6-30-1990

Annual Report of the University, 1989-1990, Volumes 1-5

University of New Mexico

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## THE PRESIDENT

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## VICE PRESIDENT FOR ACADEMIC AFFAIRS

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<td>SOCIOLOGY</td>
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The alumni of a university significantly affect its present vitality and future strength. As part of the university's overall advancement effort, the alumni relations program is critical. It needs to be administered by professional educators, committed to both the institution and the profession. It also needs the support of alumni volunteers who, together with the staff, help the institution achieve its goals and maintain positive relations with the alumni population.

The University of New Mexico Alumni Relations Office has two complementary missions: one, to provide a means for the University to communicate with and serve alumni, and two, to provide a means for alumni to communicate with and serve the University. The underlying intent of this partnership is to insure the University of New Mexico's continued excellence.

To implement these goals, the UNM Alumni Relations Office, in concert with the UNM Alumni Association, has developed a comprehensive alumni program. The following report describes the highlights of the alumni program over the past two academic years.
1. **Significant developments during the academic years 1988-89 and 1989-1990**

**PROGRAMS/SERVICES**

**Chapter Activities**

UNM Alumni Association chapters are still in their infancy. Unlike many universities whose alumni chapters have existed for decades, UNM's chapters first evolved eight years ago. Many of the chapters have become consistent in their offerings, usually two events a year. Some chapters elect officers and hold organized meetings, while others meet around chapter events, normally organized by Alumni Relations Office staff.

Chapters sponsor scholarships, help recruit students, provide updates about UNM, and gather socially, frequently for tailgate parties, for Lobo Day events, or to hear a University speaker. Chapters create ongoing, personal ties between alumni and UNM. A list of 1988-1989 and 1989-1990 chapter events is appended to this report.

The Alumni Association encompasses chapters or contact people throughout the United States: Austin, Colorado Springs, Denver, Houston, Los Angeles, New York City, N.E. Texas (Dallas), Phoenix, San Diego, San Francisco, Seattle, South Florida, Twin Cities (Minneapolis and Saint Paul), and Washington, D.C., out of state; and Alamogordo, Albuquerque, Artesia, Carlsbad, Clovis, Espanola, Gallup, Las Cruces, Los Alamos, Raton, Roswell, Santa Fe, Silver City, and
Valencia County, in state. The South Florida and the Las Vegas, Nevada, chapters were formed in 1989-1990.

In addition, the Alumni Relations Office coordinates with seven constituent chapters: College of Fine Arts, College of Engineering, School of Medicine, College of Nursing, Law School, Anderson School of Management, and Public Administration. The latter two chapters were formed in 1989-1990.

Awards

The Alumni Association recognizes outstanding alumni and New Mexico citizens with three annual awards: the James F. Zimmerman Award, the Bernard S. Rodey Award, and the Erna S. Fergusson Award (known until 1990 as the Award of Distinction).

In 1988-1989, the award recipients were:

Zimmerman  
Rodey  
Distinction  

Klaus Keil  
Arturo Ortega  
Jerry Geist  
Bill Brannin  
Edward Tixier  

And in 1989-1990:

Zimmerman  
Rodey  
Fergusson  

Robert Stamm  
Tibo Chavez  
Katherine Simons  
Pablita Velarde
Student Recruitment

One of the Alumni Relations Office's goals is to involve alumni in recruiting well-qualified students for their alma mater. In 1988-1989, the Office identified 150 alumni throughout the state who are interested in assisting the Office of Student Outreach in recruiting.

Beginning the same year, alumni in local New Mexico communities worked with the Alumni Relations and the Student Outreach Offices to host Excel Receptions. These receptions honor high school students--along with their parents--graduating in the top 10 percent of their class. (See Appendix II.)

Scholarship Programs

The Alumni Association awards a variety of scholarships, funds for which are either raised on an annual basis or are provided by endowed gifts. The following scholarship programs are in place:

- An Alumni Community Scholarship Program awards $1,000 plus a dollar amount raised by in-state alumni for a student from their community. In 1988-1989, 18 New Mexico communities participated; in 1989-1990, 16 scholarships were awarded through the program.

- The Alumni Association offers three scholarships yearly: the Arthur Harvey, the Gwinn "Bub" Henry, and the Harry F. Lee Memorial Scholarships. Fifty-eight students applied for these in 1988-1989; 47 students applied for these in 1989-1990. The scholarship recipients named in 1989 were John Daniel Webber (Harvey), Kathleen Gallegos Borresen (Lee), and M. Bliss McCracken (Henry); those named in 1990 were Todd Shackelford (Harvey), Melaine Romero (Lee), and Eddie Abeyta (Henry).

- During UNM's centennial year, a special, one-year Centennial Scholarship was made available to New Mexico communities where alumni live. Alumni chapters sponsored 14 scholarships at $600.

Student Affairs

The Alumni Association and the Alumni Relations Office try to make themselves known to students on campus, both to serve the students and to inform them of their future responsibilities and benefits as alumni. Many of the alumni activities are sponsored in conjunction with the Dean of Students division.

During the year, Alumni Relations Office sponsors student development leadership workshops. In 1988-1989, the workshop topics included "Event Planning and Promotion Fund-raising," "Parliamentary Procedure," and "Women in Leadership." In 1989-1990, topics included "Public Relations and Publicity"; "Membership Motivation, Leadership, and Organizational Skills"; "Women in Leadership II"; and "Leadership and Your Personality Type."

One of the Association's goals is to "create ways for alumni to advise current students with regard to career options." A new program matched juniors with alumni mentors in career areas of interest to the students. In 1988-1989, 49 juniors in the Anderson Schools of Management participated in the Professional Guidance Program. In 1989-1990, the program was expanded to include the College of Engineering. The program will expand to different colleges and to non-local alumni. A brochure is being developed to publicize further this opportunity of benefit to the student and for increased involvement by alums.

Each year, the Alumni Association participates in hosting a reception before the Student Recognition Banquet. The Alumni
Association's Trailblazer and Student Citizenship Awards went to Jeannie Elliot (Outstanding Trailblazer) and Bill Sanderson, Vickie Roberts, Charleston Fobbs, Scott Jones, and Lisa Reid (Citizenship). In 1989-1990, the awards went to Mandy Paquet and Angie Gradillas (Trailblazer) and Danny Armendariz, Denise Mitchell, Laura Dunda, and Paula Tartaglia (Citizenship).

At the end of each spring semester, the Alumni Relations Office opens the grounds and doors of Hodgin Hall to graduating seniors. The Office provides entertainment, food, and a miniature diploma, along with information about the Alumni Association, to each senior. Approximately 400 seniors have stopped by each of the past two years.

In 1988-1989 and 1989-1990, alumni were involved in UNM's summer new student orientation program. The Alumni Association hosts a reception for parents at Hodgin Hall as part of the orientation program.

Legislative Relations

It is imperative that alumni speak for their alma mater to the members of the New Mexico State Legislature. Accordingly, the Alumni Relations Office has designed two annual functions which conjoin legislators, UNM administrators, and alumni: Legislators Appreciation
Day, held on campus, and the Legislators Reception, held in Santa Fe during the regular legislative session.

Legislators Appreciation Day, sponsored jointly with the President's Office and UNM's Legislative Coordinating Committee, brought 26 legislators in both 1988-1989 and 1989-1990 to campus for a forum, tour, class visits, dinner, and a Lobo basketball game.

The Legislators Reception is hosted by the Association at Santa Fe's La Fonda Inn. About 200 people have attended the last two years, including 77 legislators in 1988-1989 and 71 in 1989-1990.

Homecoming

Alumni always look forward to Homecoming, the opportunity to return to campus, see old friends and professors, and to display a bit of school spirit. UNM's homecomings include reunions, a pre-game fiesta, All-University and Lettermen's breakfasts and a Lobo football game with a half-time show, among other events.


Centennial's Homecoming 100, with the theme "A Part of Your Past, A Place in Your Future," added many more activities to the week
of celebration. The Decades Reunion and the Student Leaders' Reunion were added for the first time, and will be included in upcoming Homecomings. See the Alumni Centennial Events section of this report for more details.

Alumni Lettermen's Association

There are approximately 1,850 Lettermen, 185-200 of whom are dues-paying members of the Lettermen's Association. In 1988-1989, the Lettermen sold a "Lettermen's Directory" and promoted a special group rate on season football tickets.

Each year the Lettermen host the Hall of Honor banquet. In 1988, they inducted H.L. Galles, Abbie Paiez, Adolph Plummer, Bobby Santiago, and the 1927 Football Team into the Hall of Honor. In 1989, they inducted Cathy Carr, Mel Daniels, Dr. Jerome Greenblatt, Charles Lembke, and Tom Popejoy (posthumously). Their portraits were hung on the Hall of Honor Wall at the UNM Basketball Arena during local Lobo Day celebrations.

Trailblazers

The Trailblazers are the student alumni organization. Each fall semester, the group holds a membership drive, which attracted 50

PUBLICATIONS

Mirage Magazine is the University's primary mode of communicating with approximately 70,000 alumni and friends on a regular basis.

In 1988-1989, the front cover of Mirage received an Award of Merit in the annual New Mexico Advertising Federation ADDY Awards competition; the fall cover received the Grand Prize from CASE Regional; and three issues received the Award of Excellence from CASE Regional. These awards followed a major revision to the magazine's appearance. The next year, Mirage also received honors from the New Mexico Press Women.

In the Winter 1989 edition, the Association published a four-page insert ("Double Your Value") to Mirage describing UNM alumni services, benefits, and opportunities.
AUXILIARY SERVICES

Tours sponsored by the Alumni Association in 1988-1989 included Mediterranean Highlights, French Normandy Coast, Alaska, and Peter the Great (the Soviet Union); in 1989-1990, tour programs included Pacific Hawaiian Odyssey, the Canary Islands, and the Alps.

Other Association service offerings for both years included major medical group insurance, a First National Bank VISA card, the Quest International Card (providing travel and entertainment discounts), and a variety of merchandising items. In 1988-1989, the Alumni Association added to the list of alumni benefits a $50 per semester recreation pass to Johnson Center and a discount on Lobo Tennis Club membership. Also that year, membership in the UNM Club was opened to alumni. In 1989-1990, the Alumni Association, in conjunction with UNM's Computer Resource and Technology Center, began to offer to alumni a purchase/discount program on Zenith, IBM, Apple, and Memorex computer equipment.

ALUMNI CENTENNIAL EVENTS

Celebrating UNM's centennial was an opportunity for the Alumni Relations Office to add interesting programs to its repertoire and to honor alumni in new ways. The Alumni Association and the Alumni Relations Office worked closely with the Centennial staff to organize the following alumni centennial events:
- Centennial Ball, with 450 alums attending, opened UNM's Lobo Week.

- Lobo Week, celebrating UNM's birthday, included a 100-mile walk by track star Jesse Castaneda, an inter-religious alumni service at the Alumni Memorial Chapel with a reception at Hodgin, and a UNM Trivia Treasure Hunt for $1,889. A Lobo Birthday Cake Contest at the Pit concluded the week-long celebration.

- The past presidents of the Alumni Association raised funds for a Centennial gift to UNM: a clock tower next to the duck pond, the site for which was dedicated during Centennial Homecoming week.

