy Council (VCLC), and Pamela Etre-Perez were interviewed about literacy for Channel 23.

12) Family literacy was offered through VCLC.

13) Pamela Etre Perez and Debbie Collier spoke to a group of fifth graders.

14) Debbie Collier and Linda Ward spoke at the State Legislature for ABE day.

15) Pamela Etre-Perez discussed literacy at a special meeting with Congresswoman Heather Wilson.

16) Pamela Etre-Perez served on several different state and community committees: Los Lunas Alternative High School Advisory Board, Belen Alternative High School Committee, State Plan Committee.

17) Instructors received excellent instructor/course evaluations, an average of 5.8 on a 6 point scale.

18) VCLC held a fundraiser brunch with a silent auction.

19) Beta-tested the Marvel database for SDE.

b. Student Enrichment Center

1) Tutorial Services
a) The center served 1,005 students this year. Total contact hours were 13,447 including computer lab, tutorial services, study groups and testing. Contact hours were up this year by 7%, suggesting that our students were using more of our services and using them more often (an average of 13.4 contact hours per student versus 10.7 hours per student during 1997-98).

b) A nationally certified tutor training program continues to recognize professional development for peer tutors. The standards set by the College Reading and Learning Association (CRLA) ensure that tutors are provide regular training and feedback. This academic year the Center certified 14 tutors, 12 Advanced Tutors, and 2 Master Tutors.

c) The three-credit course, Peer Teaching and Learning (EDUC 293) was successfully implemented in Fall 1998. Six students completed the course, which included a practicum of at least 25 contact hours as a tutor in the Center.

2) Equal Access Services

a) This program served 131 students with disabilities or suspected of having learning difficulties. This figure shows an increase of 28% over last year. Services included referrals for additional diagnostic testing, referrals to community programs, books on tape, advisement, alternative exam environments, notetakers, scribes, readers, and the loan of assistive devices.

b) With UNM-VC's large educationally disadvantaged population, many of our students are becoming aware of a learning difficulty for the first time. In conjunction with Learning Support Services at UNM-Albuquerque, EAS is helping students identify and overcome learning difficulties that have limited their academic success in the past.

3) General Developments

a) Significant staffing changes have made this a transition year for the SEC. Staff and student employees have shown dedication and resilience in maintaining quality services to the campus.

b) New federal legislation has substantially changed the scope of funding distributed to New Mexico post-secondary institutions through the Carl Perkins grants. Changes focus funded efforts solely on vocational and technical certificate and degree programs, as well as call for more collaborative efforts with local high schools. As a department receiving Perkins funding, the SEC has a new mission to specifically target support services and recruitment efforts at vo-tech students.

c. Library

1) Library instruction classes and tours were up 260% over last year, largely due to the new academics classes and SU PARTE.

2) Several surveys and assessments were done during the year to measure success in meeting our patron's needs.

3) Several other measures of library use were up this year: circulation was up 13%, registration of borrowers was up 27%, and interlibrary loan borrowing activity was up 20% (interlibrary lending activity was up by 52%).

4) The Library’s web page was redesigned.
d. Community Education

1) Non-Credit Enrollment: 1,001 total for 1998-99
   a) Summer 1998: 303 students
   b) Fall 1998: 329 students
   c) Spring 1999: 469 students

   a) Fall 1998: 152 students
   b) Spring 1999: 150 students

   a) Fall 1998: 106 students
   b) Spring 1999: 105 students

4) Cultural Programs: 1100 total
   a) Fall 1998: 595 total
      1) Chile Cook-Off: 100
      2) Enchanted Mesa Show Choir: 20
      3) Zuni Bead Dolls/Maggie McDonald: 25
      4) Handel’s Messiah: 450
   b) Spring 1999: 505 total
      1) Martin Luther King, Jr.: 150
      2) Dr. Richard Peck/NM History: 30
      3) Lana Harrigan/Acoma: 25
      4) NM Boy Choir: 300

5) Education to Go: 19 total for 1998-99 (Internet courses made available to the community)
   a) Fall 1998: 12
   b) Spring 1999: 7

6) CTC: 248 total for 1998-99
   (American Heart Association Community Training Center)
   a) Fall 1998: 184
7) MIBC: Spring 1999: 21
Medical Insurance Billing & Coding attendance

8) Upper division and graduate courses are being received from UNM-Main Campus through the EDEN Consortium (Electronic Distance Ed Network)

B. Significant Plans and Recommendations

1. Overall
   a. Update Faculty Procedural Handbook and publish it to the world-wide web
   b. Create training programs for workforce development including welfare reform
   c. Enhance and expand business, industry and other agency partnerships to insure currency of vocational programs
   d. Improve communications with main campus departments and other receiving institutions to insure effective student transfer
   e. Enhance and expand business and industry training programs
   f. Improve campus-wide data collection and information management
   g. Integrate technology into the classroom
   h. Create developmental studies laboratory
   i. Provide professional development for faculty to integrate technology into the curricula
   j. Continue to improve internal communications/teamwork/collegiality:
      1) Share information to improve effective communications through informal and formal networks and by publishing important documents, such as the Campus Catalog and the faculty Procedural Handbook to the web
      2) Provide workshops, seminars, such as ongoing Covey training, to improve teamwork and encourage collegiality campus-wide
      3) Support Staff Association efforts directed at improving communication and morale
      4) Provide easily accessible information/training on setting up email and web pages, including faculty training for viewing course enrollments

2. Credit Programs
   a. Revision of all vocational/technical programs
   b. Creation of "umbrella" manufacturing program (SMT would fit under this "umbrella")
   c. Add Microsoft Certification to credit programs
   d. Create an advisory board for Criminal Justice
3. Non-Credit Programs

a. Adult Basic Education

1) Increase public awareness and recruitment efforts.
2) Improve student retention rate.
3) Expand services in ESL and family literacy.
4) Coordinate with business and industry, foster inter-agency collaboration, and expand services in workforce development.
5) Encourage and expand student leadership.
6) Foster use of technology in the classroom.
7) Revise and update the strategic plan and develop a quantitative system for measuring progress toward goals.
8) Improve the student data management system.
9) Plan for success (transition into college, jobs, etc.) and document student outcomes.

b. Student Enrichment Center

1) Implement new tutoring services and recruitment for vocational and technical students in compliance with Perkins funding requirements.
2) Develop new instructional support presentations for the LCC computer lab.
3) Improve outreach efforts to underserved courses, departments and student populations.
4) Revitalize email tutoring program (cybertutoring).
5) Reassess screening procedures for learning disabilities.

c. Library

1) Due to Y2K developments and other considerations, the Library made the decision to join LIBROS, the main campus on-line catalogue and circulation system. It should be fully operational by the beginning of fall 1999. Training to use the new system has been taking place during the summer of 1999.
2) Install “new” Pentium grade computers throughout the public areas of the Library.
3) Master the new circulation and cataloging components.
4) Development computer-based library instruction classes using the newly acquired “computer on wheels” set-up.

d. Community Education

1) The Community Ed revenue is now exceeding $100,000 in non-credit courses and contract training programs. The Business Office has provided accounting support for the past year;
however, cost analysis and projections based on revenue for all the different programs would be helpful for future program development and fiscal accountability (including out-of-district instruction). The Cashier's Office is assuming the cashiering and billing functions for Community Ed, effective Fall 1999. Efforts will be made to make the registration process more efficient.

2) With the loss of the Distance Ed broadcast position, duties have been assumed by student employees. Duties include set-up and take-down of equipment and disseminating information between students and main campus.

3) Rita Logan, Program Manager, will concentrate efforts on new program development and management, and the program coordinator, Ruby Aragon, can focus completely on the day-to-day operations of the non-credit program and the office in general.

C. Appointments to Faculty and Staff

1. full-time Faculty
   a. Robert Furry, Lecturer and Chair for the Business and Technology Division
   b. Steven Moe, Visiting Lecturer for the Student Enrichment Center
   c. Margaret Griffin, Visiting Lecturer for the English Department

2. Staff
   a. Kris White, Public Services Librarian
   b. Debbie Garcia, Administrative Assistant I, Academic Support

D. Separations from Faculty and Staff

1. Faculty
   a. None

2. Staff
   a. Steve Davis, .50 Administrative Assistant I, Academic Support
   b. Stella Creek, Administrative Assistant I, Student Enrichment Center

E. Tenure and Promotion Decisions

1. Advancement to Professor
   a. Michele Diel

2. Achievement of Tenure and advancement to Assistant Professor
   a. None

3. Advancement to Code 4
F. Publications, Papers, and Notable Achievements

1. Reinaldo A. Z. Garcia, Associate Professor of Computer Information Systems
   b. Elected to the Rio Rancho Schools' Board of Directors for a second term

2. Pam Etre-Perez, Coordinator of Adult Basic Education
   a. Honored as "Citizen of the Year" by the Valencia County News Bulletin
   b. Pamela Etre-Perez completed and presented the video project, "Transitions: From Survival to Success"
   c. Presented workshop at the NMAEA annual conference

3. Tina Shiplet, Lecturer of Adult Basic Education
   a. Elected Central Region Representative for NMAEA
   b. Presented workshop at the NMAEA annual conference

4. Jill Oglesby, Lecturer of Adult Basic Education
   a. Presented workshop at the NMAEA annual conference

5. Kris Warmoth, Librarian
   a. Elected Secretary of the New Mexico Library Association
   b. Received Executive Director's Exempt Staff Recognition Award for 1998-99.

6. Leroy Baca, Lecturer in Mathematics
   a. Received the full time Arts and Sciences faculty award, "Instructor of the Year"
   b. Served on School Board for Belen Schools

7. Toni Black, Assistant Professor of Computer Science
   a. Presented "Quick Tips for Excel" at the UNM Branch Campus Conference, Taos, New Mexico, May 17-19, 1999

8. Celestyn Brozek, Assistant Professor of Chemistry

9. Miriam Chavez, Associate Professor of Biology
a. Received national recognition for "Community Colleges Mentor Award" given by the Society for the Advancement of Chicanos and Native Americans in Science (SACNAS)

10. Diana Cole, Lecturer in Office of Business and Technology
   a. Received the full time Business and Technology faculty award, "Instructor of the Year"
   b. Served on the State Department of Education committee, Reauthorization of Carl Perkins

11. David Coker, Lecturer and Chair of the Fine Arts Department
   a. Advancement to the Chair of Fine Arts
   b. Completed new art studio at home in Veguita.
   c. Ongoing research towards a publication on the "Great Pyramid of Giza"

12. Dr. John Crawford, Associate Professor of English
   a. Edited and published four volumes of contemporary poetry for West End Press:
      1) *What the Fortune Teller Didn't Say*, Shirley Geok-lin Lim, 82 pages, fall 1998
      2) *Told in the Seed*, Sanora Babb, 56 pages, fall 1998
      3) *Destruction Bay*, Lisa Chavez, 64 pages, winter 1998-99
      4) *No Parole Today*, Laura Tohe, 64 pages, spring 1999
   b. Delivered a paper, "Multicultural Writers of the Southwest," at the Working Class Studies Conference, Youngstown, Ohio, June 17-20, 1999
   c. Presented "Teaching Literature in Composition Classes" at the UNM Branch Campus Conference, Taos, New Mexico, May 17-19, 1999

13. Dr. Julie DePree, Assistant Professor of Math
   a. Received Eisenhower grant
   b. Co-chaired the UNM-Valencia Campus NSF Collaborative for Excellence in Teacher Preparation grant

14. Dr. Michele Diel, Associate Professor of Math
   a. Served on the New Mexico Steering Committee for the National Science Foundation Collaborative for Excellence in Teacher Preparation grant.
   b. Co-chaired the UNM-Valencia Campus NSF Collaborative for Excellence in Teacher Preparation grant
   c. Chaired the American Mathematical Association of Two-Year College Equal Opportunity in Mathematics Committee
13. Virginia Johnson, Lecturer of Biology and Chair of the Science Department

   Received grant from the New Mexico Alliance for Minority Participation Program (AMP)

16. Dr. Richard Melzer, Professor of History

   a. Published book reviews


   b. Published movie reviews:


17. Mary Robinson, Associate Professor of Mathematics


   b. Organized panel for concurrent enrollment for the Math Association of America (MAA) meeting, Baltimore, Maryland, January 1999

   c. Presented “Mathematics Intensive Liberal Arts Course” at the New Mexico Mathematics Association Two Year Colleges (NewMATIC), Portland, Oregon, May 1999

   d. Organized the first UNM Branch Campus Conference, Taos New Mexico, May 17-19, 1999 and facilitated two round table discussions, “Teaching Issues” and “What to do about a Conference Like This Next Year.” All branches were represented with over 50 conference participants

   e. Served as American Mathematics Association Two Year Colleges (AMATYC) Presider Chair and served on the AMATYC Conference and Review Committees

   f. Served on the Two Year College Committee for MAA

18. Stephen Andrews, Adjunct Lecturer in History

   a. Received the part time Arts and Sciences faculty award, "Instructor of the Year"
19. Ken Armijo, Adjunct Lecturer in Computer Information Systems
   a. Received the Business and Technology part time faculty award, “Instructor of the Year”

20. Michael Ceschiat, Adjunct Lecturer of Art Studio
   a. Ongoing works for national competitions
   b. Exhibited works at the Mariposa Gallery in Albuquerque and Miriam’s Well in Santa Fe
   c. Featured in the December 98 issue of The Magazine as one of its studio visits
   d. Faculty advisor for the new Valencia Student Art Association

21. Dubra Karnes-Padilla, Adjunct Lecturer of Physical Education
   a. Presented “Yoga for Beginners” at the UNM Branch Campus Conference, Taos New Mexico, May 17-19, 1999

22. Ray Moore, Adjunct Lecturer of Communication and Journalism
   a. Presented “Student Owned Syllabus” and facilitated the “UNM Valencia Campus Discussion Group” at the UNM Branch Campus Conference, Taos New Mexico, May 17-19, 1999

23. Vanann Moore, Adjunct Lecturer of Theater
   a. UNM-Valencia Campus Christmas production

24. Howard Stansell, Adjunct Lecturer for Art Studio
   a. Recorded new CD, “Better Things.” Received air time on local radio stations with the Vietnam inspired feature song, “just as much a hero.” This past Memorial Day the song was played at the Vietnam memorial in Angel Fire, NM
   b. Exhibited work at the San Acacia Gallery in San Acacia, New Mexico

25. Donald Woodman, Adjunct Lecturer for Art Studio
   a. Featured and photography published in the May 99 issue of “New Mexico Magazine” for the restoration of the old Belen Hotel (home for Woodman and wife, Judy Chicago)
   b. Exhibited work at a recent show, “PEOPLE A group Photographic Exhibition.”
   c. Exhibited work at the Lew Allen Contemporary Gallery in Santa Fe, New Mexico, November 1999
   d. Ongoing collaboration and exhibition with wife Judy Chicago with the “Through the Flower” organization

26. Sherilyn Welton, Adjunct Lecturer in Music
   a. Directed three joint concerts of the University of New Mexico, Valencia Campus
b. Campus University Chorus and the Albuquerque Symphony Orchestra in December, 1998. Performed for a combined audience of 900 persons. Presented selections from all three parts of "The Messiah" by Handel.

c. The University Chorus presented a program for the Los Lunas Chamber of Commerce meeting with a variety of holiday music, December 1998.

d. Directed the Albuquerque Boy Choir in concert at the First Baptist Church of Belen as part of the Cultural Arts Series sponsored by UNM-VC, April, 1999.

e. Directed the University Campus on the Valley Cultural Arts Evening. Medley by Stephen Sondheim; "A New Day" from the King Singers; and Ashokan Farewell" by Jay Ungar. April, 1999.

f. The University Chorus presented a full length concert at the First Presbyterian Church as a community outreach. Selections ranged from Haydn's "Creation" to "Love is a Many Splendored Thing." It also included participants from the Community Education Class, "Vocal Technique", May, 1999.

g. The University Chorus sang for graduation Exercises: "Quest for Camelot," a medley of popular music, May 1999.

h. Served as State Treasurer and State Chairman for the Theory and Achievement Program for the Federation of Music Clubs for the past year.

i. Elected as Local Associations Chairman for the State of New Mexico through the Music Teachers National Association.

j. Recognized at the State Convention for MTNA in as the teacher of the New Mexico State Winner for Musical Composition at the elementary level, November 1998.


l. Served as Judge for the Junior Festival event, March 1999.

m. Served as judge for the Albuquerque Music Teachers Association for the Scale and Theory Evaluation Program, March 1999.

n. Performed in five productions (roughly 40 performances) of the Albuquerque Civic Light Opera, eight concerts of the Santa Fe Symphony, and directed 15 concerts by the Albuquerque Boy Choir Cadets, including tours in the schools and to Grants, New Mexico. I have made musical presentations at four of the schools in Los Lunas.

27. Sue Garley, Scheduling Coordinator

II. STUDENT SERVICES

A. Significant Developments

1. Admissions/Registrar's

   a. Associate degrees awarded for the 1998-99 academic year increased 23% with a decrease in certificates awarded.

   b. In an effort to enhance awareness about the Valencia Campus, the staff from the Admissions/Registrar's Office has been actively involved in informational workshops conducted at area high schools.

   c. Off-site registration has been a great success, with courses offered at Moriarty, Magdalena, Socorro, Estancia, the Los Lunas Schools and the Central New Mexico Correctional Facility.

2. Advisement Services

   a. Advisors experienced more than 5,832 contacts with students for the year.

   b. Evaluation of advisement indicated strong improvement in quality and accuracy of advice given. More students are seeing advisors and following the advice they receive.

   c. Referrals to and from advisement have also increased. Most common referral is to Career Services, but referrals range widely.

   d. Restriction of English 101 enrollment, a collaborative effort between Language and Letters department and academic advisement, was a tremendous success. Students were able to register for the course only after verifying they were prepared for the level of work expected. Advisors maintained logs of students seen and how they qualified for English 101 enrollment. This information was shared with instructors. Though this began in Fall, 1999, the impetus and development of this service was conducted in the 1998-99 academic year.

   e. Staffing changes created challenges for maintaining the provision of adequate advisement services throughout the year. Assistance from Career Services' Ray Rondeau, and periodically from on-call advisors enabled advisement services to continue uninterrupted during staff attrition and recruitment.

3. Career Services

   a. Career Services, with the assistance of the Interim Associate Director for Student Services, combined a .5 Cooperative Education position with a .5 JTPA position, creating a more stable 1.0 FTE position. The position was advertised and will be filled by August 16, 1999. Some disruption in Cooperative Education activities was caused but through the efforts of the Career Services staff, the Cooperative Education program continued to serve all students of the campus.

   b. Career Services was able to experience some 3112 contacts from various activities/programs including Career Day (our fifteenth and largest yet). Career exploration activities were conducted with high school students from Belen, Los Lunas, Socorro, and Magdalena, and with students participating in this campus' Adult Basic Education and SU PARTE programs. Additional activities included presentations to high school seniors visiting the campus for two "walk-about" activities, job skills seminars for UNM-Valencia Campus students, and Career counseling for both campus students as well as members of the community. Career Services staff also presented to students during student orientation as well as specific presentations to developmental skills...
classes. Career Services also conducted its annual "Young Scientist Day" by hosting 40 fifth grade "at-risk" students from the Belen and Los Lunas School districts. The students participated in hands-on activities in the biology and chemistry labs. The Career Counselor represented the campus at career fairs held by the Alamo Navajo School as well as Magdalena and Los Lunas High schools. Finally, contacts were realized from Valencia Campus students seeking Cooperative Education placement, part time jobs, and work-study positions. Career Services also presented this campus' second Career Informational Seminar on April 21 in which five employers presented information on resumes, interviewing and hiring practices to our students. Five faculty members representing all of our vocational and academic programs were also present to discuss the employer concerns and desires they have for new employees.

c. Cooperative Education saw activities with 22 students placed with 20 different employers including DP Signal Systems, Sandia National Labs, Los Lunas Schools, Randy Van Otten/Veterinary, Accountants, NM Army National Guard, the State of New Mexico, Bohanan-Huston Engineering as well as other schools and businesses in the area. Most exciting was the placement of two students with HACU summer internships in Lufkin, Texas with the USDA and Sioux Falls, SD with NASA. These students were placed in positions associated with their majors in Computer Science. We are proud of our students who are very capable of competing nationally for these positions. Career services will be putting greater emphasis on this program with our students during the coming year.

d. The combined Spring, summer and fall 1998 graduate placement survey reveals that from a forty-seven percent response rate of our vocational program graduates, fifty-three percent were continuing their education, while seventy-three percent reported working in jobs (full or part time) related to their training.

e. Career Services will be participating in the Carl Perkins Grant during the new fiscal year in four activities; (1) providing written material on career fields to vocational program students, (2) providing job shadow or volunteer experience to new vocational program students in their chosen career field, (3) providing employment skills assessments and guidance to vocational program students, and (4) conducting a vocational technical job fair and seminar.

4. Committees

a. Scholarship Committee

1) Scholarships awarded:

   a) Lottery 376  $126,336
   b) Connection 104  17,808
   c) 3% New Mexico 151  34,128
   d) Leg. Endow. 15  3,420
   e) Bonifacio & Eloisa Tabet 5  1,500
   f) Student Government 41  14,760
   g) Tibo Chavez History 1  720
   h) Los Lunas Jr. Miss 1  1,000
   i) New Mexico Alliance  5,350

   TOTAL  $201,602

   j) Childcare awards – 1998-99  78  $12,585

b. Student Affairs Committee

1) Following is a compilation of the number of students that submitted appeals to the committee:
a) Appeals submitted: 112
b) Appeals granted: 84
c) Appeals denied: 28

All appeals were financial aid related.

5) English as a Second Language (ESL)

a. Student Services played an integral part in the development of an ESL Program at UNM-VC. Advisors identified a group of students who were transitioning from the Adult Education ESL classroom into college. Students were brought together and placed into English ESL 100, English ESL 101 and Academics ESL 100.

b. Fifteen ESL students attended UNM-VC in the Fall 1998. Thirteen were enrolled in the English ESL 100 course. Eleven students earned credit for the course. Twelve ESL students enrolled into English ESL 101 and Academics ESL 101 in the spring term.

c. Nine ESL students received the Bridge Scholarship in Fall 1998. Of the 9, 8 maintained a 2.5 GPA and earned at least 12 credit hours their first semester. Thirteen of the 15 ESL students who began in the fall enrolled for the following term. Eight of the 9 ESL students on the Bridge became eligible for the Lottery in the spring.

d. Student Services worked collaboratively with the Math Department, Language and Letters, ABE and Business and Technology Division to identify the needs of the ESL students and providing services as needed. As a result, the Math Department has an ESL faculty advisor; the computer labs supply computer literacy booklets in Spanish and English for students. The Academics Program in collaboration with Student Services placed students into courses in which a team of instructors will use an interdisciplinary approach with the ESL students in order to assist in their learning as they begin to transition out of developmental level courses.

6. Financial Aid

a. Valencia Campus Financial Aid Office will now be in charge of Federal and state funding for workstudies. This will include: tracking of hours, payroll, and awarding of students.

b. Created PowerPoint slideshow for financial aid workshops and new student orientations.

c. Students awarded financial aid:

<table>
<thead>
<tr>
<th>Month</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 1998</td>
<td>853</td>
</tr>
<tr>
<td>May 1999</td>
<td>950</td>
</tr>
</tbody>
</table>

d. Workstudy allocations:

<table>
<thead>
<tr>
<th>Month</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 1998</td>
<td>73</td>
</tr>
<tr>
<td>July 1999</td>
<td>73</td>
</tr>
</tbody>
</table>

7. GED

a. During the 1998-99 fiscal year, 398 students signed up to take the GED test. Of that number, 259 passed the exam, 107 failed to meet the minimum requirements to receive the GED, and 32 did not complete the test.

b. GED testing staff continue to offer the exam in Spanish. Classroom visits to GED en español and ESL classes, have provided potential candidates with information in Spanish related to the exam.
c. GED staff created an advisement plan to provide GED candidates with information about testing requirements, post-secondary education and financial aid (including Lottery Scholarship). This plan will be implemented September 1999.

d. During the budget process for 1998-99, GED testing staff requested a clerical support position. This request was deemed number one priority in Student Services, however, this request did not become a priority in the overall college budget process.

8. JTPA PROGRAM

a. The JTPA program lost its coordinator January 26, 1999 as she went to a full time academic advisor position at the UNM main campus. The program was transferred to Career Services and the program continued with the Career Services Coordinator running the program through the end of the fiscal year. The .5 FTE JTPA coordinator position has been combined with the .5 FTE Cooperative Education position in Career Services to create a 1.0 FTE position. This new position will be filled effective August 16, 1999.

b. The following is a list of completed assessments, graduates, and total of all participants involved with the Job Training Partnership Act Program during the 98-99 fiscal year.

<table>
<thead>
<tr>
<th></th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Completed Objective Assessments</td>
<td></td>
</tr>
<tr>
<td>a) Department of Labor for Valencia, Torrance And northern Socorro Counties as well as HRDI and TAA</td>
<td>224</td>
</tr>
<tr>
<td>b) Stay-in-School Programs</td>
<td>76</td>
</tr>
<tr>
<td>Total Assessments</td>
<td>300</td>
</tr>
<tr>
<td>2) JTPA Classroom Training (CRT) Participants</td>
<td></td>
</tr>
<tr>
<td>a) Summer 1998</td>
<td>11</td>
</tr>
<tr>
<td>b) Fall 1998</td>
<td>22</td>
</tr>
<tr>
<td>c) Spring 1999</td>
<td>30</td>
</tr>
<tr>
<td>d) Summer 1999</td>
<td>20</td>
</tr>
<tr>
<td>Total Participants</td>
<td>83</td>
</tr>
<tr>
<td>3) Graduates</td>
<td></td>
</tr>
<tr>
<td>a) Summer 1998</td>
<td>0</td>
</tr>
<tr>
<td>b) Fall 1998</td>
<td>5</td>
</tr>
<tr>
<td>c) Spring 1998</td>
<td>6</td>
</tr>
<tr>
<td>Total Graduates</td>
<td>11</td>
</tr>
</tbody>
</table>

c. The JTPA Program anticipates some expansion as more clients are referred for assessments and classroom training during the fiscal year 99-00.