- Centennial Homecoming included traditional activities, a Student Leaders Reunion, and a Decades Reunion, followed by the Centennial Closing Ceremony. A major promotional event, "Red Day at Winrock," included displays, booths, entertainment, and food for media representatives. During Homecoming week, the publicity committee hosted a reception in Hodgin Hall for about 100 broadcast and print media personnel from around the state following a speech by journalist Linda Ellerbee.

- Seven nationally recognized artists participated in the "Illustrious Alumni" Art Show (September 22–November 3) in Jonson Gallery.
- The "Salute to Distinguished Alumni" identified and honored 52 alumni, a list of whom is included as Appendix III.

- The Centennial created opportunities for important community outreach to four New Mexico locales. The Centennial and Alumni staffs arranged receptions for area alumni, a visit by President May to local high schools, meetings with area legislators, appearances on media talk shows, and lunch/dinner with community leaders. Ten communities—Alamogordo, Belen, Clovis, Farmington, Gallup, Hobbs, Las Cruces, Las Vegas, Los Alamos, and Roswell—were visited.

- The "Centennial Alumni Directory" was issued in March.

- Finally, alumni were invited to gather at YesterDave's to celebrate their efforts and successes at a volunteer thank-you party. The premiere of the videotape of Centennial Homecoming was featured.

OFFICE

1989-1990 was the year to bring the Alumni Relations Office "up to speed" in the area of data management. Five new Zenith personal computers and attending software were purchased. Three additional communication boards connect the office with the campus.
communication network, allowing the staff to have access to the alumni data base as well as other campus-wide data bases.

In the spring of 1989-1990, approximately 8,200 names and addresses were added to the alumni data base, the result of a search for lost alumni by TRW, a national information marketing service. This brings the total number of alumni on UNM's system to more than 85,000:

<table>
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<tr>
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<th>Number</th>
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<tr>
<td>Lost alumni</td>
<td>9,619</td>
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<td>292</td>
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<td><strong>Total</strong></td>
<td><strong>85,133</strong></td>
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<table>
<thead>
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<td>New Mexico alumni</td>
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<tr>
<td>Albuquerque alumni</td>
<td>29,111</td>
</tr>
<tr>
<td>Out-of-state alumni</td>
<td>31,834</td>
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2. Significant plans and recommendations for the near future

In general, the past two years covered in this report have been spent creating the systems and funding to carry out the mission of the Alumni Relations Office and the Alumni Association. Our aim now is to improve and develop the programs we have in place.

As far as the University as a whole is concerned, for the past two years, Alumni Association Past President Brian Burnett has served on the UNM 2000 committee. The Alumni Board of Directors studied the
report, and submitted comments and suggestions to President May. The Board stressed the importance of including alumni in UNM's partnership with the community.

With specific regard to the Alumni Relations Office, our goals are as follows:

- To emphasize continuing education in our programming and services. The Office will work toward adding an educational component to Homecoming, travel, and many of our other standing activities.

- To increase chapter activity and development. In 1990-1991, we will be hiring an additional staff member whose primary responsibility will be to work with our alumni chapters.

- To develop better systems for alumni outreach.

- To weigh the pros and cons of changing membership dues, largely in response to a need for additional funds. A survey of alumni has been planned to determine their opinions.

- To insure Mirage's financial stability. Mirage is the University's primary spokespage. As such it should reflect the University's goals of increasingly higher quality.
- To expand our professional guidance program nationwide.

- To utilize Trailblazers in an important new mission as official UNM hosts.

- To develop a reading room (for UNM Press books, *Mirage*, etc.) and lecture series in Hodgin Hall.

3. Appointments to and separations from staff

1989-1990 saw several staff changes:

Office Manager Arlene McConathy resigned to move to Tennessee. Her job was upgraded to data service supervisor, a position filled by Miranda Eastham. Our data management system is crucial to our operation. As such, it deserves the full-time attention of a qualified professional.

Mary Conrad, 3/4-time publications editor, whose primary assignment is *Mirage* Magazine, replaced Tobey Cordova, a temporary part-time publications coordinator. Because of its importance to community outreach, *Mirage* warrants overseeing by a professional editor. The position was made full-time at the beginning of the 1990-1991 academic year.
Roxana Berenger has replaced Becky Farrow as the office's receptionist. Becky moved to Detroit. The importance of our front line in a service-oriented office is immense.

Carol Price has replaced Helen Evans as part-time accountant. The job is exceptional in that it includes managing two sets of books: one for the Association and one for the Office. Helen resigned to work full-time on her crafts business.

4. Professional Activities

During the past two years, I (Karen Abraham) served on the following UNM committees: the Centennial Executive Committee, Intercollegiate Athletic Task Force, New Mexico Plan Task Force, Legislative Coordinating Committee, Search Committee for Director of Public Affairs, Search Committee for Director of Development, and Convocation Planning Committee. Committees in Albuquerque included the Chamber of Commerce Educational Affairs Committee, Distinguished Teacher Selection Committee, and the Albuquerque Foundation's Thanks to Teachers Selection Committee, and Muscular Dystrophy Telethon Committee.

I hold membership in the following organizations: Council for Advancement and Support of Education, American Society of Association
Executives, National Association of Student Personnel Administrators, Association for the Study of Higher Education, Phi Kappa Phi, and Pi Lambda Theta.


CLOSING COMMENTS

The importance of alumni to the University of New Mexico cannot be overstated. As representatives of their alma mater, alumni are a concerned constituency who act as guardians of the heritage and achievements of the University. Alumni provide continuity and historical perspective, and function as preservers in the broadest sense, a sense that embraces change as fundamental to the viability and relevance of the institution in the present and the future.

UNM alumni are joined with the University in a partnership whose common enterprise and cause is education. As in the past, and
perhaps to an even higher degree, our educational academy--UNM--today requires the understanding, support, and careful care that can only come from those outside who make or influence decisions that affect it. Our job, vis-a-vis the Alumni Association and the Alumni Relations Office, is to see that as many individuals as possible know and care about the University, know and care about what education really is and what it means for our society and its citizens.

The kind of real support our University requires and the restoration of public confidence for which we strive depends to a large degree upon the skill with which we involve our alumni in programs of substance, and in service that leads to productive ends.

The greatest opportunity for the support and growth of the University lies solidly in the area of alumni development. To build upon and strengthen "what is" to "what could be" in the alumni relations area is the most visionary option for the University in terms of return on investment. When assigned the right priority, given the appropriate support, and pursued from the right perspective, alumni relations programs are of boundless value education as an intergenerational enterprise. Investing in alumni is the long-term answer to institutional support and success.
Appendix I

CHAPTER ACTIVITIES

1988

Sept. 3. Albuquerque. Pre-game Tamale Feast.
Sept. 10. Las Cruces. Pre-game pep rally.
Dec. 10. Austin. Annual "New Mexico Christmas" potluck.

1989

Feb. 18. NE Texas Chapter. Lobos vs. BYU basketball game (on TV).
Mar. 4. Seattle. Fred Chreist, speaker.
Apr. 1. Denver. Dr. Michael Welsh, speaker.
Apr. 8. American Indian Chapter. Hodgin Hall.
May 20. Austin. Dr. Michael Welsh, speaker.

1990

Feb. 8. Albuquerque. Game-watch on TV (Lobos vs. CSU).
APPENDIX II
EXCEL RECEPTIONS
1988-1989

Albuquerque (4) - November: 570 attended
Roswell - Dec. 21-22
Clovis - Jan. 3
Alamogordo - Jan 3
Las Cruces - Jan. 4-5
Carlsbad - Jan 4
Hobbs - Jan 5
Raton - Jan 10
Santa Fe - Jan 11
Farmington - Jan 12
Los Alamos - April
<table>
<thead>
<tr>
<th>Community</th>
<th>Date</th>
<th>Location</th>
<th>Students</th>
<th>Total Guests</th>
<th>1988 Totals</th>
<th>1989 Alumni</th>
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<tr>
<td>Farmington</td>
<td>November 8</td>
<td>Civic Center</td>
<td>44</td>
<td>93</td>
<td>49/185</td>
<td>5</td>
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<td>Clovis</td>
<td>November 8</td>
<td>Holiday Inn</td>
<td>25</td>
<td>81</td>
<td>18/58</td>
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<tr>
<td>Gallup*</td>
<td>November 9</td>
<td>UNM Gallup</td>
<td>43</td>
<td>145</td>
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<td>9</td>
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<td>Albuquerque</td>
<td>November 15</td>
<td>Convention Center</td>
<td>194</td>
<td>823</td>
<td>151/638</td>
<td>23</td>
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<tr>
<td>Socorro*</td>
<td>November 28</td>
<td>Valverde Steakhouse</td>
<td>14</td>
<td>40</td>
<td>na</td>
<td>1**</td>
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<tr>
<td>Silver City*</td>
<td>November 28</td>
<td>Red Barn</td>
<td>38</td>
<td>152</td>
<td>na</td>
<td>11</td>
</tr>
<tr>
<td>Espanola*</td>
<td>November 28</td>
<td>Chamisa Inn</td>
<td>41</td>
<td>142</td>
<td>na</td>
<td>3</td>
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<td>Las Cruces</td>
<td>November 29</td>
<td>Hilton Inn</td>
<td>50</td>
<td>147</td>
<td>47/174</td>
<td>5</td>
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<tr>
<td>Taos*</td>
<td>November 29</td>
<td>Holiday Inn Don Fernando</td>
<td>20</td>
<td>66</td>
<td>na</td>
<td>2</td>
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<tr>
<td>Alamogordo</td>
<td>November 30</td>
<td>Holiday Inn</td>
<td>31</td>
<td>91</td>
<td>24/67</td>
<td>5</td>
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<td>Raton</td>
<td>November 30</td>
<td>The Sweet Shop</td>
<td>23</td>
<td>57</td>
<td>10/40</td>
<td>0**</td>
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<tr>
<td>Las Vegas*</td>
<td>November 30</td>
<td>The Plaza Hotel</td>
<td>16</td>
<td>39</td>
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<tr>
<td>Santa Fe</td>
<td>December 5</td>
<td>La Fonda Hotel</td>
<td>53</td>
<td>173</td>
<td>34/111</td>
<td>4</td>
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<td>Carlsbad</td>
<td>December 5</td>
<td>Motel Stevens</td>
<td>25</td>
<td>86</td>
<td>20/69</td>
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<td>Hobbs</td>
<td>December 6</td>
<td>Hobbs Motor Inn</td>
<td>21</td>
<td>65</td>
<td>11/35</td>
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<tr>
<td>Roswell</td>
<td>December 7</td>
<td>Sally Port Inn</td>
<td>24</td>
<td>70</td>
<td>11/30</td>
<td>10</td>
</tr>
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</table>

* New program in 1989

** Alumni were not invited to these events because they were luncheons. The average cost per person at these events was nine dollars.
Appendix III
CENTENNIAL DISTINGUISHED ALUMNI
May 12, 1989

Charles Atkinson '63 BFA
Professor of Music, Ohio State University

William S. Banowsky '60 MA
Executive Vice President
National Medical Enterprises, Inc.