9. New Student Orientation

A new student orientation program was designed and implemented for summer 1999, in preparation for the Fall Semester. All new students and transfers or re-admits with fewer than 26 credits of accumulated hours must attend orientation prior to registering for classes. Advisement and registration is available for students immediately following the end of each orientation session.
A total of 10 orientation sessions were held this summer, with 399 of our entering students participating. Student Services put together several new PowerPoint presentations for the students, including a preview slide show of campus trivia while they waited for the session to begin, an overview of the campus' history, and a presentation on various support services available to them as students. The students then participated in several exercises, including a scavenger hunt around campus, to help them become acquainted with campus buildings and services.

Feedback from students attending the orientation indicated it was very worthwhile. They especially highlighted that being able to register for classes right after orientation was a benefit. Student Services continued to revise the program throughout the summer, updating information and improving the quality of the presentations. The new program has generated quite a bit of excitement from the staff and current students who have been helping facilitate the orientation activities, as well as the entering students' feedback.

10. Outreach and Recruitment

Several efforts were implemented this year that enhanced our recruitment effort. They include:

a. Visits to senior English classes at Socorro, Belen, and Los Lunas High Schools. Teams from Student Services gave presentations on Career planning, financial aid, admissions, advisement, and registration. Though there was information shared about the campus, we also provided general educational information on these subjects.

b. Participation in holiday parades. This introduction of the campus in the holiday parades, in collaboration with Student Government, gave the campus a wonderful opportunity to inform the community about the campus.

c. Digital camera use at the American Cancer Society Relay for Life and summer Community Fairs. The printing of pictures on site at these events brought excellent attention to the campus.

Our regular efforts, including Fall and Spring Walkabouts, Career Days, College Days, Career programs in high schools, on-site registration of classes offered in the service area but away from campus, financial aid workshops for high school seniors and parents, and the Magic of Education programs were continued with excellent results. Other outreach and recruitment activities such as advertising, pages in the local newspaper, banner displays, and a continued presence at local events were also continued.

11. Placement

a. During the fiscal year 1998-99, Student Services scheduled 60 COMPASS Placement Testing sessions for incoming and returning students. Test sessions were offered during the day, evenings and on Saturdays in order to accommodate as many students as possible. There were 1,196 students who signed up to take the test.

b. Of the individuals who tested in math, 70.2% tested into math 010, 25% tested into math 100, 2.5% tested into math 120, .8% tested into math 121 or 150, .9% tested into math 123 and .6% tested into math 180.

c. Of the individuals who tested in reading, 24.2% were at ABE (Adult Basic Education) level, 24.3% tested into Academics/Reading 100, 26.7% tested into Academics/Reading 101 and 24.9% were not required to take an Academics course.

d. Of the individuals who tested in English, 13.5% were at ABE level, 27.7% tested into English 010, 24.6% tested into English 100 and 34.3% tested into English 101.
e. Evaluation of placement this year indicated significant improvement in the placement of students, especially within different levels of developmental courses in English, Academics, and mathematics.

12. VA

a. During the 1998-99 fiscal year, 90 students received VA Educational Benefits. Seventy-five students received VA educational benefits in Fall 1999. Of the 75, 51 continued into the spring semester. In addition, 12 new applicants were approved for benefits during the spring. Twenty-nine VA students attended the Summer 1999 session.

B. Enrollment Data

Listed below are enrollment and graduation figures for the 1998-99 academic year:

<table>
<thead>
<tr>
<th></th>
<th>Summer 1998</th>
<th>Fall 1998</th>
<th>Spring 1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headcount</td>
<td>583</td>
<td>1,557</td>
<td>1,586</td>
</tr>
<tr>
<td>FTE</td>
<td>405</td>
<td>940</td>
<td>897</td>
</tr>
</tbody>
</table>

These figures represent an increase of 3.32% in headcount and an 8% increase in FTE from Fall 1997 to Fall 1998. Also represented from Spring 1998 to Spring 1999 is an increase of 3.59% in headcount and 7.04% in FTE. Average course load for students has increased from 8.64 credit hours to 9.05 for the fall semester.

<table>
<thead>
<tr>
<th></th>
<th>Summer 1998</th>
<th>Fall 1998</th>
<th>Spring 1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associate Degrees</td>
<td>9</td>
<td>33</td>
<td>57</td>
</tr>
<tr>
<td>Certificates</td>
<td>0</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

C. Student Senate

Student Senate had a learning and growing year. Miguel Lovato continued as Student Body president and the senate had a successful fall with welcome back events, Halloween carnival and working with helping several student organizations form and begin activities.

Several members of the senate went to Tennessee to a national conference on Student Activities and had an intensive immersion into the business of selecting and booking campus performers. While no actual booking took place during the conference, the process was simulated in order to train the students in how to effectively accomplish this once the campus has a venue (the new Community/Student Center) to hold such events.

New officers were elected and officer orientation and transition events were held at the end of Spring semester. Elections for Fall and Spring went well with few of the problems that have plagued student elections in past years.

D. Significant Plans and Recommendations

1. On-going training for staff.
2. Financial Aid will have capability to input workstudy applications to the Human Resource system.
3. Lab computers updated to allow students to apply for financial aid through the web.
4. Student Services staff will continue to concentrate efforts on recruitment.
5. Off-site workshops will continue to be a big part of recruitment efforts.

E. Appointments to Staff

1. Michele McGhee hired February 1, 1999 as Office Assistant-.5 for Financial Aid, and .5 for Registrar’s.

F. Separations from Staff

1. Jeannine Fisher, .5 Co-op Coordinator
2. Lyn White, Academic Advisor (remains as on-call advisor)
3. Joanne Page, Office Assistant
4. Stephanie Beck, JTPA Coordinator
5. Kathi Wilhelm, Financial Aid Assistant

G. Outside Professional Activities

1. The Admissions and Registrar’s staff have attended several professional development workshops, including a workshop by Leroy Rooker from Washington, DC on the Family Education Rights and Privacy Act (FERPA).

2. Advising staff have attended several professional development workshops, including the COMPASS training held in Las Cruces, November 1998, the ACT conference held in San Antonio, TX December, 1998, the ESL/COMPASS Conference, San Antonio, TX, May 1999, NM Student Affairs Forum, Albuquerque, NM, June 1999, and GED Statewide Conference, Albuquerque, NM, July 1999.

3. Career Services staff have attended several professional development workshops, including the New Mexico Placement Council quarterly meeting at the El Rito Campus of Northern New Mexico Community College on July 23-24, a workshop introducing the newest version of the Myers Briggs Type Indicator conducted at UNM main Campus Career services on October 1, 1998, the New Mexico Counseling Association Annual conference in Albuquerque on October 21-23, 1998, and the New Mexico Career Development Association Workshop on "Coaching and Career Development" on November 18, 1998 in Rio Rancho, New Mexico.

4. Financial aid staff attended several professional workshops, including Alamo High School on January 13 financial aid workshop for new students and parents, workshops at Belen, Socorro, Los Lunas, Alamo Navajo Reservation, and Magdalena High schools for students, advisors and teachers; trained Library staff on August 31st on financial aid applications on the web, a three day workshop in Denver on the NSLDS (national student loan database system) database system, met with the financial aid association board of directors in Roswell, a financial aid decentralized training in Albuquerque, the NMASFAA conference from April 6th through the 9th in Taos, and the Phi Theta Kappa National Conference from April 28th through May 2nd in Anaheim, California.
III. BUSINESS AND FINANCE

A. Significant Development

1. Campus Issues:
   a. In February of 1998 STAR construction was selected as the contractor to build the new Student/Community Center and the HVAC renovation. By June 30, 1999, construction was approximately 40% complete. It is expected that construction will be completed by early to mid spring of 2000.
   b. The parking lot repair and renovation began July 1998, and was completed in September. The project repaired badly damaged areas and is expected to add at least two years to the life of the existing lots that are now in excess of 15 years old.
   c. A new security officer was hired on September 26, 1998 to assist with the increased volume of people on campus. This is due to the many new programs on campus specifically, the welfare reform program which provided the funds to hire the new security officer.
   d. Work began on a new Five-Year Master Plan. The planning company of Architectural Research was hired to assist with the process. The plan is expected to be completed by December 31, 1999.

2. Business Office:
   a. Sally Hebert was hired to fill the Business Manager’s position left vacant when Andrew Sanchez was appointed to the Associate Director for Business Operations position in late May 1998.
   b. Work was completed to expand the current work area in the Cashier’s office. The previous work area was extremely small causing unacceptable work conditions and high heat problems which causes equipment failures.
   c. A new position was approved and filled for the General Services area of the Business Office. These duties are highly visible to the public as well as internal customers, and it was necessary to project a professional image to the public. The position was necessary in order to bring stability to this area which was previously staffed with student employees.

3. Budget:
   a. An open budget process involving the entire campus continues, as well as a concerted effort to link the budget with the strategic plan.

4. Auxiliary enterprises:
   a. The bookstore continues to implement a number of changes in the way business is conducted. A new structure has been put in place that separates functions, workloads, and duties. As a result, one new position was added to that department. The new structure was implemented for a number of reasons, including inventory control, and management as well as to have store supervision backup. This will allow the Bookstore Manager to take time off without major disruption to customers or other business office staff. These changes will result in lower inventory write-offs, better service, reduced costs to students, and increased revenue for the bookstore.
b. As a result of the construction and renovation to the Student Center, the Cafeteria was displaced to temporary facilities. Food preparation was completed in a temperature-controlled bay at the Physical Plant. Food was served from converted office space in the Student Center. Because the facilities were temporary, the menu was limited to sandwiches and pizza purchased from the Pizza Hut Corporation. The Cafeteria is expected to be in the newly renovated kitchen areas by the beginning of the fall semester. The Food Service department will then be able to offer new food items to customers. In addition, the Food Service department will be able to expand its catering services for on campus functions. As a result, net revenue is expected to increase slightly. Unfortunately, revenue is still not expected to be sufficient to break even. As a result the Valencia Campus Advisory Board approved a 25 cent increase in student fees to help subsidize the Food Service Department.

4. Physical Plant:

a. On May 24, 1999 Bill Bowdich was appointed to fill the vacancy of Branch Campus Facilities Manager

b. The Physical Plant continues to work with outside contractors to improve the performance of the original HVAC system.

B. Significant Plans and Recommendations for the new Fiscal Year

1. Complete construction of a new Student/Community Center, which will house additional state-of-the-art presentation classrooms, a child care center, a fitness center, an expanded bookstore, and food service area.

2. Complete renovation of the campus wide HVAC system. The new system will include a central cooling plant with thermal storage for increased efficiency and lower operating costs.

3. Retain the security officer hired with grant funding to assist with the increased workload of people on campus due to the many new programs on campus, as well as increased use of the facility by community organizations.

4. Get the Physical plant staff thoroughly trained in the maintenance of the new HVAC system. It is expected that our own maintenance department will do most of the maintenance of this new system and only require outside vendors for major repairs.

5. Complete a new Five-Year Master Plan.

C. Staff Changes

1. Additions to staff:

<table>
<thead>
<tr>
<th>Staff Member</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Martin Castillo</td>
<td>Computer Support Services</td>
</tr>
<tr>
<td>Bill Bowdich</td>
<td>Physical Plant</td>
</tr>
<tr>
<td>Jacqueline Ross</td>
<td>Bookstore</td>
</tr>
<tr>
<td>Sally Hebert</td>
<td>Office of Business and Finance</td>
</tr>
<tr>
<td>Monica Montano</td>
<td>Bookstore</td>
</tr>
<tr>
<td>Maxine Padilla</td>
<td>Business Office</td>
</tr>
<tr>
<td>Carlos Montoya</td>
<td>Security</td>
</tr>
</tbody>
</table>

2. Staff Departures:

<table>
<thead>
<tr>
<th>Staff Member</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tony Vigil</td>
<td>Physical Plant</td>
</tr>
<tr>
<td>Richard Mazon</td>
<td>Computer Support Services</td>
</tr>
<tr>
<td>Therese Williams</td>
<td>Bookstore</td>
</tr>
<tr>
<td>Arley Stump</td>
<td>Physical Plant</td>
</tr>
<tr>
<td>Tom Fisher</td>
<td>Physical Plant</td>
</tr>
</tbody>
</table>
IV. PROGRAM DEVELOPMENT

The Associate Director, Branch Program Development reports directly to the Executive Director of the branch campus and assists in the general administration of the branch campus in activities related to strategic planning grant funding and special projects. The Associate Director is responsible for management oversight of the Small Business Development Center, the School-to-Work Program, the Tech-Prep Program, and the Welfare Reform Program.