William M. Bourn '67 BS
Dean, College of Pharmacy & Health Sciences
Northeast Louisiana University

Maralyn S. Budke '57 BA, '61 MA
Chief of Staff to the Governor, State of New Mexico

Adrian Herminio Bustamante '83 PhD
Division Head, Arts & Sciences
Santa Fe Community College

Pete A. Casaus '71 BUS
Equal Employment Opportunity Manager
Kirtland AFB, New Mexico

Victor Javier Castillo '53 BSPH
Owner/Operator, Victor's and Valley Pharmacies
Albuquerque, New Mexico

John E. Cheetham '62 BFA, '66 MM
Professor of Composition
University of Missouri-Columbia

Patti Cohenour
Actress, New York City, New York

Charles B. Corbin '60 BS, '65 PhD
Professor, Health & Physical Education
Arizona State University

Robert Whiten Creeley '60 MA
David Gray Professor of Poetry & Letters
State University of New York at Buffalo

Stephen J. Dalich '69 MS, '71 PhD
Vice President, Science Applications International
San Diego, California
Richard Diebenkorn '52 MA
Painter and Print Maker
Healdsburg, California

Herbert M. Fernandez '55 BSEE
Vice President, Metro-Tec Engineering, Inc.
Albuquerque, New Mexico

Donna Fossum '71 BA
Office of Federal Procurement Policy
Washington, D.C.

Abraham Franck '39 BA, '40 MA
Associate Professor
University of Minnesota

John Gilbert '74 BUS
Xerox Palo Alto Research Center
Palo Alto, California

William G. "Bing" Grady '55 BBA, '59 MA
President, Sunwest Bank
Albuquerque, New Mexico

Patrick J. F. Gratton '55 BS, '58 MS
Independent Geologist
Dallas, Texas

Sarah E. Greenough '76 MA, '85 PhD
Freelance writer
Washington, D.C.

Stanley E. Harrison '62 MS
President, The Potomac Foundation
Fairfax, Virginia

Joseph F. Janni '71 MS, '79 PhD
Chief Scientist, Air Force Space Technology Center
Kirtland Air Force Base, New Mexico

Mari-Luci Jaramillo '70 PhD
Assistant Vice President/Director
Educational Testing Services
Oakland, California

W. James Judge '61 BA, '70 PhD
Director, Fort Burgwin Research Center
Taos, New Mexico

Dick Knipfing '76 BA
Television Journalist
Albuquerque, New Mexico
Paul W. Lashbrooke '65 BS
  General Manager, Refining, CONOCO
  Houston, Texas

Crawford MacCallum '62 PhD
  Sandia National Laboratories
  Albuquerque, New Mexico

Kathleen M. Mahon '70 BS, '75 MD
  Clinical Associate Professor of Ophthalmology
  University of Nevada-Reno

Robert L. McNeill '65 ScD
  President, Robert L. McNeill, Inc.
  Albuquerque, New Mexico

James Paul Miller, Jr. '71 BS, '79 PhD
  Superintendent of Municipal Schools
  Farmington, New Mexico

William P. Morrison '67 BS, '69 MS
  Extension Entomologist
  Texas Agricultural Extension Service
  Texas A&M University System

Leonard J. Otten III '67 BS
  Commander, Air Force Weapons Laboratory
  Albuquerque, New Mexico

Juan Estanislao Portorreal-Gonzalez '71 MA
  Vice Minister of Education
  Dominican Republic

Antoine Predock
  Architect
  Albuquerque, New Mexico

V. B. Price '62 BA
  Urban Columnist and Editor
  Albuquerque, New Mexico

Estelle H. Rosenblum '71 MA, '80 PhD
  Dean and Professor, College of Nursing
  The University of New Mexico

Raymond G. Sanchez '64 BA, '67 JD
  Speaker, New Mexico House of Representatives
  Attorney, Albuquerque, New Mexico

Leslie Marmon Silko '69 BA
  Assistant Professor
  University of New Mexico
Leon T. Silver '48 MS
W.M. Keck Foundation Professor of Resource Geology
California Institute of Technology

Wilbert C. "Woody" Smith '73 BA, 76 JD
District Judge
Carlsbad, New Mexico

Mary D. Sabo Specht '73 BSN
Head, Main Operating Room, Naval Hospital
Camp Pendleton, California

B. G. "Bill" Taylor '54 BS
Consultant, Halliburton Company
Dallas, Texas

John S. Thai '77 BA, '81 JD
Attorney
Albuquerque, New Mexico

Henry Trewhitt '49 BA
Chief Diplomatic Correspondent
U.S. World and News Report
Washington, D.C.

Sabine R. Ulibarri '47 BA, '49 MA
Professor
The University of New Mexico

Josephine Trujillo Waconda '75 BSN
Director, Albuquerque Area Indian Health Service
Albuquerque, New Mexico

Mary Coon Walters '62 JD
Justice, New Mexico Supreme Court
Santa Fe, New Mexico

Walter A. Webster '49 BS
Senior Vice President, Leedshill-Herkenhoff
Albuquerque, New Mexico

Jerry Wertheim '60 BA
Attorney
Santa Fe, New Mexico

Don E. Wilson '67 MS, '70 PhD
Chief, Biological Survey
National Museum of Natural History
Washington, D.C.
Lenore Wolfe '66 BS, '70 MA
Retired Educator, Consultant
Albuquerque, New Mexico

Polle Trescott Zellweger '75 MS
Member, Research Staff
Xerox Palo Alto Research Center
Palo Alto, California
The Development Office underwent a tremendous transition during the 1989/1990 fiscal year. In addition to a new director being appointed, seven out of sixteen staff positions changed. The office reported directly to the President and the University’s first major comprehensive capital campaign was publicly announced.

Significant Developments During The Years

1. Private voluntary support to the University totaled more than $13.4 million. This represents a 11% increase over the 1988/1989 fiscal year. Combining this total with previous gifts and pledges for the Centennial Campaign, the University has achieved $30 million towards the $65 million goal.

2. On October 20, 1989 the University publicly announced it’s first major Comprehensive Capital Campaign with a goal of $65 million. The announcement was made before a gathering of Popejoy Society members and special friends of the University. Bill Banowski, an alumnus and former President of the University of Oklahoma and Pepperdine University, was the keynote speaker. It was reported that $15 million in gifts and pledges had been received.

3. A series of special recognition and appreciation events were initiated with President May serving as host. Every donor who had established a Chair, Professorship, or Lecturship was honored by the University at a special event.
Additionally, hundreds of donors and friends participated in a series of basketball appreciation nights.

4. A major donor ($10,000 or more) research and tracking system was established with the Development Office serving as the central clearing house for all major donors and prospects to the University. There is an active coordination of cultivation, solicitation and stewardship efforts through the central development staff, assisting all schools and colleges in fund raising.

5. There are better internal and external relations. The Deans and academic community are slowly gaining confidence in the central development operation. Continuing cultivation events have endeavored to create positive feelings about UNM while also explaining the priorities of the campaign.

Significant Plans And Recommendations For The Near Future

1. The Centennial Campaign will continue (through 1993) to be the main focus of development activities. Through the campaign, it is expected to achieve a level of $15 million a year in private support.

2. The Development operation at the University needs to continue to grow and expand. There is a direct bottom line relation between dollars invested and dollars returned. The growth in the future should take place in the colleges and unites with College Development Officers, tied directly to the Central Office.

3. A new alumni/development data base system is extremely important in supporting the constituency fund raisers. It is
anticipated that a new system will be purchased in 1991 and operational in 1992.

4. The UNM Foundations relationship to the University needs to be clearly defined and articulated in a formal agreement. The University needs to clearly identify the UNM Foundation as the primary vehicle through which all gifts flow to the University.

5. There is a genuine need to coordinate all advancement programs, i.e., public affairs, university events, development, alumni relations, legislative relations, etc., at the University. There is a lack of interrelation and shared objectives. A Vice President for University Relations would address this issue.

Appointments To Staff

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ann Leonard</td>
<td>Director of Research</td>
<td>11-20-89</td>
</tr>
<tr>
<td>Jack Harney</td>
<td>Director of the Annual Fund</td>
<td>1-15-90</td>
</tr>
<tr>
<td>Anna Moya</td>
<td>Senior Accountant</td>
<td>1-15-90</td>
</tr>
<tr>
<td>Ed Sengel</td>
<td>Data Manager</td>
<td>1-31-90</td>
</tr>
<tr>
<td>Katherine Beebe</td>
<td>Special Projects Editor</td>
<td>12-4-89</td>
</tr>
<tr>
<td>Nancy Tibbitts</td>
<td>Clerical Specialist V</td>
<td>4-16-90</td>
</tr>
<tr>
<td>Faustina Castillo</td>
<td>Department Secretary</td>
<td>4-13-90</td>
</tr>
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</table>

Separations From Staff

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<thead>
<tr>
<th>Name</th>
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<th>Date</th>
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</thead>
<tbody>
<tr>
<td>Joe Skehen</td>
<td>Director of Planned Giving</td>
<td>3-19-90</td>
</tr>
<tr>
<td>Donna Delozier</td>
<td>Director of Annual Giving</td>
<td>11-24-89</td>
</tr>
<tr>
<td>Scott Tonigan</td>
<td>Research Coordinator</td>
<td>10-26-89</td>
</tr>
</tbody>
</table>
I. Significant Developments During Academic Year, 1989-1990


B. P&PS was represented on the second UNM-2000 Committee and contributed to it on the topics of vision, leadership, management, and enrollment management.

C. P&PS assigned Dr. Patricia Burris-Woodall in Fall 1989 to the Office of Vice President for Academic Affairs at 80% of effort to study and inventory student learning outcomes at UNM.

D. Significant effort was expended to provide studies, data, analyses and interpretation of equity for administrators and faculty. This effort was in response to demands by the University's legal counsel and the president's special assistant for affirmative action. The demands grew out of OFCCP's compliance review and the preparation of a new affirmative action plan. Dependent variables were salary, tenure and promotion. Potential bias variables were gender and race/ethnicity. Results were negative.

E. Significant effort was again expended on the
question of tuition at UNM. Assistance was given the two committees (University Budget and Economic Impact) set up by the regents in the aftermath of the student protest of Spring 1989. A comprehensive presentation with displays and policy recommendations was delivered to the ASUNM Senate, the Faculty Senate, and at the first of the open forums.

F. Again, staff from P&PS provided support for the following university committees:
- Faculty Senate Long-Range Planning
- Admissions and Records
- Administrative Computing
- Faculty Senate Budget
- Staff and Faculty Welfare and Benefits

G. Began analysis of data from a survey of UNM faculty and academic administrators late in the year.

H. Supported the Vice President for Business and Finance by preparing a new peer group based on workload measures, comparing UNM's state financing with the new peer group, and recommending a revised set of funding formula productivity ratios--all of this on a rush basis.

II. Significant Plans and Recommendations for the Near Future

A. President Peck create an integrated planning staff and support the Faculty Senate's initiative on planning.
B. President and vice presidents support and start the activities necessary to comply fully with the "report card" legislation of 1990 [House Bill 4].

C. With assistance by Dr. Patricia Burris-Woodall, Vice President of Academic Affairs begin a comprehensive program of assessment of student learning outcomes.

D. President continue to assign compliance with New Mexico Commission on Higher Education’s "Institutional Planning Guidelines" to Planning and Policy Studies and firmly support this effort by directing vice presidents to cooperate fully in their respective areas of line responsibility and authority.

E. President develop and propose legislation to establish a rational state-wide policy on tuition and find suitable sponsorship.

F. The University of Southern California Faculty Planning Model or other suitable computer simulation(s) should be used to test options on planning for the faculty workforce to the year 2005.

G. Academic Affairs, Student Affairs, and Planning and Policy Studies be directed to prepare plans and procedures for early intervention with high risk beginning students.