A. Significant Developments:

1. Special Projects
   a. The Accelerated Program for At-Risk Children funded by the McCune Charitable Foundation completed its third year of operation in April, 1999. In an effort to assess the benefits of the program, all students completed pre- and post-questionnaires developed by a Belen School Principal, who also completed the analysis. Overall, the results reported are positive.
   b. UNM-Valencia Campus and the “SU PARTE” (Welfare Reform) program co-sponsored a one-day Women’s Health Conference and fair for the women of Valencia County on April 30, 1999. A total of 120 women, the majority “SU PARTE” clients, attended the conference. All presenters at the conference donated their services. The Valencia Campus Development Fund financially supported this project by providing scholarships for any client who could not afford the $5 registration fee.

2. Grants
   a. UNM-Valencia Campus used the $35,000 planning grant funds awarded by the U.S. Department of Education to develop a comprehensive development plan (CDP) and prepare grant applications required for the Strengthening Institutions Title III and Title V competitions. The CDPs and grant applications were completed in April and June, respectively.
   c. The SBDC received $134,038 to operate during the 1999-2000 fiscal year.

3. School-to-Work/Tech Prep

   The School-to-Work program received $160,000 and the Tech Prep program $89,637 in funding from July 1, 1998 to June 30, 1999. The combined funding totals $249,637, which is administered by a .75 FTE Program Coordinator and is supported by a .5 FTE Administrative Assistant. During this period both program supported many out-reach activities in six regional school districts. Each school district has a liaison called a Career Transitional Specialist that works on both programs with district students.

   Two new and significant School-to-Work initiatives undertaken this fiscal year included the implementation of the Jr. Achievement Program in all five school districts and the implementation of the Career Action Planning portfolio and student teacher mentor component of the School-to-Work System.

   A total of 15,026 students from all five school districts participated in school-based learning activities. Students from the five school districts also participated in a variety of work-based learning and connecting activities.

   The Tech Prep program provided 20 1999 high school graduates with 68 college credits. The high school seniors completed course work at the high school and successfully passed the UNM-Valencia Campus final challenge exam.
Financial support through the Tech Prep Program for the six school districts in the UNM-Valencia Campus service district totaled $51,249.39. The funds were used to purchase equipment and instructional material and for professional development activities.

4. Small Business Development Program (SBDC)
   a. The current SBDC Director is Roberta Scott. She was hired in February 1999. Former Director David Ashley took a position with the Small Business Administration in Washington, D.C., leaving in mid-December, 1998. Jean Gibson was an interim advisory between the two Directors.
   b. During the fiscal year of 1998-1999, the UNM-Valencia Campus SBDC served 205 clients with a total of 561 hours with an average of 2.73 hours.
   c. The SBDC held 15 workshops attended by 77 people.
   d. The Center helped four clients obtain a total of $150,000 of capital during the year.
   e. Seven businesses were opened with a total of 27 new jobs created.
   f. Of the clients served by UNM-Valencia Campus SBDC, 43 percent were women, 38 percent were men and 19 percent were men/women.
   g. Hispanics composed 45 percent of the clients.
   h. The SBDC and its clients were featured 26 times in the local print media. This is almost double the exposure of the previous year. The coverage provides the center with extra exposure in the community.
   i. The SBDC is a member of every Chamber of Commerce in the UNM-Valencia Campus service area.
   j. The SBDC web page address is http://www.unm.edu/~vcsbdc/.

5. SU PARTE “Welfare Reform Program”
   a. NM Human Services Department extended the initial $1.1 million contract to provide training and job placement for TANF and food stamp recipients for a second year. No additional monies were required.
   b. The project has provided assessment to 1,499 TANF and Food stamp recipients from July 1, 1998 – June 30, 1999. A total of 2,285 individuals have been assessed during the 24 months of the contract.
   c. 460 of these people have obtained paid employment. Average wage rate for TANF placements is $6.67 for full-time employment and $6.16 for part-time. E&T placements have a $7.05 average wage rate for full-time work, and $6.48 for part-time.
   d. 203 individuals are enrolled in post secondary/vocational programs. All but about twenty of these individuals are attending either UNM or UNM – Valencia in a degree program
   e. 122 people are participating in non-paid community service for not-for-profit agencies.
   f. A new seventeen passenger handicapped accessible van was placed into service by UNM – Valencia in August 1998 for the use of the SU PARTE program. The project provided over
22,000 miles of transportation services in twelve months. SU PARTE clients who were enrolled in college as well as those who attended assessment or life skills classes at the campus used the service. The average ridership each month was about 40 individuals.

g. The project provided an average of 300 hours per month of life skills classes per month; including Computer Fundamentals, Keyboarding, Basic Microsoft Word, Career Exploration, Applied Work Skills and Employability Skills. Course content was revised in response to both participant surveys and employer input.

h. Approximately 85 hours of specialized GED training was provided per month for this funding year. The format included 20 hours per week of intensive skill training, provided in the same room by the same teacher at the same time each day. The teacher is paid and supervised by the SU PARTE program, but receives technical assistance and training from the Adult Basic Education department of UNM-Valencia. Outcomes for the first six months of this class show that 19 people, 25% of who had entry level skills below 5th grade, passed the GED test. 17 of these 19 students have enrolled in college.

i. One of the SU PARTE students was named GED student of the year. Two received scholarships to college at UNM-Valencia. One was recognized, with a cash award, for her accomplishments by the state organization of ABE instructors.

j. Approximately 85 hours of group job seeking skills training was provided each month through our Job Club. 159 people were enrolled for this class during the funding year. It, too, was provided in the same format as the GED class. Job Club provided all the tools needed by job seekers including a phone bank, 24-hour message phone, computers, and fax and transportation assistance as needed. A facilitator provided both group instruction and individual assistance for each persons job search.

k. Two new classes were developed and implemented this academic year. “Creating a Masterful Work Life”, a core class was offered during the assessment period. The goals of this class were to increase motivation and to provide a venue for career exploration. The second class, “Applied Work Skills”, targeted the 40% of our clients who have no previous work history. It is designed to allow participants to circulate, with the assistance of a job coach, through a range of work environments on campus for experience with different tasks and environments. Classroom component guides the participants to evaluate and compare the different settings as well as to match them to personal work needs.

l. The community linkage with CYFD was increased to provide childcare assistance determinations on campus twice a month.

m. Individual counseling services were purchased for eleven clients from the county shelter for victims of domestic violence. Shelter staff provides outreach at each SU PARTE orientation twice a week.

n. Habitat for Humanity provided outreach to two groups of SU PARTE clients and a mailing of their program information was distributed the entire SU PARTE client list. Several clients applied for homes through the program. Two were accepted. Their “sweat equity” in the program helps to fulfill their individual work requirements. To date neither has had their home built.

o. State certified childcare training was purchased from CARINO. Nine participants completed the training. Three new registered home day cares were opened in the county as a result of the training. Registered day cares are eligible to receive payment for services from CYFD. It is important to note that through close collaboration between the project and the county office of HSD, this was the only group of participants in the state to receive start up costs, as an employee expense from HSD, for their daycare centers. Through collaboration with the UNM-Valencia Small Business Development Center, participants in this training were assisted to
obtain business licenses and CRS numbers to be able to open their day cares. The project provided follow up training in CPR / First Aid to participants in the childcare training class and now makes information about the availability of these home day cares to other program participants.

p. SU PARTE was one of two TANF work programs, nationally, to receive a site visit by the Gaston Institute of the University of Massachusetts, Boston. The Institute studies the impact of public policy on Hispanic populations. A report documenting best practices by SU PARTE has been submitted by the Institute to the US Department of Labor.

Significant Plans and Recommendations for the Near Future.

1. Special Projects

   a. UNM-Valencia Campus will continue the Accelerated Enrichment Program for At-Risk Children during the 1999-2000 academic year, expending the funds allocated for the second portion of the two-year cycle. The Campus will apply for continued funding from the McCune Charitable Foundation in order to continue this program.

   b. UNM-Valencia Campus will continue to partner with relevant community agencies or on-Campus departments to continue hosting the Women's Conference.

2. Grants

   UNM-Valencia Campus plans to submit requests for proposals to the Department of Labor, State Department of Education, Human Services Department and the NM Small Business Development Network to continue operation for presently funded projects.

3. School-to-Work/Tech Prep

   a. The Tech Prep Program will go back to the high schools this fall and register all the seniors and juniors that passed the challenge exams this past spring. Parental approval is needed and the time frame in the summer did not allow the Registrar to get approval for all students.

   b. The Tech Prep Program will focus on the Associate degree programs of Office Business and Technology. Computer Information Systems and Microsoft Systems Support, and Computer Aided Drafting at all six schools.

   c. The School-to-Careers Program will focus on strengthening the student/teacher mentor program at all schools. Professional Development sessions will be provided to secondary faculty in order for them to understand their role better and the impact that can happen. Each district has a Career Transition that will work towards completing activities on their districts Scope of Work.

   a. The School-to-Work and the Tech Prep Program will focus on getting both parents and employers involved more with regional schools.

   b. The Infotacker software will be used to track students and their progress from high school, secondary schools and into the workplace.

4. The Small Business Development Center

   a. The Center plans to continue its marketing efforts through attendance at Chamber of Commerce functions, community events, Rotary and Kiwanis events as well as participation in appropriate seminars, conferences and workshops.
b. The New Mexico SBDC is celebrating its tenth anniversary. The UNM-Valencia Campus SBDC staff will be hosting a dinner to honor its past and current clients in October 1999. To be invited, along with clients, will be UNM-Valencia Campus administrators, previous SBDC Directors, the SBDC Advisory Board members, the NMSBDC Director, SBA, Chamber representatives, bankers, legislators and members of the local media.

5. SU PARTE

a. The SU PARTE Program will replicate its entire scope of services (with the exception of van service) in two additional counties, Torrance and Cibola. New Mexico Human Services Department has re-configured work services to a regional model UNM-Valencia will no longer contract as a provider directly from the NMHSD, but will become a subcontractor for San Juan College. This change in addition to the expansion of service to a total of three counties and a new rate structure promise to require significant systems change day to day programming.

b. The project is negotiating with NMDOL to provide a Welfare to Work program for people in our catchment area who meet the federal definition of “hard to serve.” This new program will bring intensive resources to support employment retention for what is estimated to be 10% of our current caseload. The model of service we have proposed is not currently being implemented with the Welfare population anywhere in the United States.

c. Van service in Valencia County will need to be reconfigured to better meet client need. It is recommended that multiple part-time drivers are used, instead of one full-time driver, to increase times of day transportation can be offered to clients. Alternately, options for the campus to extend the van service to all students, with a purchase service on these routes for SU PARTE participants should be investigated now that the restraints, which existed in the 1997-99 block funding, may no longer apply.

d. Curriculum outlines need to be standardized across program sites.

e. Market based job skill training needs to be developed and customized for the learning needs of the program clients.

f. Funding for transportation services in Cibola and Torrance Counties should be explored.

C. Outside Professional Activities

1. Associate Director, Program Development

   a. September 30 – October 1, 1998, Strengthening Institutions Grant Meeting, Washington, DC
   b. March 12, 1999, STW Presentation, Albuquerque, NM
   c. May 12, 1999, School-to-Careers State Board, State School-to-Careers

2. School-to-Work/Tech Prep Coordinator

   a. New Mexico Vocational Association, Board President,
   b. July 12-13, 1998, New Mexico Vocational Association, State Conference, President, Ruidoso
   c. August 19, 1998, Belen High School, Faculty and Staff STW presentation, Belen
   d. August 19, 1998, Belen High School, Faculty and Staff STW presentation, Belen
   e. August 27, 1998, Valenca County Job Service Employers Committee, presenter, Belen
   g. October 17, 1998, Business Professionals of America, Vocational Student Site Conference, Judge, Albuquerque
   h. October 27, 1998, Mountain Municipal Schools, STW presentation, Mountainair
i. December 9, 1998, American Vocational National Conference, New Orleans, LA
j. January 12, 1999, Belen Chamber of Commerce, monthly luncheon, presenter, Belen
k. February 3, 1999, Los Lunas High, Career Day, classroom presenter, Los Lunas
l. March 11, 1999, Business Professionals of America, Vocational Student State Conference, Judge, Albuquerque
m. March 23, 1999, Belen Consolidated Schools School Board presentation, Belen
o. April 16, 1999, Belen High School, Career Day, classroom presenter, Belen
p. April 29, 1999, Los Lunas High School, grant writing workshop presenter, Los Lunas
q. May 12, School-to-Careers State Board, State School-to-Careers Grant Presentation, Albuquerque
r. May 24, Belen Consolidated Schools, Concurrent Enrollment Presentation, Belen
s. June 7, Applied Academics Workshop, project directors presentations, Albuquerque

3. The Small Business Development Center
   a. August 06, 1998, Manager presented Marketing Techniques to SBA
   b. March 30, 1999, Manager spoke at Kiwanis meeting
   c. April 20, 1999, Manager spoke at Rotary Club of Los Lunas
   d. June 10, 1999, Manager spoke at Optimist Club of Belen

B. Appointments to Staff/Faculty
   1. School-to-Work/Tech Prep
      None
   2. The Small Business Development Center
      a. Roberta Scott SBDC Manager February 22, 1999
      b. Cynthia Browning Business Advisor May 17, 1999

3. “SU PARTE” Welfare Reform Program
   Shawn Huttleston Case Manager August 24, 1998
   Suzanne Moreno Lead Case Manager August 24, 1998
   Gary Sanchez Program Coordinator November 16, 1998

C. Separations of Faculty and Staff:
   1. Program Development
      Adam Hathaway Administrative Assistant II March 29, 1999
   2. School-to-Work/Tech Prep
      None
   3. Small Business Development Center
      David Ashley SBDC Manager December 16, 1999
   4. “SU PARTE” Welfare Reform
      Bill Fuesell Counselor/Case manager July 21, 1998
D. Publications:

1. The SU PARTE project was profiled as an innovative welfare reform project on the national level. Researchers from the Gaston Institute of the University of Massachusetts, Boston included the profile in a report to US Department of Labor and will include it in other publications. SU PARTE program reports and interviews with program staff and clients were the basis for the profile.

E. Outside Professional Activities:

1. Yvonne Hart, Program Manager, assisted with the fundraising activities of the APSE foundation in July 1998, and with a fundraising activity of the Valencia County Shelter for Victims of Domestic Violence in June 1999

2. Shaw Huttleston, Case Manager, is President-elect of the Association for Spiritual and Ethical Values in Counseling; a division of the New Mexico Counseling Association

3. Shawn Huttleston is a member of Southwest Hypno-therapist Training Board

4. Jill Oglesby, Adjunct Faculty member, served on a research team, co-authored and presented a paper entitled, "Early Retention Strategies in Adult Basic Education". The paper was presented to New Mexico Adult Basic Education Association in the spring of 1999. The research was funded by Project 353

5. Yvonne Hart, Program Manager and Gary Sanchez, Program Coordinator, participated in the HSD funded Valencia and Torrance counties coalition to develop community based strategic planning for Welfare Reform during the spring of 1999
## CONTENTS

- Introduction 1.0
- Executive Summary 2.0
- CIRT Organization 3.0
- CIRT Achievements 4.0
- CIRT Staff Professional Development 5.0
- Statistical Review of CIRT-Provided Services 6.0
COMPUTER & INFORMATION RESOURCES & TECHNOLOGY

Annual Report
July 1, 1998-June 30, 1999

Prepared by Staff and Management of CIRT

Computer & Information Resources & Technology (CIRT) is the computing center at the University of New Mexico. CIRT's experienced staff and dynamic resource capabilities provide computing and networking services to a diverse and extensive campus community.
2.0 EXECUTIVE SUMMARY

A major undertaking this academic year was completing the tasks to make all major UNM systems Y2K compliant. This included testing of all UNM mission-critical administrative systems supported by CIRT, as well as providing central support to UNM's various organizations to make sure their departmental systems were also Y2K compliant. Another area of intense activity included a number of major network upgrades including:

- Providing connectivity to the national very high speed Backbone Network Service (vBNS), funded through an NSF grant.
- Increasing the number of connections to the campus data network, which now includes more than 18,000 interconnected devices.
- Initiating the design and implementation of a campus Gigabit ethernet backbone network.
- Supporting UNM's High Performance Computing Education and Research Center (HPCERC) by providing them with higher speed connectivity required as an active participant in the national computational grid.

The demand for more network connections and higher bandwidth continues to create more demand for CIRT services in all areas for which usage statistics are kept. Networking and computing are seen as essential by faculty and students for research teaching, and learning, including the electronic dissemination of course outlines, notes, and assignments, as well as for electronic communication between faculty and students. Consequently CIRT implemented a number of infrastructure upgrades, including:

- Networking and installing 120 personal computers in Dane Smith Hall (Section 4.3).
- Implementing numerous upgrades in other CIRT managed pods and classrooms (Section 4.3).
- Enhancing CPU capacity and operating system performance (Sections 4.6 and 4.7).
- Increasing file storage space and file backup capabilities (Sections 4.6 and 4.9).
- Acquiring new and improved systems for electronic mail (Section 4.11) and enterprise calendaring and scheduling systems (Section 4.4).

The above upgrades were accompanied by a number of enhancements to CIRT's client communication and support services. Specifically, CIRT improved its web pages and installed a search engine to support and allow more convenient searches of UNM's web pages for all users and departments. It also enhanced communication with its users in a number of ways (Section 4.1), expanded the scope of its Help Desk support (Section 4.13), and provided 2088 students, staff and faculty with a total of 7064 person contact hours of training. Last but not least, CIRT implemented several improvements to enterprise administrative applications and continued to provide staff support to UNM's EMIS project (Section 4.15).
New applications implemented include web based systems to allow:

- Departments to track on-line the status of their purchase requisitions.
- Departments to search UNM's inventory records, download their inventory and upload changes to Plant Fund Accounting.
- Applicants to download application forms from the Human Resource's home page.

These are described in more detail in Section 4.15.

Despite the progress made this academic year, there are still a number of challenges that need to be addressed in the near future if UNM is to have the computing infrastructure it needs to make it a leading regional institution of higher education in the 21st century. They include:

- **Recruitment, retention, and retraining of information technology staff.** This continues to be a major problem given the severe national shortage of information technology staff with the skills necessary to design, implement and support complex systems required in the information age of the 21st century. To attract and retain the necessary staff, UNM must provide salaries competitive with the marketplace, a training budget to ensure staff skills keep pace with rapidly changing hardware and software technologies, and demonstrate an active commitment to maintaining a modern IT infrastructure.

- **Maintenance, support and periodic upgrades to UNM's information infrastructure.** In the 21st century, institutions will be forced to make more effective use of information technologies to deliver education to more students located anywhere, at anytime and at a pace that is comfortable to the learner. In essence, a first class information infrastructure will become much more important than a first class physical infrastructure. "Bits and bytes" will increasingly replace "bricks and mortar". This will force universities to view information technologies not as an expense, but as an investment that is mandatory to their continued viability. Those institutions that fail to make the needed investments to create the infrastructure necessary to support their education and research missions, will either be absorbed by others or become much less relevant than today.

- **Planning the transition.** Planning the transition of where we are today to where we want to be tomorrow will require a combination of hard work and bold leadership. It will require strategic planning that includes information technology as a major integral part. In a recent presentation, a vice president of Microsoft said "A business plan today that does not include technology as a central theme is not a plan but an illusion".

CIRT will continue to work with UNM's administration to address these challenges in the coming academic year.
3.0 CIRT ORGANIZATION

CIRT's organization consists of the executive office of the associate vice president and two directorates. One directorate consists of the Information Resource Center and Administrative Information Support. The other directorate is comprised of Distributed Systems Integration Group, Central Systems and Operations Support and the Communications Support Group. Cross-CIRT support is provided by the executive offices of the associate vice president. The following summarizes the activities of these groups.

3.1 Executive Offices of the Associate Vice President

- Associate Vice President
- Unit Administrator
- Contract Administrator
- Network Specialist
- Supporting Staff

The executive offices provide support common to all groups within CIRT, including contracting, materials management, and administrative support for the entire staff of CIRT. Planning is the shared responsibility of upper-level management in the executive offices and operational groups which include: Administrative Information Support (AIS), Information Resource Center (IRC), Central Systems and Operations Support (CSOS), Distributed Systems Integration Group (DSIG), and Communications Support Group (COMSUP).

3.2 Administrative Information Support (AIS)

AIS serves the administrative information needs of the University, primarily through the development and 24-hour maintenance of mission-critical central systems such as Registration, Financial Aid Management, Financial Reporting Systems, Payroll, Human Resources and others.

3.3 Information Resource Center (IRC)

The IRC provides the UNM community with the first level of support for CIRT-supported hardware and software. The CIRT Help Desk, staff consultants, CIRT pods and classrooms, computer accounting, public relations, hardware maintenance, software distribution, security, tutorial materials, publications, and the CIRT library, are all supported by and included in the Information Resource Center.

3.4 Central Systems and Operations Support (CSOS)

CSOS provides operational support for all CIRT shared systems. This includes the monitoring and operation of all hardware systems, data entry, scanning services, enterprise server operating systems, as well as database, technical, and administrative support. CSOS provides delivery service to administrative departments on campus, and monitors, records, and reports the status of hardware problems. In addition, CSOS supports a staff that maintains outside contracts.
3.5 Distributed Systems Integration Group (DSIG)

DSIG supports a variety of systems running AIX and a number of other dialects of the UNIX operating system. DSIG works with academicians, researchers, and administrators throughout the UNM campus and associated organizations to support their computing system management needs. In addition, DSIG develops and supports mission-critical university-wide systems such as electronic mail and the World Wide Web servers, as well as the automatic generation of user accounts.

3.6 Communications Support (COMSUP)

COMSUP is responsible for designing, installing, and supporting the Campus Data Communications Network (CDCN), including campus access to the Internet and other national networks such as the very high speed Backbone Network Service (vBNS). The group works closely with various units to ensure that departmental network needs are met. In addition to the installation of the network, this group maintains the current network configurations to allow accessibility on a 24-hour, 7-day-a-week basis.
4.0 CIRT ACHIEVEMENTS

4.1 1998-99 CIRT Initiatives to Reach Out
In the 1999 Fiscal Year, CIRT continued its 'outreach' efforts in the following areas:

The SUB table where CIRT staff is available for over a week to answer technical 'getting started' questions, distribute literature, technical documentation and help people get new computer accounts at the beginning of each semester;

Computing One-on-One days of demos and hands-on help at the beginning of Fall Semester to get students started in computing, held in Lobo Lab in the SUB and sessions for faculty and staff offered in collaboration with Human Resources for individual consulting help;

A "Modem Day" in the middle of each semester when the UNM community can bring their CPUs into CIRT to have their dial in configuration problems addressed;

Welcome Back Days on the first day of Fall Semester CIRT staff provides a booth for distributing literature, answering questions and establishing new computer accounts;

Dane Smith Hall: Part of the success of Dane Smith Hall is the computer classrooms and networking available throughout the building. CIRT was a collaborator and contributor to the building's design and implementation and assisted in launching the building into UNM's instructional mainstream, along with the Registrar’s office, the Provost’s office, Media Tech Services and others. Dane Smith Hall is a calling card for the campus, a model of instructional excellence and a favorite place to teach, study, meet and work for faculty, students and staff.

- Networking: Each general classroom is networked in one or more location for direct network connections and for fax/modem dialing. (Note: Media Tech Services (MTS) also outfitted the general classrooms with projectors and VCRs). Multimedia stations are available in lecture halls all times, and on request from MTS in smaller classrooms. There are also netports available in common areas throughout the building.

- Fall events: Campus dignitaries and the Smith family dedicated the building at the beginning of Fall Semester, and the Grand Opening for students was held at Homecoming. CIRT participated in these events, as well as co-hosting the annual Cybercast with Media Tech Services.
4.2 Training Initiatives
CIRT continues to offer one-on-one classes through Employee Organizational Development (EOD), as well as Computer Literacy, Security Awareness, and Year 2000 classes. Newly added classes this year include Corporate Time, the new campus electronic calendar system, and Mulberry, the new e-mail client replacing PC-Pine. We have also combined beginning and intermediate classes for creating Department Web Pages utilizing Adobe PageMill.

4.3 Pod and Classroom Improvements

Dane Smith Hall computer classroom facility:
The new facility has a pod area consisting of 120 personal computers, (Mac and PC) combined, and supports three computer classrooms (two with 25 seats and one with 50 seats). In collaboration with UNM faculty, a variety of instructional software has been installed for classes and student usage. The three computer classrooms, scheduled through UNM Scheduling, are being utilized extensively by a variety of UNM Departments who are supportive of our classroom software policy.

Anderson Schools of Management (ASM) Pod:
Anderson Schools of Management (ASM) Pod received new Windows/NT work stations to replace failing hardware. The new Windows/NT work stations will enhance clients' usage for assignment work and provide a high-end support platform for outside of classroom instructional software access. In remaining competitive as well as supportive to our clients' computing needs, the ASM Pod Macs were upgraded to G3 series giving users comparable high-end Mac access that our other Mac pods currently provide.

Engineering and Science Computer (ESC) Pod:
Engineering and Science Computer (ESC) Pod's terminals were replaced with dual boot Windows NT/Linux work stations in the Fall of 1999. The Dean and faculty at the Schools of Engineering began instituting a new instruction paradigm to teach "The New Engineer," which focuses on interactive learning experiences. Hardware and network upgrades as well as new software were needed to meet this pedagogical shift. The Schools of Engineering (SOE) was awarded a grant from Hewlett Packard for new computers for both classrooms in the ESC pod. CIRT and the Schools of Engineering collaborated to purchase larger hard drives and faster network components. In addition, the SOE purchased screen sharing software that will enable the interactive learning environment. The SGI's at the ESC Pod are scheduled to be replaced in the early 1999 Fall semester. The new computers will keep the ESC Pod at the forefront of high-end instructional computing on campus.

Other Improvements:
Several of our pods and classrooms received new laser printers to keep up with the high-volume usage
of our clients printing demands. CIRT consolidated its printing support platform in our pod environments this year in order to curtail printing costs so that we may continue to provide free printing to our UNM clients. Other enhancements that benefit both the instructor and the client include new projectors for the Economic computer classroom and CIRT's Training Center, along with additional Mac memory to reduce the ever increasing demands that the CIRT Pod's high-end Mac software requires.