H. The enrollment management goals contained in UNM’s response to NMCHE’s "Planning Guidelines" should be
monitored and achieved.

I. The tracking system for freshman cohorts should be turned over to Admissions and Records for production and dissemination (if possible).

J. A new tracking system for undergraduate transfer students be developed by P&PS.

K. The new president should consider having the Director, Planning and Policy Studies, as a full member of his administrative team by inviting him to join the President’s Council.

III. Appointments to Staff

Lauren Aubrey, half-time, twelve-month project assistant in position restored by President May.

IV. Separations from Staff

Lauren Aubrey, half-time, twelve-month project assistant.

V. Publications

Numerous memos, reports, and analyses, all a part of assigned tasks. No outside "scholarly" publications.
VI. Outside Professional Activities of Staff

Patricia Burris-Woodall

- Attended Fifth American Association of Higher Education National Conference on Assessment in Higher Education
- UNM, Dean of Students' Office - Participant in One-on-One Program
- Co-organizer of second annual one-week multi-cultural day camp for preschool through high school children. For children of intercultural adoptions, their families and other interested families in greater Albuquerque community.
- Informal consultant to UNM Medical School faculty regarding interpersonal communication skills in the medical interview.

Richard Cady

- Member of the City of Albuquerque Bernalillo/County Goals Commission
- Member of national publications advisory committee of the Society for College and University Planning
- Member of Finance Committee, Aquinas Newman Center
- Dissertation committee, Betsy Yost, Educational Administration
- Taught Political Science 340, International War, at night, Fall Semester, 1989.
Tom Field

- Associate Editor, Association for Institutional Research national Bitnet newsletter
- Coordinator for Rocky Mountain Association for Institutional Research newsletter
- Attended the RMAIR conference in Las Vegas, Nevada in October, 1989 and presentation with David Underwood was made on "Personalizing the PC in 1-2-3 Easy Steps or How to Become a Power User Without Assuming the Lotus Position." This presentation was voted conference favorite and copies of the paper have been distributed to 37 individual and permission granted to Salt Lake Community College to duplicate the paper for campus wide distribution.
- Attended the AIR Forum in Louisville, Kentucky in May, 1990 and participated in the Newcomers Orientation and Open House; SIGs for RMAIR, Computer Users, Major Research Universities, and Urban Universities; and a reprise performance in "Common Institutional Research Problems and Solutions--Or IR Can Be Trying."

VII. Outside Research

Burris-Woodall, P. A., Woodall, W. G., & Miller, M. D.
Further development of the MRRI instrument (Medical Role
Relationships Index) and use of the MRRI in a program of research regarding the following kinds of questions: differences in patient preferences and expectations as a function of patient characteristics (including chronic and non-chronic illness diagnosis, race/ethnicity, gender); physician preferences and expectations, relationship of role preferences and expectations to patient outcomes (satisfaction, compliance, etc.); use of MRRI to facilitate both patient and physician communication education interventions.

Richard Cady - Clean up, review of final report on Arizona State University's minorities study of which UNM was a case studied and a subcontractor.
I. Situation Analysis

A. Mission: The primary mission of the Public Affairs Department is to promote awareness and understanding of the University among its many constituents. To achieve this goal, the department is divided into functional areas, including news bureau, internal communication, community relations, media relations and publications.

B. Current Resources:
   1. Staffing: The total staffing for 1988-89 is 11.75 FTE, including 11 professional and .75 clerical. (Staff has decreased by 2.75 FTE, or four people, since 1985.) Public relations staff includes five professional staff in the news bureau and community, media and internal relations functions. The publications staff includes an associate director, one graphic designer, a publications editor and a photographer.

      All professional staff have achieved a B.A., several are pursuing the M.A. and one holds a Ph.D. The director holds national accreditation in educational public relations. The average tenure of a professional staff member in the department is in excess of ten years.
2. **Budget.** The 88-89 budget for the department is $391,845, of which $312,340 is salaries. All other expenses total $87,157 and have steadily decreased since the 1985 total of $104,000. Other expenses include all office and art supplies, advertising, travel, publishing and maintenance. Complete budget chart is attached.

C. **Space, Equipment.** Space allocation for the department has decreased by more than 1,000 sq. ft. over the past two years. In addition to losing our conference/production area, we also moved administrative offices into smaller quarters last summer. No meeting space, except in the middle of the work area, is available. Space for work studies is also limited, and assembly/collation space is limited as well. Several staff cubicles are now below the University standard for space allocation for professional staff. In the future, the lack of public space (for viewing public documents) may become a problem.

Equipment needs include the need to reassess the entire word processing situation to make the department compatible with its own publications office, the addition of video equipment as demand for video increases, and replacement of outmoded video equipment now in use.

D. **Major Current Activities:**

1. **Publications:** Figures for last year show that the publications division produced 276 University publications. In view of the increasing demand for services from this section of the department, we are continuing a study of the success and cost effectiveness of the University's publishing program.
2. **News Media Services**: The news bureau writes and distributes an average of 25 news releases each month with many additional stories placed through personal contact with news media. Departmental logs indicate that last year just over 1,500 stories (excluding routine sports coverage) about UNM appeared in the two Albuquerque newspapers, an 11% increase over the previous year. Of these, approximately 85% are categorized as informational (neutral) or positive. Approximately 15% were categorized as negative to the institution. We have experienced a marked increase in coverage of science and research, more than doubling last year's total coverage.

3. **Centennial**: All department activities have been geared toward the Centennial. In addition to providing staff support, office space, supplies and equipment to the Centennial, all staff have played large roles in making the Centennial a success.

4. **Development of Video Services**: This year much was invested in developing video skills for staff and building a video library, and, for the first time, production of video presentations about the University.

5. **Centennial Campaign support**: As the Centennial winds down, it is apparent that the Centennial Campaign will make just as many demands of staff and resources. Staff and resources have already been assigned to this undertaking.
E. Strengths and Weaknesses:

1. Strengths:

   a. Staff skills/tenure. This staff has worked together for nearly a decade, and has developed a unique understanding of the institution. This has translated into adaptability, sensitivity and ability to perform to the best interests of the institution.

   b. High Standards of work. The department recently received a regional award of excellence for the "UNM Is..." program, two awards for Business Link brochures, and several state and regional awards for writing.

2. Weaknesses:

   a. Staffing levels. Despite the high performance of staff this year, the recent cutback of 3 members by attrition cut deeply into high need areas. The absence of an associate director has created organizational problems. The loss of a graphic designer has hurt publication's ability to produce the quantity of work of previous years. The loss of the writer position has also meant the loss of a news editor. As a result, the department was forced to cut back on several projects this year.

   b. Computing equipment. The department's adoption of the then University standard of Wang OIS has severely limited our ability to work better and faster. Wang OIS cannot be converted to "talk" to our own desktop publishing system, nor to the University mainframe, nor to any other
system on campus. A change to a compatible system would increase productivity immediately by permitting greater crossover between the publications and the news functions, as well as opening new avenues for news and information dissemination.

c. Lack of University publishing policies. The publications division was constituted as a service unit 20 years ago when smaller size and less demand meant we could fulfill every request for services from any department. At this time, the University size has more than doubled, the number of colleges increased, but our publications staff has increased by only one photographer. Policies are needed to redefine the mission of the publications unit as either a service unit or a publishing office in control of certain University publications.

II. Plans for 1989-90.

A. Build upon the high, positive awareness of the University developed during the Centennial Year.

1. Implement a comprehensive University Identity Program, including the development of unified logos, policies for implementation and use of logos and development of a physical "face" for the University that reflects this single identity. Seek early decision on whether to continue the use of a modified Centennial logo as the University logo, return to previous logo or develop a new identity.
2. Continue to publish some of the key publications developed for the Centennial, including: Visitors Guides, tour map, field trip resource list, public services index and others.

B. Increase internal relations efforts.
   1. Increase frequency of print communication with employees to weekly, to provide more timely and frequent communications with staff and faculty
   2. Develop a series (family) of single sheet newsletters aimed at target audiences, including administration, legislature, staff. These would be prepared biweekly, on alternate weeks from Campus News. The net result would be weekly communication with faculty and staff.
   3. Reinstitute the focus group program.

C. Address staffing inadequacies.
   1. Reinstate position of Associate Director
   2. Reinstate position of graphic designer

D. Address Computer needs
   1. * Investigate replacement of Wang OIS System
   2. Purchase maintenance agreement

E. Provide support for the Centennial Capital Campaign.

F. Develop University Publishing Policies and program.
The proper role and function of video must be considered part of publishing efforts and budgets.
G. Conduct baseline opinion research on University identity and image.


III. Annual Calendar

NOTE: As it is now defined, the Public Affairs Department is a service unit existing to respond to the production and information needs of a variety of internal and external audiences. Beyond the predictability of certain publications and university-wide activities, it will not be possible to detail a comprehensive calendar until we have reviewed the calendars of the other departments in the division.

In general, those activities we can plan with some certainty are as follows:

Daily: News media services, releases, publications production activities, feature writing, media analysis

Weekly: Calendar compilation, production of Cityline calendar

Monthly: Two Campus News, two newsletters produced, average 25 publications produced, average 25 news releases sent, more than 100 media contacts made in all

All other activities dictated by requests from other departments as received.

Special projects:

July
Complete all publications needed for the start of the academic year
Place magazine ads for year
Prepare and place all back to school information
Complete annual planning for newsletter content
Begin development of University policy for publishing
Begin development of University identity program
August
Campus News begins bi-weekly publication (monthly over
the summer)
Biweekly newsletter begins
Continue work on University identity and publishing programs
Deadline for copy for University Directory

September
Prepare fact sheet
First focus group meeting

October
Directory delivered
Content approved for annual report
Centennial closes

November
Quantum distributed

(calendar page 2)

December
Gift report compilation

January
Mid-year review

February
Second Quantum copy deadline
Budget process begins

March
Annual Report final approval

April
Budgets submitted
Media Day

May
Commencement
Staff evaluations

June
Annual evaluation
Plan for next year reviewed/approved
Section IV. Priorities.

1. Implement a comprehensive University Identity Program, including the development of unified logos, policies for implementation and use of logos and development of a physical "face" for the University that reflects this single identity. Seek early decision on whether to continue the use of a modified Centennial logo as the University logo, return to previous logo or develop a new identity. PLANS FOR THIS PROGRAM MUST COMMENCE PRIOR TO JULY 1.

Estimated cost:.................................$25,000

2. Address staffing inadequacies:
   a. Reinstate position of Associate Director ($28,000)
   b. Reinstate position of graphic designer ($17,000)

The total department staffing is now 11.75 FTE, including 11 professional and .75 clerical. Staff has decreased by 2.75 FTE, or, four people, since 1985, with three of those occurring this year. Public relations staff now includes five professional staff in the news media, community, and internal relations functions. The publications staff includes an associate director for publications, one graphic designer, a publications editor and a photographer.

A study of staffing levels among peer institutions completed this year indicates that UNM has the lowest staffing level of any school in the region in Public Relations and Publications:
(Priorities, continued)

PR STAFFING RATIOS AMONG REGIONAL INSTITUTIONS

<table>
<thead>
<tr>
<th>SCHOOL</th>
<th>ENROLLMENT</th>
<th>PR STAFF</th>
<th>RATIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wyoming</td>
<td>10,400</td>
<td>15</td>
<td>1 per 700</td>
</tr>
<tr>
<td>U.Colorado</td>
<td>21,000</td>
<td>25</td>
<td>1 per 840</td>
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<tr>
<td>Col. State</td>
<td>19,500</td>
<td>22</td>
<td>1 per 930</td>
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<tr>
<td>Oklahoma</td>
<td>20,500</td>
<td>16</td>
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<tr>
<td>Idaho**</td>
<td>8,500</td>
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<td>NMSU</td>
<td>14,400</td>
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<td>U of A</td>
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<td>1 per 2000</td>
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<td>UTEP</td>
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<tr>
<td>UNM</td>
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<td>12(11.75)</td>
<td>1 per 2300</td>
</tr>
</tbody>
</table>

** median

Despite previous concerns that staffing levels have been too high in the department, recent reductions, combined with increased demand for news and publications services and the advent of the Centennial campaign have pushed staffing to the forefront of concerns for the department.

Estimated Cost.................................................$45,000

3. Budget for the production of key publications including: Visitors Guides, tour map, field trip resource list, public services index and publications associated with other projects listed above, as well as standard University publications not previously budgeted. (see attached budget request for breakdown) This includes the development of a series (family) of single sheet newsletters aimed at target audiences, including administration, legislature, staff. At the same time, develop University policies for publishing.

Estimated Cost.................................................$62,500

4. Centennial Campaign support: As the Centennial winds down, it is apparent that the Centennial Campaign will make just as many demands of staff and resources. Staff and some resources have already been assigned to this undertaking. If the publications office is to assume responsibility for production, additional production/printing funds must be added either to a Publications line created in the PAD budget or the Development line.
5. Conduct baseline opinion research on University image.
ESTIMATED COST: $25,000

ESTIMATED COST: $3,000
Section V.
Projected Five Year Needs

1. Computing equipment. The department's adoption of the then University standard of Wang OIS has severely limited our ability to work better and faster. Wang OIS cannot be converted to "talk" to our own desktop publishing system, nor to the University mainframe, nor to any other system on campus, including the emerging Scholes Hall Network. For a communications division, this is a difficult situation.

A change to a compatible system would increase productivity immediately by permitting greater crossover between the publications and the news functions, as well as opening new avenues for local, state and national news and information dissemination.

Estimated cost..........................$50,000

2. Development of Video Services: This year much was invested in developing video skills for staff and building a video library, and, for the first time, production of video presentations about the University. We need to plan for the addition of video equipment as demand for video increases, and to replace outmoded video equipment now in use. The costs cited here are minimal, and cover the addition of camera, lighting and portable recording capability.

Estimated cost..........................$8,000
3. **Staffing Needs.** These have been addressed in this document as a current need. We can project that over the next five years the primary staffing demand will lie in the area of publications. Should the high demand continue, and the level of sophistication increase, we can anticipate the need for an additional designer with specific skills in the area of illustration and/or proficiency in arts technology.

If enrollment remains constant, the two additional staff requested this year should be sufficient to meet the institution's needs for the next five years.

### Section VI. Budget

<table>
<thead>
<tr>
<th>1988-89 Supplies/Expenses</th>
<th>Projected 1989-90 Supplies/Expenses</th>
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</thead>
<tbody>
<tr>
<td><strong>Operation</strong></td>
<td><strong>Operation</strong></td>
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<td>7,000 + 665</td>
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- **Speakers** $6,000
- **Arts** 2,000
- **BJ** 5,000
- **AL** 5,000
- **TV ads** 1,000
- **Billbds.** 1,200
- **Guide** 1,000
- **St. Fair** 1,200
- **Symph.** 1,800
- **Conting.** 2,457

**Newsletters** 5,000

**Total 88-89 S/E** $87,157

**Proj. 89-90 S/E** $87,157
### ADDITIONAL REQUESTS:

<table>
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<tr>
<th>ID campaign</th>
<th>Publications</th>
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<td>Newsltrs</td>
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<td>Speakers</td>
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<tr>
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<td>500</td>
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<td>Cent pubs</td>
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<tr>
<td>Wrap</td>
<td>15,000</td>
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<td>Facts</td>
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<td><strong>71,000</strong></td>
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</table>

**Opinion Research** $25,000

**Computer Maintenance** $5,000

**TOTAL PROJ. S/E:** $207,500

**TOTAL TRANSFER** $59,000*

**TOTAL NEW REQUEST** $148,500

**TOTAL NEW FUNDS OVER 88-89:** $62,000

* Request here is for transfer of existing funds from other University accounts for projects for which PAD is already responsible but not funded.
COLLEGE OF ARTS AND SCIENCES

ANNUAL REPORT

July 1, 1989 - June 30, 1990

HOBSON WILDENTHAL, DEAN
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</table>
I. OVERVIEW

The 1989-90 academic year in the College of Arts and Sciences saw increases in both the head count of students enrolled and in student credit hours recorded, continuing the trends of the last two years. Against a backdrop of transitions in the office of President and Vice President for Academic Affairs, College activities and productivity continued to improve.

The ranks of the tenure-stream faculty in the College increased by a net of three individuals as twenty new faculty were hired and seventeen resigned or retired. Funds budgeted for the College in the Spring of 1990 were sufficient to yield a 6.6% average salary increase for faculty returning for 1990-91. This increase exhausted nearly all of the total budget increment for the College and other aspects of the College’s operations remain seriously undersupported.

II. ADMINISTRATION

The College’s administration continued in 1989-90 as it was formulated during 1988-89, with the addition of a new Associate Dean’s position. This new position was created in response to University instructions that each College make provisions to have a member of the senior academic staff serve as the College’s Hiring Coordinator. The Hiring Coordinators are intended to assume responsibility for developing expertise and information of Affirmative Action policies and data sources for transferring relevant positions of this expertise and data to the academic departments and for overseeing many technical aspects of the faculty hiring process.

After an internal search within the College, Professor Ken Frandsen,
the then Chairperson of the Department of Communication, was appointed Associate Dean with special responsibilities for faculty hiring. Dr. Frandsen relinquished the duties of chairperson effective the Spring Semester and played a key role in a more orderly and better documented spring hiring process than the College had previously experienced.

The other Associate Deans of the College assumed more clearly defined individual responsibilities as the new administrative structure of Associate Deanships evolved into its second year. Vice Dean White continued to be responsible for the College's student advisement effort and for validation of curriculum changes and graduation requirements. Along with Associate Dean Civikly, he is the College office's liaison with the College Undergraduate Education Committee. Associate Dean Jean Civikly's responsibilities include various aspects of undergraduate education and campus life, for faculty development and for improvement and codification of various administrative policies and procedures involving academic personnel.

Associate Dean Robert Fleming has assumed responsibility for College office liaison with the College Graduate Education Committee, for oversight and administration at the College level of sabbatical leaves, for allocation of funds which are held at the College level to support special faculty travel, visiting speakers and expenses of professional publications, and for oversight of the various scholarly publications which the College supports. In addition, during the 1989-90 period he saw to successful completion the College History project started several years ago by then Dean Chris Garcia to commemorate the university's Centennial year.

Associate Dean Gordon Hodge has responsibility for the main campus
Human Subjects Committee and for various aspects of research policies. He also is involved in analyses of utilization of space and human resources in the teaching program. Associate Dean Terry Yates took responsibilities in the areas of external relations and research development. Dr. Yates announced in the spring his decision to take a leave of absence from the University in order to serve as a Program Officer with the NSF in Washington and hence relinquished his position as Associate Dean effective the end of AY 1989-90. Associate Dean Marilyn Salvador has focused on the College’s international education programs and on liaison with the UNM Foundation.

New Chairpersons were appointed for AY 1989-90 in English (Lee Bartlett), Geology (Steve Wells), and Political Science (Karen Remmer). Richard Jensen was appointed interim Chairperson of Communication in replacement of Ken Frandsen. Fred Sturm of Philosophy and Douglas Ferraro of Psychology announced their intentions to relinquish their responsibilities as Chairpersons effective the beginning of AY 1990-91.

The principal special initiative in the College administration aside from the creation of the Associate Dean – Hiring Coordinator position was a revamping of the College’s advisory committees on promotion and tenure cases. The previously existing organization consisted of a Tenure Committee of approximately a dozen members who considered all tenure cases and only recommended on tenure and a Promotion Committee of about the same size which considered all promotion cases and recommended only on promotion. The Tenure Committee tended to function as a committee of the whole while the Promotion Committee functioned as three independent subcommittees for Science and Mathematics, Social Sciences and Humanities, respectively.
The new organization set into operation for AY 1989-90 consists of a Junior Faculty Promotion and Tenure Committee, again of approximately 10-12 members, which considers and makes recommendations on all cases involving Assistant Professors. An analogous Senior Faculty Promotion and Tenure Committee considers and makes recommendations on all cases involving Associate and Full Professors. Both committees function as committees of the whole. The operations of these newly constituted committees in AY 1989-90 was evaluated very positively and the new organizational structure will hence be retained.

III. AFFIRMATIVE ACTION

The College pursued initiatives in Affirmative Action at both the individual and systemic levels in AY 1989-90. Against the backdrop of unsettled leadership in the central administration we formulated a draft plan for a targeted hiring program under the appellation of "University Priority" hiring. The essential elements of the plan were a budget set-aside for faculty hiring outside of the regular "vacancy-filling" hiring mode and a system for generating nominations of a large enough number of candidates to insure a healthy competition for the potential hires. As events transpired, the draft plan generated considerable discussion and controversy and, concurrently, the central administration did not endorse the concept nor announce any budget set aside with which to fund it.

Nonetheless, the heightened attention which these events focussed on this issue had significantly positive consequences.

Under the stimulus of the discussions concerning the University
Priority concept one exceptional candidate was identified, thoroughly referenced and interviewed and hired and another was similarly considered and hired effective AY 1991-92. Another candidate was recruited vigorously, interviewed extensively and offered a position but turned it down to accept a competing offer from the University of California. Several other potential candidates were pursued through informal channels but declined to continue into a formal interview situation. The concepts and processes thus developed in AY 1989-90 are being further developed and applied in AY 1990-91.

The College’s attention to Affirmative Action concerns also involved nurturing and developing faculty already at UNM. These initiatives included continued analysis and surveillance of faculty salary structure to guard against any semblance of gender or ethnically linked inequities and a variety of steps to support and enhance career development at the individual level.

Of the twenty-one new tenure-stream, professorial-rank appointments in the College for AY 1990-91, ten were women and five were of Hispanic ethnicity. Of the seventeen separating faculty, three were women and two were Hispanic.

IV. RESEARCH AND SCHOLARLY ACTIVITY

The scholarly and creative achievements of Arts and Sciences faculty which resulted in published work during 1989 are thoroughly documented in the annual volume of Faculty Publications and Creative Works issued by the Office of the Vice President for Research. The level of activity in both grant expenditures and new grant awards declined in AY 1989-90 relative to AY 1988-89, as detailed in Table 12.
Two events of special significance to the College’s research posture were the resignation of Klaus Keil, Professor of Geology and Director of the Institute for Meteoritics, followed by the hiring of James Papike to assume these same responsibilities, and the announcement that two more members of our Biology faculty had received Presidential Young Investigator Awards. Bruce Milne and Margaret Werner-Washburne thus join Diane Marshall to constitute the only threesome of biology PYI’s on any U.S. faculty.