4.4 New Software:

**Corporate Time (CT):**

A project team was assembled in August 98 with involvement from other departments on campus to choose a product to replace Synchronize (the then current calendar system). A product of Corporate Software & Technologies, Corporate Time (CT) was selected and purchased by CIRT and placed online in February 1999. Specifications included the Internet Engineering Task Force (IETF) standards that are set forth for calendars. CT is a campus-wide calendar and scheduling client/server application designed to integrate easily with e-mail and operating systems and has been proven to scale from the work group to the largest enterprise. CT is Year 2000 compliant and will run on multiple client platforms. CT was selected because it can be run as a standalone application (not part of a GroupWare product) on our AIX operating system and is scalable to the number of people we can potentially accommodate at UNM. Implemented in two phases, the then 500 current Synchronize users were migrated and trained, with the remainder of the campus invited to join in the second phase of the implementation. CIRT currently has over 785 users on CT and that number is likely to grow since training, through EOD, continues to be offered twice a month and continues to attract representatives from many UNM departments.

4.5 Year 2000 Effort

**Campus-wide Departmental Support:**

In its role as a campus-wide resource, CIRT took a proactive approach to addressing Year 2000 issues. A program was initiated to provide Year 2000 readiness guidelines, coordinator training and departmental level consultation and support. CIRT also maintains the University's Year 2000 web site (http://www.unm.edu/cirt/y2k/), which contains relevant information and resources for departmental coordinators and other interested parties. In addition to accelerating its own contingency and business recovery planning, CIRT has also taken an active roll in the University-wide contingency planning process. CIRT has taken the risk of Year 2000 related problems seriously at every level. Reasonable and prudent efforts have been undertaken and were completed or were well underway at the end of FY 1999. Both the staff and management of CIRT have worked in a comprehensive and diligent manner to insure that the impact of Year 2000 related issues is minimal. While the scope of potential Year 2000 problems can be large, CIRT is confident that the preparations it has undertaken address those aspects of the issue within its control. It is not anticipated that the ability of CIRT to continue its mission will be adversely affected by Y2K date related issues.
**Enterprise Application Effort:**

CIRT has spent thousands of hours (over 10,000 in fiscal year 1999 alone) in the remediation and testing of all central administrative systems for Y2K, including:

- FRS (General Ledger)
- BRS (Billing & Receivables)
- HRS (Human Resources/Payroll)
- SIS (Registration & Records)
- PSS (Recruiting Services)
- Tuition Calculation
- CGS (Contracts & Grants Acctg)
- FAM (Financial Aid)
- Cashiering

In addition to testing individual programs, entire systems have been tested for weeks in our “time-travel” environment, essentially a separate “virtual computer” on the IBM enterprise server. In that environment, we were able to simulate a variety of date-related events. Examples of functions that were tested include 12/31/99 year-end rollover, I-Tel registration, start of semester processing, various payrolls, fiscal year-end processing, disenrollment processing, and financial aid awarding. Final verification testing of all major systems is scheduled to be completed in October.

Like many institutions, we took advantage of this thorough review of our applications portfolio to clean up unused programs, convert outdated languages, and streamline our program maintenance environment. For example, the MarkIV language, which has been in use for over twenty years, will be completely removed from the production environment by December. Working with IBM Systems Support, we have developed a Quality Assurance environment that has simplified and improved our production testing processes, resulting in fewer production problems.

**4.6 Hardware and Infrastructure:**

Enhancements and upgrades were performed on the CIRT systems with the express intent of increasing the availability, manageability, reliability and scalability of these systems. CIRT purchased a NetApp 760 file server with 140G usable disk storage providing high availability for all user files. This system provides five times the performance of the system replaced as well as redundant power supplies on each disk shelf. CIRT acquired the IBM SP1 from High Performance Computing Education & Research Center containing 32 – RS6000/370 systems. We are using 16 of these as AIX CPU login servers and the other 16 nodes as spare parts. This allows us to run this environment without an expensive hardware maintenance contract. We recently purchased 10 SGI NT4.0 systems to replace the old SGI systems in the visualization lab at the ESC pod. These systems will be in place by the start of the fall semester '99. The disk storage on the AIX Administrative Oracle system was increased by 20GB, allowing for database growth. The first production NT servers were introduced with mixed results. We will support those in existence, but we will evaluate whether to continue to migrate to NT in the future. Finally, CIRT purchased several hardware racks and completed the first steps to re-organizing the Operations room at CIRT.
4.7 Software and Operating Systems:

We completed AIX 4.3 upgrades to all but one system. These upgrades addressed the need to stay current with the most supported version of AIX and allowed us to remedy several problems with the older versions. The engineering department won a grant from Hewlett Packard (HP) that provided 40 new HP systems in the classrooms at the ESC pod. These systems, supported by CIRT, have been set up running a dual boot system of Linux and NT4.0. The ADSM backup server has been migrated from the MVS system, freeing up needed cycles, to an AIX system and is performing very well. Backup times have decreased by 50%. As part of this we are now using a new robotic system for our tape backups. CIRT purchased an IBM 7133 disk storage system as part of the new backup system. This allows initial backups to disk followed by a later migration to tape.

A new calendar/scheduling system, Corporate Time, was put in place by CIRT and appears to be a very robust and easily maintained system. CIRT introduced a new protocol called the Dynamic Host Configuration Protocol, DHCP, which allows users to automatically obtain an IP address for their system/PC without having to contact CIRT for a specific number. This protocol is in use on five subnets at UNM and will expand throughout the UNM subdomains this coming FY. We added four Linux based systems into the e-mail "cluster" and removed 2 AIX systems previously used for this purpose. The new systems, a 266Mhz, a 350Mhz, and 2 - 400Mhz PCs, are ordinary PC's running Slackware Linux, and provide the University with a cost effective method for mail application servers. CIRT modified the e-mail storage system by the addition of a NetApp F330, essentially doubling file access performance. As a result of this change, e-mail disk storage increased by almost five times our previous storage, going from 12G to 56G. We are presently at 45% usage and have room to grow in performance and space.

E-Mail and Web Statistics of Interest:

WWW accesses show a 30% increase from a fiscal year end average of 50,000 UNM home page accesses per week in FY98 to approximately 65,000 UNM home page accesses per week at year end FY99. Electronic mail averaged approximately 150,000 messages per day (weekdays) during the semester. This is a slight increase from 140,000 messages / day in FY98.

4.8 New Account Creation on the Web

In August 1998, a Web Interface for Creating New CIRT Accounts was put into production. Anyone with a web browser may access the program, and with an entry in the human resources or student database, create a UNIX or OS390 account. This replaced the text-based account creation program, which was accessed via telnet. The new web format provides a streamlined screen design and a more familiar user interface.

4.9 UNIX File Storage

In January 1999, CIRT purchased and installed a new server for UNIX file storage. The new server provides faster, more reliable service, and has more disk space. With the increased disk space, the default disk quota
for all CIRT UNIX accounts was increased from 7MB to 20MB. Currently there are 29,000 accounts on the CIRT UNIX system. Account file space is commonly used to store e-mail folders and Web pages.

4.10 NetTracker
In February, 1999 NetTracker, a web site analysis tool, was purchased by CIRT and made available to UNM departments and offices free of charge. It is used to report web page usage on www.unm.edu web sites. NetTracker produces 14 different summary reports as well as "drill-down" capabilities and customized reporting. Reports can be displayed in monthly and cumulative time frames, going back six months from the current date. The interface is web-based, and can be accessed from any web browser. There are currently 15 departmental sites using this software.

4.11 Electronic mail client improvements
During the past year, CIRT carried out an evaluation of electronic mail applications using Internet standards. A team of CIRT staff with the involvement of mail system administrators from key departments configured, used and evaluated the most advanced and most popular Windows and Macintosh applications. After a thorough review, Mulberry, an e-mail application from Cyrusoft International was selected. Implementation began in July 1999 with inclusion of Mulberry in the release of Windows and MacMirada 4.0. This was the first time a desktop e-mail client was provided and supported for the Macintosh platform. Immediate e-mail enhancements included providing direct access to the UNM directory from within e-mail and centralized storage of personal application preferences. E-mail address books which are centrally stored and therefore available from any platform or location also became available. Access to these address books is controlled by the owner with access control lists, thus shared group address books became practical as well. As of this writing more than 7,800 UNM users had accessed Mulberry.

4.12 Windows and MacMirada improvements
Both Windows and Macintosh versions of Mirada were improved during the year. In addition to the inclusion of Mulberry, a modern e-mail client replacing PC-Pine on Windows and adding a mail client on Macintosh for the first time. A localized UNM version of Netscape, also on both platforms, provides the highest level of security currently available in a Web browser. Localization also allowed CIRT to 'build in' pointers to a number of key informational and technical help sites on UNM's intranet. Inclusion of several plug-ins allows for greater flexibility in producing sound and motion presentations on UNM's intranet. It also allowed CIRT to implement automated operating system updates and software installation across the network on Windows computers for the first time.

Mirada version 4.0 is produced more efficiently for both users and CIRT, as it now includes both Windows and Macintosh versions on a single CD-ROM. The CD includes all key elements and enhancements, such as the web browsers, Acrobat Reader and UNM custom applications for updating home users dial-up settings. Version 4.0
supports the most modern versions of Windows (NT 4.0 and Windows 95/98) and Macintosh (MacOS 8.5) operating systems available at its release.

4.13 CIRT Help Desk

Having established a reputation for providing fast, friendly competent consulting, this past year the Help Desk has sought to expand the scope and capacity of its operation. After analyzing CIRT’s customer support processes, industry trends including Gartner Group’s best practices and trends in university technical support practices the Help Desk has launched numerous initiatives as noted below. Currently the Help Desk provides first level support on all CIRT supported hardware and software ranging from in-depth problem solving on desktop applications and networking to minimal (call forwarding) support for UNM legacy systems such as payroll and student information systems. Also, the Help Desk manages a small computer based training room and reference library. The total contacts provided by the Help Desk to CIRT’s clients are approximately 57,825 from July 1998 to June 1999. (See Help Desk Activity for 1998-1999). The Help Desk is open from 8:00 a.m. - 5:00 p.m., Monday through Friday. New consultations occur on average every 2 minutes, take about 3 and ½ minutes per/consultation, answers calls on average in 30 seconds, solves about 80% of the problems at the first contact at a cost-of-service of about $4.00 per consultation.

Major Help Desk Initiatives (‘98-‘99):

<table>
<thead>
<tr>
<th>Major Help Desk Initiatives (‘98-‘99):</th>
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</table>

**Help Desk Activity for 1998-1999**

<table>
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<tr>
<th>Months</th>
<th>Calls from off campus MF-9-5</th>
<th>Calls from on campus MF-9-5</th>
<th>Total calls MF-9-5</th>
<th>Voice mail</th>
<th>Outgoing calls from HD to clients</th>
<th>Total calls</th>
<th>Email totals</th>
<th>% Walk-ins</th>
<th>Total contacts</th>
<th>Help Desk WEB Hits</th>
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<td>840</td>
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<td>132</td>
<td>662</td>
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**Total Contacts:** 22,828

**Help Desk WEB Hits:** 57,925

**Help Desk WEB Hits:** 74,426

* data estimated based on historical information and data available from comparable months.
• ACD phone system implementation;
• Take over of network problem reporting and advanced problem solving;
• Assume DSIG (UNIX) systems problem reporting and basic problem solving;
• Provide Help Desk support for EMIS systems as they are rolled out;
• Develop plans for the remodeling of the Help Desk to separate call center from walk-in clients and increase the number of support consultant work stations to provide for future growth;
• Critical role in the Problem/Change/Asset Management Project (PACMAN) including leadership roles in knowledge base development, implementation and training activities;
• Development of computer based training modules for Mulberry electronic mail
• Coordination of Y2K departmental consulting activities;
• "Single point of contact" project leadership defining a phased consolidation of CIRT first level support activities;
• Investigate costs for extending the Help Desk hours of operation for inclusion of more flexible evening and weekend hours to support distance education students, non-traditional and evening students.
• Evaluate costs associated with the increase of services brought on by a single point of contact for core administrative applications and services, which includes legacy applications, (payroll, registration, etc.), and new applications rolling out under EMIS and the data warehouse.

4.14 CIRT News
In order to provide the UNM community with computing news faster and to reach the maximum number of people possible, the *CIRT Newsletter* was redesigned this year. A second reason was to pare down paper and printing costs. Now known as *CIRT News*, it is printed on tabloid-size newsprint and is published about seven times during the academic year. UNM Postal Services distributes *CIRT News* to UNM departments and offices. CIRT students and staff distribute the newsletter to computer pods, classrooms, and other public places.

4.15 Electronic Management Information Systems (EMIS)
The four current state analysis teams; Purchasing, Accounts Payable, Inventory and Hiring, were consolidated into two future state design teams. These teams were given the tasks of developing conceptual plans for future state processes to solve problems and issues discovered during the current state analysis. The teams conducted focus groups and sought the "best of class" practices at other institutions to begin the conceptual design work. This work resulted in comprehensive process flowcharts and numerous written recommendations for policy changes in the future. Although the envisioned future states require several years to be fully implemented, several projects were moved forward this year (with minimal impact on our limited staff resources), by developing prototypes that demonstrate the future states.
Implementation Activities:

- **Document and Payment Tracking Application:** This WWW based, lookup application gives departments the ability to "see" when requisitions are received at Purchasing, converted to purchase orders, and to track payments made by Accounts Payable to external vendors. This is the first time this information has been available to departments online.