V. TEACHING

Summary data on various aspects of the College’s teaching efforts are presented in Tables 5, 6, 7, 8, 9, 10 and 11. As noted above, the College’s numerical productivity continues to increase. Our analysis indicates that one mechanism by which our efficiency of instructional delivery could be improved still further would be to have available classrooms with a better profile of capacities.

VI. SPECIAL PROJECTS AND FUNCTIONS

Advisement and Records Center

Under the supervision of the Vice Dean for Student Academic Affairs, this section of the A&S administration is responsible for student advisement, admission, graduation, probation, suspension, and all aspects of student record keeping on the college level. Annually, about 15,000 students receive personal advisement, with an additional 20,000 advised by telephone. During peak periods of registration, especially in
November, we see as many as 1,200 students a week. Advisors are available daily throughout the year, between 8 a.m. and 5 p.m., including the noon hour. In addition to the items mentioned above, the office also handles all student petitions and is often the initial step in student grievance procedures. Advisors are also responsible for all pre-professional advisement, primarily for admission into such professional schools as law, medicine, dentistry, veterinary medicine, etc. Addition of computer terminals, connected with central university records, has facilitated record accessing responsibility so that we manage to do the same tasks with fewer advisors and an increase in Arts and Sciences majors.

One or more advisors, as usual, participated in such extramural activities as the Career Fair, Advisement Centers Update Conferences, Pre-Med Day, advisement sessions at the Gallup, Valencia, and Los Alamos branch campuses, Adult Re-Entry Committee, monthly meeting of advisement centers, College Enrichment Program Orientation, ACT Conference, etc.

One of our most important responsibilities is service on the Health Sciences Advisory Committee which studies the dossiers and applications for admission to medical and dental schools, interviews applicants, and writes evaluations for medical and dental schools throughout the country. This committee is chaired by the Vice Dean and consists of two professional advisors for each applicant, serving on a rotational basis, and a member each from the faculty of the Departments of Biology and Chemistry.

The A&S Undergraduate Academic Affairs Office is composed of the following personnel: Carolyn Beske, Julie Bustamante, Monique Denzler, Mary Lawton, Mary Lou Wilkerson, and Vice Dean J.E. White, Jr.
Arts and Sciences Student Advisory Council

During the 1989-90 academic year, the College of Arts and Sciences initiated an undergraduate advisory council composed of student representatives of the 20 A&S departments and from university honor societies. The purpose of the council is to provide a means by which the Dean can discuss with their students their input about matters affecting their education in Arts and Sciences -- information on courses (advisement, accuracy, access), instruction, and course evaluations. Other projects considered in discussions included support services, campus safety, contacts with high school students, and student recognitions.

At the first meeting of the A&S Student Advisory Council (November 6, 1989), 40 student representatives discussed their concerns in sub-groups led by Associate Deans Civikly, Fleming, and Frandsen. Issues of concern included: college and department advisement, financial aid services, library and computer resources and support, parking, high school contacts, course and teacher evaluations, honor societies and opportunities, and student recognitions.

In the Spring 1990 semester, Dean Wildenthal and Associate Dean Civikly met in one-hour sessions with groups of six student representatives to continue these discussions (2/27, 3/1, 3/6, 3/8, 3/20, 3/22). Three issues were discussed at these sessions: matters involving tuition and financial aid; class facilities, size, and schedules; and recognitions for student academic achievements. A final series of meetings was held with the students (4/23, 4/24, 4/25) during which time Dean Wildenthal and Associate Dean Civikly previewed plans for the Fall 1990 semester.
The student representatives expressed their support for continuation of these meetings and activities. Dean Wildenthal and Associate Dean Civikly found the meetings with the students to be both encouraging and informative.

**Graduate Committee**

The A&SGC met three times during 1989-90. Following are summarized minutes for this Committee.

On September 6, 1989 the Committee elected Robert Fleming as Chairman of the A&SGC.

The following subcommittees were constituted: (Chair is underlined.)

Faculty Subcommittee: Fritz Allen, John Gluck, Fred Schueler.

Student Subcommittee: Peter White, Alex Stone, Erik Trinkaue.

The A&SGC met on Tuesday, March 6, 1990. At this meeting:

John Gluck reported on the recently completed Graduate Subcommittee screening of sabbatical requests.

Peter White reported on the activity of the Student Subcommittee, which recently selected the College candidates for the graduate fellowships endowed by the Legislature.

Bob Fleming reported on the results of his request for recruiting and orientation literature, to which 14 departments responded. The Committee discussed recruiting methods. Some departments are actively seeking out minority candidates and writing to them directly. Geology determines the specific field of an applicant or inquirer and then sends a letter from the professor who would serve as the mentor for the people in that field. Wolf Elston noted that Geology, in spite of its efforts,
loses candidates because of the scarcity of assistantships and the low compensation for those that are awarded.

The Evaluation Subcommittee was given a charge to evaluate the Faculty Senate evaluation process for graduate departments in the College. Ed DeSantis volunteered to join the subcommittee, which now consists of John Bergen (Chair), Ken Frandsen, Brad Cullen, and Ed DeSantis.

The A&SGC met on Tuesday, May 1, 1990. The following agenda items were discussed:

The Student Subcommittee reported that the top two nominees for a dissertation year fellowship were Alison Freese of American Studies and Barton Barbour of History. The Committee also ranked the remaining four nominees. Results will be reported to the Office of Graduate Studies.

The Committee elected two new representatives to the Senate Graduate Committee, Ken Frandsen (Social Sciences) and Michael Fischer (Humanities).

The Evaluation Subcommittee reported on its study of the graduate evaluation process and its effects on the College. Generally Chairs who responded to the subcommittee's questionnaires were supportive of the program. There were, however, a few suggestions for improving the process.

Wolf Elston proposed that Senior Research Associates in Geology be allowed to chair dissertation committees, subject to approval of the Chair of the Department and the Dean of Graduate Studies. Two members of the dissertation committee would continue to be regular graduate faculty from the department. The Committee approved the proposal unanimously. The proposal will now go to the Faculty Senate.
Brad Cullen brought to the Committee's attention a proposal of the Curriculum Committee to deny graduate credit to any new courses numbered below 400. This proposal will probably come before the Senate at its last meeting of the year. According to member of the Committee, many A&S departments currently offer 300-level courses for graduate credit, among them Anthropology, Geography, History, Philosophy, Political Science, and Sociology. Representatives of these departments felt that offering 300-level courses to advanced undergraduates and graduates was the only way to keep class size up enough to meet College guidelines on class size. They also felt that the graduate faculty of each department was closer to the situation in that department than was any central committee and should therefore set policy on the eligibility of a given course to receive graduate credit.

After lengthy discussion, the Committee approved the following resolution by a 9 to 2 vote:

"The responsibility of deciding the appropriate numbering of graduate courses should rest with the departments."

**Undergraduate Committee**

Members of the 1989-90 A&S Undergraduate Committee were: Mary Jane Young (Amer St), Jeff Froehlich (Anth), Charlie Widsom (Biol), Cary Morrow (Chem), Rob Barraclough (Comm), Ed Shirkey (Com Dis) Richard Santos/Anok Bohara (Econ), Barry Gaines (Engl), Rod Snead (Geog), Chris Hawer (Geol), Charlie Steen (Hist), Diane Lamb (Journ), Sherman Wilcox (Lings), Richard Metzler (Math), Enrique Lamadrid (M&CL), Russ Goodman (Phil), Colston Chandler (Physics), Neil Mitchell (Pol Sci), Eligio Padilla (Psych), and Beverly Burris/Paul Steele (Soc).
The Committee had one meeting each semester (October 16, February 28). At the October 16 meeting, three items were discussed:

1. The English Major/Teaching English Concentration (revised from 54 to 45 hours) was tabled until information about state licensure was clarified.

2. The proposal to allow a Minor in Human Services for Sociology majors was approved.

3. The revision of the B.A. degree in Geology, an increase from 34 to 35 hours, was approved.

At the meeting on February 28, the request to revise the major in Classics (M&CL) to include a Civilization track and a Language track was approved. A request by Geography to revise its M.A. program was not acted upon. The Geography representatives were advised to present the proposal to the A&S Graduate Committee.

Human Subjects Committee

The College of Arts and Sciences Institutional Review Board (IRB) is empowered by the U.S. Department of Health and Human Services and the University of New Mexico to authorize all research using human subjects conducted by, for, or with the faculty and students of the Colleges of Arts & Sciences, Engineering, and Fine Arts, the School of Law, and the School of Architecture and Planning. The goal of the IRB is to promote and foster all types of human research that provide proper care to the well being of subjects. Information regarding the board's responsibilities and functions is provided through mailings to deans, department chairpersons, and faculty, and from presentations by the IRB
chair to departmental chairpersons and faculty. Between January 1989 and July 1990, the IRB, consisting of Gordon Hodge (Chair, A&S), Beatrice Vigil (Secretary, A&S), Dodd Bogart (Sociology), Jan Brodie (Attorney at Law), Terry Dunbar (Albuquerque Public High School), Dolores Butt (Communicative Disorders), John Gluck (Psychology), Richard Harris (Psychology), Janice Hildebrand (Businesswoman), Mary Steir (Counseling and Family Studies), and Gill Woodall (Communication), reviewed a total of 133 proposals from the A&S Departments of Psychology (n = 106), Anthropology (6), Communicative Disorders (5), Sociology (5), Linguistics (3), Communication (2), Economics (2), the College of Fine Arts (1), the School of Law (1), and other institutions (2). The majority of proposals (approximately 90%) received expedited approval from individual board members within 10 days of submission. Beginning with the 1990-1991 academic year, one graduate and one undergraduate student will serve on the board by attending and taking part in all meetings. Minutes of monthly meetings and records of all actions of the IRB are available in the Office of the Dean, College of Arts and Sciences.

Summer Session

The 1990 Summer Session budget was augmented only minimally over that of 1989. Our focus on unique summer programs - field schools, intensive language institutes and study-abroad programs continued, with the consequence that regular course offerings were curtailed to a level below market demand.

Travel

The College budget for professional travel was increased from
approximately $80,000 to approximately $100,000 for AY 1988-90, with approximately $70,000 being distributed directly to departments to administer under their own individual guidelines and approximately $28,000 retained at the College level to fund special initiatives. A breakdown of these distributions by Department is presented in Table 15.

**Arts and Sciences Participatory Seminars (ASPS)**

During the 1989-90 academic year, the Arts and Sciences Participatory Seminar program (ASPS) was funded by the College to offer ten undergraduate seminars and to provide training in critical thinking instruction for the ten faculty instructors. Seminars and training took place during the Spring 1990 semester (January 9 and 10, February 10, March 24, and April 28). Associate Dean Civikly organized and conducted the faculty training sessions which focused on development of students' critical thinking skills as demonstrated in their writing, speaking, and class interactions. The sessions were very interactive and faculty expressed appreciation for the program and for the learning and exchange of materials.

The ten seminars offered during Spring 1990 were: Planes, Trains, and Automobiles--Mobility in the U.S. (Amer St 285; Vera Norwood); Apes, Chimps, and Human Evolution ( Anth 450; Jeff Froehlich); Chemistry and Societal Problems (Chem 326; Ulrich Hollstein); Interdisciplinary Studies in Satire (Engl 287; James Thorson); Remote Sensing Systems (Geog 484; Stan Morain); The U.S. and the Third World (Hist 320; Linda Hall); Bilingualism in the Chicano Community (Lings 490; Eduardo Hernandez-Chavez); Contemporary Moral Issues (Phil 200; Fred Schueler);
Cross-Cultural Psychology (Psych 373; Judy Arroyo); and Marriage, Family, and Alternatives (Soc 225; Jane Hood). Student feedback for the seminars was solicited using a series of open-ended questions. Responses were very positive, with comments indicating that the faculty and seminars were a high point in the students' college experience. There were repeated requests to continue the program and to restrict seminar enrollments to 15-20 students.

Funding for the program for 1989-90 was approximately $32,000. The faculty selected one of two options for teaching the seminar: release from one course or a $1,000 stipend (five chose each). Each of the ten departments was provided with a $2,500 allocation for a course replacement with a department teaching assistant. A review of the program during Summer and Fall 1990 will determine the specific structure of future seminar offerings, with tentative offerings planned for Spring 1991.

VII. 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>
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<tr>
<td>American Studies</td>
<td>Marta Weigle</td>
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<td>Anthropology</td>
<td>Karl Schwerin</td>
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<tr>
<td>Biology</td>
<td>Don Duszynski</td>
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<tr>
<td>Chemistry</td>
<td>Richard Holder</td>
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<td>Communication</td>
<td>Richard Jensen</td>
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<td>Communicative Disorders</td>
<td>Richard Hood</td>
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<tr>
<td>Economics</td>
<td>Ron Cummings</td>
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<tr>
<td>English</td>
<td>Lee Bartlett</td>
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<td>Geography</td>
<td>Stan Morain</td>
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<td>Klaus Keil</td>
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<td>History</td>
<td>Jonathan Porter</td>
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<td>Journalism</td>
<td>Bob Lawrence</td>
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<td>Linguistics</td>
<td>Alan Hudson</td>
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<td>Mathematics &amp; Statistics</td>
<td>Frank Gilfeather</td>
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<tr>
<td>Modern &amp; Classical Languages</td>
<td>Dick Gerdes</td>
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<td>Philosophy</td>
<td>Fred Sturm</td>
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<tr>
<td>Physics &amp; Astronomy</td>
<td>Daniel Finley</td>
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<tr>
<td>Political Science</td>
<td>Karen Remmer</td>
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<td>Psychology</td>
<td>Douglas Ferraro</td>
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<td>Sociology</td>
<td>Richard Coughlin</td>
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Interdepartmental Programs

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<tr>
<td>Asian Studies (minor)</td>
<td>Patricia Risso</td>
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<td>Ibero-American Studies, (Ph.D.)</td>
<td>Garland Bills</td>
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<td>Biochemistry (major)</td>
<td>Robert Loftfield</td>
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<tr>
<td>Latin American Studies (minor)</td>
<td>Garland Bills</td>
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<tr>
<td>Comparative Literature (major)</td>
<td>Joseph Zavadil</td>
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<tr>
<td>Medieval Studies (minor)</td>
<td>Helen Damico</td>
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<tr>
<td>Criminal Justice Program (major)</td>
<td>Paul Steele</td>
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<tr>
<td>Quaternary Studies (minor)</td>
<td>Roger Y. Anderson</td>
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<td>Discipline</td>
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<td>----------------------------------</td>
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<tr>
<td>ECONOMICS-PHILOSOPHY (major)</td>
<td>R. Cummings, D. Lee</td>
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<tr>
<td>ENGLISH-PHILOSOPHY (major)</td>
<td>D. McIverson, H. Tuttle</td>
</tr>
<tr>
<td>EUROPEAN STUDIES (minor)</td>
<td>Walter Putnam</td>
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<tr>
<td>PEACE STUDIES (minor)</td>
<td>MacAllister Hull</td>
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<tr>
<td>RELIGIOUS STUDIES (minor, major)</td>
<td>Andrew Burgess</td>
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<tr>
<td>RUSSIAN &amp; EAST EURPEAN STUDIES</td>
<td>Gregory Gleason</td>
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<tr>
<td>ITALIAN STUDIES (minor)</td>
<td>Elizabeth Salembeni</td>
</tr>
<tr>
<td>SCIENCE, TECHNOLOGY &amp; SOCIETY</td>
<td>Rose-Marie Sargent</td>
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Standing & Special Committees
College of Arts and Sciences, 1989-90

A&S Graduate Committee

Robert Fleming, English, Chair
Peter White, American Studies
Erik Trinkaus, Anthropology
Eric Toolson, Biology
Fritz Allen, Chemistry
Ken Frandsen, Communication
Edward Shirkey, Communicative Disorders
Shaul Ben-David, Economics
Michael Fischer, English
Elinore Barrett, Geography
W.E. Elston, Geology
Jane Slaughter, History
Sherman Wilcox, Linguistics
Alex Stone, Mathematics
John Bergen, M&CL
Fred Schueler, Philosophy
David Wolfe, Physics
Shane Phelan, Political Science
John Gluck, Psychology
Robert Fiala, Sociology
Edward DeSantis, Graduate School

A&S Undergraduate Committee

Jean Civikly, Communication, Co-Chair
J.E. White, Jr., M&CL, Co-Chair
Mary Jane Young, American Studies
Jeff Froehlich, Anthropology
Charlie Wisdom, Biology
Cary J. Morrow, Chemistry
Rob Barralough, Communication
Ed Shirkey, Communicative Disorders
Richard Santos, Economics
Anok Bohara, Economics
Barry Gaines, English
Rod Snead, Geography
Chris Mawer, Geology
Charlie Steen, History
Diane Lamb, Journalism
Sherman Wilcox, Linguistics
Richard Metzler, Mathematics
E. Gonzales-Berry, M&CL
Russ Goodman, Philosophy
Colston Chandler, Physics
Neil Mitchell, Political Science
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<tr>
<td>Eligio Padilla</td>
<td>Psychology</td>
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<td>Beverly Burris</td>
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<tr>
<td>Paul Steele, Alternate</td>
<td>Sociology</td>
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</tbody>
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**A&S Junior Faculty Promotion and Tenure Committee**

- Thomas Niemczyk, Chemistry, Chair
- Linda Riensche, Communicative Disorders
- Antonio Marquez, English
- Melvin Yazawa, History
- Jim Ellison, Mathematics & Statistics
- Diana Robeldeo, M&CL
- Diana Robin, M&CL
- V.M. Kenkre, Physics
- Lynette Cofer, Psychology
- Philip May, Sociology

**A&S Senior Faculty Promotion and Tenure Committee**

- Archie Gibson, Mathematics & Statistics, Chair
- Katherine Vogel, Biology
- Jan Schuetz, Communication
- Shaul Ben-David, Economics
- Michael Fischer, English
- Elinore Barrett, Geography
- David Maciel, History
- Joan Bybee, Linguistics
- Peter Lupsha, Political Science
- Samuel Roll, Psychology

**A&S Human Subjects Committee**

- Gordon Hodge, Psychology, Chair
- Gill Woodall, Communication
- Dolores Butt, Communicative Disorders
- Mary E. Steir, Counseling & Family Studies
- John P. Gluck, Psychology
- Richard Harris, Psychology
- Jan M. Brodie, Community Representative
- Janice A. Hildebrand, Community Representative
- Liane Donisthorpe, Student Representative
- Mark Timms, Student Representative
TABLE 3

Changes in status of tenure-stream faculty in the College of Arts and Sciences: Decisions reached in AY 1989-90 to take effect in AY 1990-91.

<table>
<thead>
<tr>
<th>Promotions To Full Professor</th>
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<tbody>
<tr>
<td>Mark Ondrias</td>
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<td>G. Fred Schueler</td>
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<td>Susan Nunn</td>
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<td>Luci Taphonso</td>
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**New Appointments**

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<td>Minrose Guin</td>
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<td>James Papike</td>
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**Resignations/Retirements**

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<th>GA/TAs**</th>
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*Residual = Total Faculty Expenditures - Total Tenure Stream salaries + Released Salaries divided by $20,400

**Total TA/GA Expenditures Divided by $13,000

Data Sources: Final FRS reports and A&S faculty salaries database.
### TABLE 5

NUMBER OF STUDENTS ENROLLED
COLLEGE OF ARTS AND SCIENCES

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<th>Year</th>
<th>Semester I</th>
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<th>Semester II</th>
<th>% Inc. Over Previous Year</th>
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Data Source: Planning & Policy Studies Student Credit Hour Reports (UNM IR020-1)
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*Sign-Lang transferred from ComDis to Ling

Data Source: Planning & Policy Studies Student Credit Hour Reports (UNM IR020-1)
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10 Year Change: 263 52.6 34 28.1 -10 -13.7 24 12.7

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

Bachelor's Degree double majors counted .5 in each department.

Data Sources: Bachelors taken from A&S final graduation lists. Advanced degrees taken from Graduate Studies final graduation lists.
### Table 9

**Degrees Awarded by Department**

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**TOTAL**  
600 677 790 841 153 164 170 163 66 62 63 63

1. Previous years included Art History, etc., (belonging in Fine Arts).
2. Not a department of the College of Arts & Sciences, but major or minor is allowed.
3. Interdisciplinary program at the doctoral level.
4. Bachelor's degrees granted with double majors are counted once in each department, so this total will not agree with Table 9.

- Includes summer, fall and spring graduates.

**Data Sources:** Bachelors from A&S final graduation lists. Advanced degrees from Graduate Studies final graduation lists.
### TABLE 10

**ACADEMIC PROBATIONS, SUSPENSIONS AND RELEASES**

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**Semester I**

- **On Probation**: 171, 4.9, 312, 8.9, 296, 8.1, 311, 8.2, 159, 3.9
- **Suspended**: 89, 2.5, 79, 2.3, 65, 1.7, 70, 1.9, 61, 1.5
- **Released**: 59, 1.7, 27, .8, 64, 1.7, 41, 1.1, 63, 1.5

**Semester II**

- **On Probation**: 215, 6.5, 334, 9.4, 318, 8.5, 334, 8.6, 133, 3.1
- **Suspended**: 110, 3.3, 62, 1.8, 69, 1.8, 86, 2.3, 74, 1.7
- **Released**: 73, 2.2, 84, 2.4, 71, 1.9, 67, 1.7, 60, 1.4

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

- Semester I, 1989-90: 3,984
- Semester II, 1989-90: 4,214
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| Initiated into Phi Beta Kappa            | 94     |
| Initiated into Phi Kappa Phi             | 69     |

*Requirements completed Semester I, 1989-90; Semester II, 1989-90; Summer 1989*
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## TABLE 13

**BUDGETED GAs/TAs, RESEARCH AND PROJECTED ASSISTANTS 1989-90**

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### TABLE 15

A&S TRAVEL DISBURSEMENTS, 1989-90

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<th>Department</th>
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<th>Special Request Allocations</th>
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**TOTAL**                          | **$70,800.00**                    | **$24,737.80**               |
The American Studies Department continued to work vigorously and effectively as a committee of the whole to guide the large graduate program, supervised by graduate adviser Professor Peter White, and the expanding undergraduate program, headed by undergraduate and Southwest Studies adviser Professor M. Jane Young. Following reviews this year, effective in the fall of 1990, Professor Gary Scharnhorst will be a full professor of American Studies. Professor Jane Caputi was away on sabbatical during 1989-1990, spending the year as a Beatrice M. Bain Affiliated Scholar at the University of California, Berkeley.