- **Project dEMISTify:** This WWW based inventory project, scheduled for deployment July 1, 1999, allows departments to search the University's inventory records and download their inventory, update records and upload changes back to Plant Fund Accounting using a Web interface.

- **Applicant Tracking Systems:** We made a determination in January that the applicant tracking system currently in use at Human Resources was not Y2K compliant. Our own project staff began replacing it with an Oracle application, thereby paving the way for the full implementation of the future state hiring process.

- **Online Employment Application:** An online web based application is now available on Human Resource's Home Page. The application can be printed from the web or downloaded as a Word file to an applicant's PC.

- **Workflow and Imaging Systems:** A proposal was made to purchase software that provides an integrated product suite for workflow, imaging, auto fax, and web deployment of Oracle applications. The aforementioned functionalities are necessary in order to distribute business applications across the University.

### 4.16 Campus Data Communications Network (CDCN)

Data communication's technological progress is increasing at an exponential rate. It is the responsibility of CIRT to employ the improvements appropriately so that the University benefits from the technology. This past year CIRT has expanded the network infrastructure to 18,000 nodes! Our efforts are described in five major categories:

**Internal Building Network Upgrades or Expansion**

- The Woodward Hall's network connections were increased.
- The Athletic Administration was upgraded from a shared network to a switched network, and the number of network connections were increased.
- A new network was installed at the Tow Diehm facility, and connected to the CDCN.
- The Lobo Lab network was upgraded from a shared network to a switched network.
- A new network was installed at the UNM Press warehouse building, and a Wide Area Network (WAN) connection was established.
- A new switched network, with over 500 network plates, was installed at Dane Smith Hall and a 1,000Mbps backbone connection to the CDCN was established.
- Dynamic Host Control Protocol (DHCP) was implemented for the Health Science Center departments.
• A new network was installed at the Tamarind Institute and connected to the CDCN.
• A new network was installed at the south Golf Course, and a WAN connection was established.
• The ESC pod was upgraded from a shared network to a switched network.
• CIRT was upgraded from a shared network to a switched network and the building was rewired for Y2K compliance.
• Biology’s network connections in Castetter Hall were increased.
• The dormitories, Coronado Hall and Hokona Hall, have increased the number of active network connections in the residents’ rooms.
• The Office of the Medical Investigator network in the State Laboratory Building was upgraded from a shared network to a switched network for Y2K compliance, and a 100Mbps backbone connection to the CDCN was established.
• The Health Sciences Center Medical Library was upgraded from a shared network to a switched network.
• 851 University SE in the Research Park network connections were increased.
• An internal building network (IBN) was installed at the Manufacturer Technology and Training Center located in the Research Park.
• Johnson Center’s fiber cut that occurred during the remodeling process was resolved.
• Student Services Building was upgraded from a shared network to a switched network, and the Bursar’s, Cashier’s and Admissions departments were rewired for Y2K compliance.
• A new network was installed in the dormitories Santa Clara Hall, Laguna Hall and De Vargas Hall to connect each resident’s room to the CDCN and Internet.
• Johnson Center’s network connections were increased in alignment with their remodel.
• Crystal Growth’s fiber cut by a Landscape firm was resolved.
• Network equipment was installed to fully populate the Fine Arts and Art History building.
• The Services Building (PPD) network was upgraded from a shared network to a switched network during a remodeling project.
• The Gallup branch campus network implementation plan was evaluated.
• The back hoe fiber cut at Continuing Education was resolved.
• A new data rack configuration was implemented in the CIRT machine room, transferring all electronics.
• Multiple co-generator power outages were dealt with during their feeder upgrades.
• The number of network connections at the Pit were increased.
• The number of network connections were increased at Zimmerman Library.
• The number of network connections were increased for the Albuquerque High Performance Computer Center.
Telecommunications is now the CIRT sub-contractor for data wiring.
Cable removal has been included in all installations to comply with the new state code.

**Backbone Network Upgrades or Expansion**
- Routers at all Wide Area Network sites were upgraded for Y2K compliance.
- The firewall router for Battelle Memorial Institute, located in the Research Park, was upgraded.
- A WAN connection for the Klauer Campus, in Taos, to the Taos Branch campus was installed.
- An ATM (155Mbps) connection was installed for OMC, Optoelectronics Material Center, located at the Research Park.
- The fiber routing from ASM to Scholes Hall was redesigned after a tunnel light bulb melted the fiber jacket.
- Router software was upgraded.
- Evaluation of firewalls was begun for the campus backbone routers.
- ANS, the Internet Service Provided (ISP), was moved from the CIRT backbone router to the ISP router and a single Point of Entry (POE) was established.
- The CIRT machine room uplink was upgraded from 100Mbps to 155Mbps.
- The speed for compute servers was upgraded to 100Mbps in the CIRT machine room.
- The Health Sciences Center fiber zone backbone was upgraded from 10Mbps to 100Mbps.
- The Health Sciences Medical Library backbone connection was upgraded from 10Mbps to 100Mbps.
- The Health Sciences Center collaborated with CIRT to evaluate, plan and purchase the core gigabit campus backbone.
- The Wide Area Network backbone router connection (AGS+) replacement process for Y2K compliance has begun.
- ATM connectivity was provided to four SP2 nodes to provide redundancy and to support parallel processing.
- A switched 10Mbps for the SP1 was provided with a 100Mbps uplink.
- Fiber was patched for Media Technology Services.
- The IBM terminal controller was eliminated.
- The voice-over-IP (VOIP) for the UNMH HOPE project was evaluated.

**Internet Connectivity Upgrade**
- vBNS was implemented for UNM to use Internet2.
- The ISP router interface was upgraded to 100Mbps.
Brooks Fiber and GST brought fiber to CIRT to establish a point of presence (POP). This also provides a redundant fiber path for Telecommunications.

The NMSU DS3 connection was installed to vBNS.

**Dial-up Service**

- Modems were upgraded by moving to Brooks/MCI Worldcom.
- Equipment was consolidated to provide uniform service.
- The Hunt group was configured according to usage.
- The service bottleneck to Telco provider was eliminated.

**One-time Tasks**

- The power panel in the CIRT machine room was upgraded to support the additional dialup service, and router requirements for vBNS.
- A list of network hardware to replace for Y2K was specified.
- Terminal servers were tested for Y2K compliance.
- Uninterruptible Power Supplies (UPS) were evaluated for disaster recovery at the fiber zone level.
- Printing services were extended to Alphagraphics on Lomas Blvd. NE.
- CIRT staff visited 320 Wiring Centers on campus to change all equipment from the previous UNM tags to the new bar-code system.
- An inventory check was performed on all equipment in the 320 Wiring Centers.
- An isolated LAN for the SP2 network performance benchmark testing was established.
- The Communications Group Web site was expanded to include maps and wiring standards.
- Statistics were collected and used to acquire funds for building upgrades.
- Offices were moved for a more cohesive grouping.
- The Communication Group department was re-aligned.
- A collaborative network effort between HSC and CIRT has begun.
- The Communication Group's Excel inventory spreadsheet was migrated to Oracle.
- Winframe network capacity testing has begun.
- A security algorithm procedure was re-established.
- Having completed the evaluation and planning for Problem, Change and Asset Management (PACMAN), implementation has begun.
- The Department of Operations began training as a secondary level of network support.
- An equipment surplus process was implemented.
- Wireless systems were evaluated as an alternative for both internal building networks and backbones.
• The Communication Group's PCs were upgraded and replaced.
• The Communication Group's strategic planning process was formalized.
• Annual support for UNM's Cyberfest was provided.
• Researched implementation and support for webcam feeds.
• Invoice process was revised.
• The south campus key card process for Wiring Center access was evaluated.
• Single-Point-of-Contact (SPOC) system was developed jointly with the Help Desk
• An IP documentation dissemination and update process was formalized.
## BUILDINGS CONNECTED TO THE CDCN BY FIBER

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<td>UNM/SNL Advanced Material Lab (Parcel 2)</td>
</tr>
<tr>
<td>131</td>
<td>O7</td>
<td>338</td>
<td>Optoelectronic Materials Center</td>
</tr>
<tr>
<td>132</td>
<td>O7</td>
<td>339</td>
<td>Office and Light</td>
</tr>
<tr>
<td>133</td>
<td>O7</td>
<td>352</td>
<td>Microelectronics Research</td>
</tr>
</tbody>
</table>
5.0 CIRT STAFF PROFESSIONAL DEVELOPMENT

CONFERENCES:

1998 NASFAA Conference  
Chicago, IL  
Barbara Nolan

5th Annual Enterprise Systems Conference  
Chicago, IL  
Starlyn Brown, Randall Whelan, William Adkins

ACUTA Conference  
San Diego, CA  
John Sobolewski

AFCOM’s 1998 Fall Conference  
Dallas, TX  
Eugene Bustos

CAUSE Conference  
Seattle, WA  
John Sobolewski, Don Brady, William Adkins

CHECS Conference  
Alamogordo, NM  
Don Brady, Starlyn Brown, David Moomey, Servando Pardo, Carlos Silesky, Richard Valdez, Scott Parker, Mark Suazo, Pamela Mirabal, Art St. George, John Sobolewski, Mark Harty, Linda Miller, William Adkins

Colorado Safety Conference  
Denver, CO  
Christina Lopez

CUMREC Conference  
San Antonio, TX  
Jane Green, Barbara Pfaff, Dolores Kirian, Carolyn Brislen, David McGuire, Richard Campbell

Cybermation “1999 ESP User’s Conference & Educational Seminar  
Victoria, BC  
Alice Garcia, Theresa Chavez-Villareal

DOE Electronic Conference  
San Diego, CA  
Barbara Nolan

IOUG-A ’99 Conference  
Denver, CO  
Randall Whelen, Richard Valdez, Jeffrey O’Keefe, Beth Lowery, Penny Giller

NDSS ’99 Internet Society Conference  
San Diego, CA  
Aaron Ezekiel

Networking ’99 Conference  
Washington, DC  
John Sobolewski

ODTUG Spring ’99” Conference  
Ft. Lauderdale, FL  
Jan Diewald, Jean Russell

RMACRAO Taos ’98 Conference  
Taos, NM  
Donna Gutierrez, Richard Campbell

SATD Conference  
Tivoli Service Desk Tactical Diagnostics  
Indianapolis, IN  
Matthew Carter

SIGUCCS ’98 Conference  
Bloomington, IN  
Joseph Quintero

SWASFAA Annual Conference  
Little Rock, AR  
Barbara Pfaff

Tivoli Service Desk User’s Conference  
Dallas, TX  
Ivan Boyd, James Iden, Matthew Carter

Vista ’99 Conference’  
Palm Springs, CA  
Gary Bauerschmidt

Webdev Share 98 Conference  
Bloomington, IN  
Jan Diewald, Richard Valdez,

Westnet Networking Conference  
Phoenix, AZ  
Gary Bauerschmidt

CLASSES/WORKSHOPS/SEMINARS:

DARS Advanced Workshop  
New Orleans, LA  
Jean Russell, Meridith Swanson

Department of Education Quality Assurance Program  
Washington, DC  
Barbara Nolan

DOE Training  
Las Vegas, NM  
Lori Tafaya, Barbara Pfaff, Barbara Nolan

Fall Joint NLANR/Internet2 Techs Workshop  
Pittsburgh, PA  
Mark Jones

Microsoft Higher Education CIO Summitt  
Redmond, WA  
John Sobolewski

Network & Distributed Sys Security Symposium  
San Diego, CA  
Matthew Anderson
Oracle Training
Seattle, WA
Randy Eldredge

"Oracle Openworld '98"
San Francisco, CA
Starlyn Brown

"Oracle Designer 2.0 New Features"
San Jose, CA
Jeffrey O'Keefe, Richard Valdez, Shawnee Pace

Oracle "Application Server: Administration" Workshop
San Francisco, CA
Starlyn Brown, Patricia Rathbone

Oracle 2000/APPS Development Workshop
San Francisco, CA
Richard Valdez, Jeffrey O'Keefe

Oracle Designer 2000/First Class, Analysis, Design, & Generation Workshop
Costa Mesa, CA
Sue Roujansky

Oracle "Discoverer End User" and "Discoverer Administrator"
Englewood, CO
Richard Campbell

PeopleSoft 1998 Executive Symposium
San Francisco, CA
William Adkins

Seminar on Academic Computing
Snowmass, CO
William Adkins

Tenth Annual Corporate Contingency Planning Seminar and Exhibition
San Diego, CA
Louis Sullo

The Universal Algorithm's Software Training & Applications Support Workshop
Portland, OR
Sue Roujansky

CHECS
Santa Fe, NM
Pamela Mirabal, John Sobolewski, William Adkins

Hershey
Burbank, CA
Jan Diewald, Meredith Swanson

IBM
Atlanta, GA
Louis Sullo

LFC Focus
Santa Fe, NM
John Sobolewski

Meeting at the Citadel
Charleston, SC
Louis Sullo

Microsoft Education Executive Meeting
UT-Austin, TX
John Sobolewski

New Mexico Tech
Socorro, NM
John Sobolewski

NW Regional Technical Meeting
Gallup, NM
Louis Sullo

University of South Carolina Meeting
Columbia, SC
Louis Sullo

Westnet Meeting
Phoenix, AZ
John Sobolewski

WestNet Meeting
Salt Lake City, UT
John Sobolewski

MEETINGS:

Arizona State University
Phoenix, AZ
Vicki Bellmyer, Sue Roujansky, Susan Minter, Ivan Boyd, Starlyn Brown, Elisabeth Gresham, Carolyn Brislen, Lori Tafoya, David McGuire, Yvette Fournier, Beth Lowery, Mark Suazo
5.1 GUIDE TO ACRONYMS

ACUTA: Association for Telecommunications Professionals in Higher Education

AFCOM: Association for Data Center, Network & Enterprise Systems Management

CAUSE: Association for Managing & Using Information Resources in Higher Education

CHECS: Council for Higher Education Computing Services

CUMREC: College and University Computer Users Association

DARS: Design of Advanced Robotics Systems

DOE: Department of Energy

IOUG-A: International Oracle Users Group-Americas

NASFAA: National Association for Student Financial Aide Administrators

NDSS: New Dimension Service Solutions

ODTUG: Oracle Tool Development Users Group

RMACRAO: Rocky Mountain Association of Collegiate Registrar's & Admissions Officers

SATD: Structured Analysis and Design Technique
5.2 Contracts and Grants

John Sobolewski  
National Science Foundation  $225,400  
UNM High Speed Connection to the vBNS

Martha Talbott  
Administrative Office of the U.S. Courts  $150,000  
Jury Management System (Texas West, Texas North, Texas South, Oklahoma North, Oklahoma Western, New Mexico, Colorado, and Central California)
6.0 STATISTICAL REVIEW OF CIRT PROVIDED SERVICES

The following statistics summarize key services provided by CIRT. The following tables summarize the changes over the past 11 years and clearly illustrates the growth in computing services, despite no increases in staff and only token increases in total budget. As such, it provides a measure of the efficiency and effectiveness of CIRT.
## 1988-1989 to 1998-1999 Fiscal Year Change

<table>
<thead>
<tr>
<th></th>
<th>FY '88-89</th>
<th>FY '96-97</th>
<th>% Change FY'97-98</th>
<th>% Change FY'98-99</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Budget</strong></td>
<td>8.43 M</td>
<td>9.11 M</td>
<td>8.1%</td>
<td>9.41 M</td>
<td>11.6%</td>
</tr>
<tr>
<td><strong>FTE's</strong></td>
<td>181</td>
<td>185</td>
<td>1.8%</td>
<td>184.09</td>
<td>1.5%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>181.17</td>
<td>-0.1%</td>
</tr>
<tr>
<td><strong># Accounts</strong></td>
<td>3,933</td>
<td>58,201</td>
<td>1,379.8%</td>
<td>67,544</td>
<td>1,617.4%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>71,907</td>
<td>1,728.3%</td>
</tr>
<tr>
<td><strong># Sessions</strong></td>
<td>567,754</td>
<td>4,978,951</td>
<td>777.0%</td>
<td>5,650,893</td>
<td>895.3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6,934,902</td>
<td>1,121.5%</td>
</tr>
<tr>
<td><strong>Connect Time in l</strong></td>
<td>335,924</td>
<td>3,190,297</td>
<td>849.7%</td>
<td>3,831,168</td>
<td>1,040.5%</td>
</tr>
<tr>
<td><strong>Normalized CPU</strong></td>
<td>113,824</td>
<td>7,116,482</td>
<td>6,152.2%</td>
<td>8,461,929</td>
<td>7,334.2%</td>
</tr>
<tr>
<td><strong>Disk Space (GB)</strong></td>
<td>48</td>
<td>350</td>
<td>629.2%</td>
<td>456</td>
<td>850.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>645</td>
<td>1,243.8%</td>
</tr>
<tr>
<td><strong>Mail Message/Da</strong></td>
<td>300</td>
<td>70,000</td>
<td>23,233.3%</td>
<td>140,000</td>
<td>46,566.7%</td>
</tr>
<tr>
<td><strong>WWW Hits/Da</strong></td>
<td>did not exist</td>
<td>70,000</td>
<td>n/a</td>
<td>82,000</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>122,000</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Network Connecti</strong></td>
<td>700</td>
<td>12,700</td>
<td>1,714.3%</td>
<td>15000</td>
<td>2,042.9%</td>
</tr>
<tr>
<td><strong>Class Contact Ho</strong></td>
<td>not available</td>
<td>3,778</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

1 of 1

11/23/99:3:17 PM
Overall Summary:
CIRT and UNM experienced double the security incidents in the 1998-99 fiscal year than the previous fiscal year. This was due primarily to a large number of system attacks from Aug.1998 through early Jan.1999 (3 times as many as last year) and a doubling of account abuses including harassment and denial-of-service attacks throughout the year (Table 1). Projects like shadowing the password file to slow down intruders and a fire-wall to control denial-of-service attacks will help decrease these problems. Late spring 1999 showed an increased number of viral incidents because of the new email spread programs, such as the Melissa virus, ExploreZip.Worm, and other Trojans in the viral arena. The following reports and graphs present the trends and incidents by category. The tables show a finer breakdown of each category.

Account Abuse Problems:
Account abuses doubled this year mostly due to students harassing others (50 of the total 138. Table 2). These are handled routinely by CIRT and the Dean of Students Office.
Break-ins to Personal Accounts and Systems
Break-ins were up approximately 50% this year compared to last year. There were more system break-ins compared to individual account break-ins this year because of new Linux systems installed on campus, whose vulnerabilities were published on web pages of hacker groups before patch notices could be mailed.

System Abuses
The University experienced a large increase in attacks into our networks and computing systems. Most of these attacks came from systems that had been compromised. The intruders left backdoors and password sniffers then broke into the next Linux system they could find, etc. Fortunately, the UNM system administrators shared intruder methodologies and system vulnerabilities allowing for a much faster response campus wide, decreasing the overall impact on campus.

Virus incidents:
GIRT assisted UNM departments with more virus incidents this year than last. The new email viruses were a great contributor. To combat these new viruses the GIRT web page added bimonthly virus signature updates for supported antiviral software. Updates are now much easier to obtain and outbreaks easier to contain.
### Table 1
**Total Security Incidents, Fiscal Year 1998-1999**

<table>
<thead>
<tr>
<th></th>
<th>Staff/Faculty</th>
<th>Student</th>
<th>External</th>
<th>Unknown</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Account Abuses</td>
<td>14</td>
<td>99</td>
<td>15</td>
<td>10</td>
<td>138</td>
</tr>
<tr>
<td>Break-in</td>
<td>9</td>
<td>123</td>
<td>17</td>
<td>16</td>
<td>169</td>
</tr>
<tr>
<td>System Abuses</td>
<td>12</td>
<td>19</td>
<td>18</td>
<td>42</td>
<td>91</td>
</tr>
<tr>
<td>Viral</td>
<td>15</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>23</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>52</strong></td>
<td><strong>246</strong></td>
<td><strong>51</strong></td>
<td><strong>68</strong></td>
<td><strong>421</strong></td>
</tr>
</tbody>
</table>

### Table 2
**Description of Incidents by Problem Category, Fiscal Year 1998-1999**

<table>
<thead>
<tr>
<th></th>
<th>Staff/Faculty</th>
<th>Student</th>
<th>External</th>
<th>Unknown</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Attacks</td>
<td>1</td>
<td>42</td>
<td>1</td>
<td>0</td>
<td>44</td>
</tr>
<tr>
<td>Harassment</td>
<td>12</td>
<td>50</td>
<td>12</td>
<td>7</td>
<td>81</td>
</tr>
<tr>
<td>Commercial Use</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>False Reports</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>No Harm</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>14</strong></td>
<td><strong>99</strong></td>
<td><strong>15</strong></td>
<td><strong>10</strong></td>
<td><strong>138</strong></td>
</tr>
</tbody>
</table>

### Table 3
**Break-ins System and Individual, Fiscal Year 1998-1999**

<table>
<thead>
<tr>
<th></th>
<th>Staff/Faculty</th>
<th>Student</th>
<th>External</th>
<th>Unknown</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Attack</td>
<td>9</td>
<td>123</td>
<td>16</td>
<td>15</td>
<td>163</td>
</tr>
<tr>
<td>Harassment</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>False Report</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>9</strong></td>
<td><strong>127</strong></td>
<td><strong>17</strong></td>
<td><strong>16</strong></td>
<td><strong>169</strong></td>
</tr>
</tbody>
</table>

### Table 4
**System Abuses, Fiscal Year 1998-1999**

<table>
<thead>
<tr>
<th></th>
<th>Staff/Faculty</th>
<th>Student</th>
<th>External</th>
<th>Unknown</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Attack</td>
<td>7</td>
<td>17</td>
<td>10</td>
<td>18</td>
<td>52</td>
</tr>
<tr>
<td>System Vulnerability</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>24</td>
<td>34</td>
</tr>
<tr>
<td>Harassment</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>False Report</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>12</strong></td>
<td><strong>19</strong></td>
<td><strong>18</strong></td>
<td><strong>42</strong></td>
<td><strong>91</strong></td>
</tr>
</tbody>
</table>

### Table 5
**Viral Problems, Fiscal Year 1998-1999**

<table>
<thead>
<tr>
<th></th>
<th>Staff/Faculty</th>
<th>Student</th>
<th>External</th>
<th>Unknown</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Virus</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Virus Hoax</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Possible Trojan</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>False Report</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>With Damage</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Without Damage</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>15</strong></td>
<td><strong>5</strong></td>
<td><strong>2</strong></td>
<td><strong>1</strong></td>
<td><strong>23</strong></td>
</tr>
</tbody>
</table>
## 6.2 CIRT 98-99 Class Statistics

<table>
<thead>
<tr>
<th>CLASS</th>
<th>DATE</th>
<th>AUDIENCE</th>
<th>PRESENTER</th>
<th>NUMBER IN CLASS</th>
<th>LENGTH HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assistive Technology</td>
<td>04/12/99</td>
<td>Gen Staff</td>
<td>Grisham</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Class Totals 24</td>
<td></td>
</tr>
<tr>
<td>Beginning HTML</td>
<td>12/06/98</td>
<td>HR</td>
<td>Berrens/Anderson</td>
<td>13</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Class Totals 13</td>
<td></td>
</tr>
<tr>
<td>CIRT 1-on-1</td>
<td>09/29/98</td>
<td>Gen Staff</td>
<td>Barrett</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>07/28/98</td>
<td>Gen Staff</td>
<td>Barrett</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>03/30/99</td>
<td>Gen Staff</td>
<td>Barrett</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>11/25/98</td>
<td>Gen Staff</td>
<td>Barrett</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>01/26/99</td>
<td>Gen Staff</td>
<td>Barrett</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>09/02/98</td>
<td>Gen Student</td>
<td>Barrett</td>
<td>25</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>09/03/98</td>
<td>Gen Student</td>
<td>Barrett</td>
<td>25</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>09/04/98</td>
<td>Gen Student</td>
<td>Teaf/Carter</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>09/05/98</td>
<td>Gen Student</td>
<td>Spence</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>09/03/98</td>
<td>Gen Student</td>
<td>Spence</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>07/28/98</td>
<td>HR</td>
<td>Chavez-Hall</td>
<td>15</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>03/30/99</td>
<td>HR</td>
<td>Chavez-Hall</td>
<td>5</td>
<td>3</td>
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<tr>
<td></td>
<td>01/26/99</td>
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<td>Rigg-Healy</td>
<td>2</td>
<td>3</td>
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<tr>
<td></td>
<td>11/25/98</td>
<td>HR</td>
<td>Rigg-Healy</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>09/29/98</td>
<td>HR</td>
<td>Chavez-Hall</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>09/28/98</td>
<td>HR</td>
<td>Spence</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>10/29/98</td>
<td>HR</td>
<td>Spence</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>01/26/99</td>
<td>HR</td>
<td>Spence</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>08/27/98</td>
<td>HR</td>
<td>Teaf/Carter</td>
<td>14</td>
<td>3</td>
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<tr>
<td></td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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## 7.0 NEW STAFF AND SEPARATIONS

### New Staff

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<tr>
<td>Paula Lopez</td>
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<tr>
<td>Debby Grace</td>
<td>09-21-99</td>
<td>Analyst Programmer II</td>
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<tr>
<td>Willard Talbott</td>
<td>01-11-99</td>
<td>Accountant</td>
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<tr>
<td>Dave Lunde</td>
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### Separations

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<td>Renee Boyd</td>
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<td>Paula Gibson</td>
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<td>Programmer</td>
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<tr>
<td>Theresa Rees</td>
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<td>Gary Louie</td>
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<td>John Jordan</td>
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