Throughout the academic year, we were fortunate to have Dr. Gerald L. Davis, Associate Professor of Africana Studies at Rutgers University, as Research Associate
Professor of American Studies. While on sabbatical from Rutgers Davis continued his Southwest fieldwork, begun last year, on "The Moor in the 16th Century Southwest: Esteban Remembered in Southwest Pueblo Oral Tradition." He worked with several graduate students and faculty colleagues and proved a welcome addition to the department.

A. Significant Achievements

The faculty continues its admirably high level of professional activity. Those with books appearing this year are Professor Charles Biebel (with Boyd Pratt and Dan Sourlock), Trails, Rails and Roads: The Central New Mexico East-West Transportation Corridor Regional Overview; Professor Gary Scharnhorst, The Lost Tales of Horatio Alger, Jr.; Professor Marta Weigle, Creation and Procreation: Feminist Reflections on Mythologies of Cosmogony and Parturition and Indian Tales from Picuris Pueblo, collected by John P. Harrington; Professor Peter White (with Mary Ann White), "Along the Rio Grande": Cowboy Jack Thorp's New Mexico. Professor Peter White's and Lynne Beene's Solving Problems in Technical Writing received the 1989 Award of Excellence from the New Mexico Society for Technical Communication. The Women's Section of the American Folklore Society gave their inaugural, 1989
Elli Kongas Maranda Women and Folklore Prize to Professor Marta Weigle for chapter seven of her *Creation and Procreation*.

All faculty members published book chapters, articles, and/or reviews and/or spoke at or attended professional meetings and conferences, notably the American Studies Association and the American Folklore Society. Professor Gary Scharnhorst served as co-editor of *American Literary Realism*; Professor Marta Weigle as co-editor of the University of Illinois Press’s Folklore and Society Series and on the editorial boards of *Journal of American Folklore* (through fall 1989), *Journal of Anthropological Research*, and *Journal of the Southwest*; Professor Peter White as co-editor of *American Poetry* and editorial director of the New America Book Series; Professor M. Jane Young as consulting editor of *Archaeoastronomy*. Professor Vera Norwood was on the Women’s Committee of the American Studies Association. Through fall 1989, Professor Weigle was a member of the Centennial Coordinating Council of the American Folklore Society and chair of its Publication Committee and Professor M. Jane Young a member of the Executive Board of the American Folklore Society. Professor Charles Biebel served as a program evaluator for The Lilly Endowment, Inc.
Given the productive, professionally active American Studies faculty and the high quality of the graduate students, a realistic goal is to become ranked among the top ten departments of American Studies in the country. A large portion of such a national reputation will probably depend on a viable, visible, and university-wide Southwest Studies program. It is also essential to develop and maintain a strong component on race, class, ethnicity, and gender.

At the graduate level, the Department has supplemented its general courses in American life and thought with four areas of special concentration: (1) Southwest and Regional Studies; (2) Environment, Technology and Culture; (3) Folklore, Media, Popular and Material Culture; and (4) Gender Studies. In the coming years, these should be strengthened. Still a priority is to incorporate studies of race, ethnicity and social class into a fifth area. This will necessitate college-wide, if not campus-wide, assessment and planning, including coordinated discussions, proposals, and associations with Afro-American Studies, Chicano Studies, Native American Studies, Southwest Studies, and Women Studies programs. A second, pressing priority is to develop resources, including additional faculty, in popular culture, an area consistently generating a good deal of student interest.
The expanding undergraduate program poses a dilemma. As graduate students teach sound, lively introductory-level sections, more undergraduates are attracted to the department as majors and minors. It then becomes difficult for this small faculty to meet the demands of required and specialized coursework at both graduate and undergraduate levels. Additional faculty are required, since undergraduate growth must continue. Much increased graduate student support is imperative and crucial if this department, and the University at large, is to maintain its good reputation as a strong doctoral and master's degree program and graduate school in this and other fields.

C. Appointments to Staff

Faculty percentage appointments in American Studies for 1989-90 are as follows: Biebel (.33), Caputi (1.00), Norwood (1.00), Scharnhorst (.33), Weigle (.50), White (.50), and Young (1.00)—a total of 4.66 FTEs.

Margaret Gilmore ably served as staff assistant. She continued her outstanding work in supporting the entire department and all its activities and was assisted in her considerable chores by work-study student Margaret Estrada.

D. Separations from Staff

None
E. Sponsored Research

(a) One American Studies faculty member, or 17\% of all those associated wholly or partially with the Department, submitted proposals to outside agencies during this period.

(b) One faculty member received an award from an outside agency during this period.
"Young men, you've now reached the age when it is essential that you know the rites and rituals, the customs and taboos of our island. Rather than go into them in detail, however, I'm simply going to present each of you with a copy of this excellent book by Margaret Mead."
UNIVERSITY OF NEW MEXICO
DEPARTMENT OF ANTHROPOLOGY
Annual Report
1 July 1989 - 30 June 1990

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   11.a Outside Funding Proposals Submitted
      (Graduate Students)
   11.b Inside Funding Proposals Submitted
      (Graduate Students)
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A. Significant Achievements During 1989-1990

The department continued to enjoy its national ranking as well as continuing to be a leading academic unit within the University during the past year. Renewed efforts were made to attract first rate graduate students, with mixed success. Faculty and students continued to earn recognition through the receipt of prestigious awards and through their success in grant approvals. Faculty also continued active in national professional organizations. The visibility of the Department remained undiminished; some mention of the Department, the Museum and/or the Office of Contract Archeology appears in 16 out of 19 issues of the Campus News; while frequent stories relating to the Department appeared in local newspapers, including several feature articles on various members of the
faculty. Articles reporting the exemplary findings of last year's external graduate unit review were published in at least four papers throughout the state ("Albuquerque Journal," "Carlsbad Current Argus," "Los Alamos Monitor" and "Portales News Tribune"). The Department's national stature was also singled out by the evaluation team that visited the campus in 1989 for the Commission on Institutions of Higher Education of the North Central Association.

1. Department Sponsored Symposia

In honor of the 20th anniversary of Prof. Lewis Binford's affiliation with UNM two of our senior graduate students organized a three day symposium, November 3-5, entitled "The Organization of Land and Space Use, Technology and Activities in Past and Present Societies." Former students of Prof. Binford were invited to participate by contributing papers representative of the work that had been stimulated by his mentorship. Thirty-one present and former students presented papers. The symposium was climaxed by a public reception at the Maxwell Museum and a dinner where the keynote address was delivered by Prof. Jeremy Sabloff, eminent former member of this department, now at the University of Pittsburgh (see Attachment 13).

Two recent additions to the Archeology faculty, Robert Leonard and Wirt "Chip" Wills, organized the Southwest
Symposium which was held in Albuquerque on January 12-13. The topic for the Symposium was "Prehistoric Community Dynamics in the North American Southwest." The selection of topics and speakers was outstanding, with leading figures from across the country and a good balance between theoretical and empirical issues. A reception was held at the Maxwell Museum the evening of the first day. David Hurst Thomas of the American Museum of Natural History delivered the keynote address to climax the dinner held at the close of the symposium on the second day. The symposium was so well organized and so well attended that numerous rave reviews were received from the more than 200 southwestern archeologists who attended (see Attachment 14).

2. Changes in Faculty

One new faculty member joined us in January--Ann Ramenofsky from Louisiana State University. She holds the rank of Associate Professor. Her interests include archeological method and theory, archeological demography, prehistory of the Eastern Woodlands, the period of European contact, epidemiology, and geoarcheology. Her current and long term research is centered in the lower Mississippi Valley, where she is investigating a variety of topics including the mechanism of depopulation at contact, and reconstruction of contact period subsistence patterns. She is also equipping a laboratory for teaching students how to
analyze soils, archeological artifacts, and other relevant laboratory techniques. Special agreements with Prof. Ramenofsky and Prof. Trinkaus will provide for the support of a graduate student to be mentored by each one.

An intensive search was conducted jointly throughout the year with the Department of Linguistics to find a candidate who could serve critical needs in both departments, particularly in the areas of anthropological socio-linguistics, language and cognition, discourse analysis, ethnography of speaking and/or verbal interaction, as well as linguistic field methods. After exhaustive assessment of the pool of seventy-five candidates, four were brought to campus for interviews. Evaluation of the qualifications of these four led to the conclusion that one, Otto Santa Ana, was more suitable for appointment to Anthropology. He will join the Department as Visiting Assistant Professor beginning Fall semester 1990.

Long time service awards were presented this year to Prof. John M. Campbell for 25 years at UNM, and to Prof. Lewis R. Binford for 20 years.

3. Salary

The University administration continued to be concerned with salary levels this year, but were able to allocate only an average 5% for raises in fiscal 1989/90. Nonetheless, some improvement was achieved in salaries for the full Professor
rank, all of which were brought above $41,500. Women full Professors were brought close to the mean for the rank and would have exceeded it had not a counter offer to one of the male Professors created an extraordinary inflation of the mean. Associate Professors all range between $30,000 and $40,000, although salaries in this rank continue to vary considerably. Unfortunately, there was still not enough money available to address adequately all the salary considerations for Associate Professors. Appointment of two women Associate Professors to part-time administrative positions (Salvador as Assistant Dean of Arts and Sciences, Alvarado as Sexual Harassment Administrator) alleviated the situation somewhat through the associated SACs. Assistant Professor salaries were all brought up to $26,000 or better, though still far behind the mean for the College as a whole.

Salaries in this Department continue to lag behind national and regional means. Comparison of the mean salaries overall shows that UNM is about two years behind national means. Although departmental means are depressed, ethnic and gender disparity is minimal. Female faculty are at or ahead of the means of their male colleagues. Ethnic minority faculty are all well ahead of the means for their respective ranks.

Unfortunately, even within the college of A & S, the Department suffers from an invidious comparison. Even though we are one of only two nationally ranked departments within
the college, our salaries are significantly less than the college means (as computed by the Office of Planning and Policy Studies). For the current fiscal year it was the Chair's goal to increase all Associate Professors to a minimum of $32,000 (not achieved), all Professors above $40,000 (achieved) and all women full Professors to the rank mean of $48,900 (not achieved), and Assistant Professors on a par with the mean for the College of A & S, about $29,500 (not achieved).

4. Budget

The 1989/90 budget saw an additional increase of $2,500 in Supplies and Expenses, which improved the departmental status in this area, although costs for supplies continue to escalate. In order to promote research and scholarly activity, the department this year assumed all faculty expenses associated with professional photocopying and long-distance professional telephone calls. These also added to the supplies expenditure, although the largest increase came in the area of proposal submission. Not only is it costly to produce multiple (often 20-25) copies of each proposal submitted by the faculty, they generally are not completed until deadline, which means that parcels containing the multiple copies must be sent Federal Express. Average departmental expenditure per proposal generally runs $100 or more. Thus the cost of submitting proposals this year was on
the order of $1,000. On the other hand, this investment could be considered minimal, given the return from funded proposals this academic year of more than $120,000. We will also encourage the faculty to utilize electronic submission of proposals whenever possible, as this will radically cut the cost of submission. Travel funds remained stable at $4,360, which proved sufficient to support twelve faculty attending thirteen professional meetings, both nationally and internationally. In addition, travel funds were used to support visits by eminent scholars from other campuses, and three graduate students were assisted with travel to pursue advanced research. Supplementary funds of $400 from the College also supported faculty travel, while the sum of $2,000 was used to underwrite visiting speakers (see Attachments 2, 3 and 5). Workstudy support continued to be inadequate at $5,000.

Dean Wildenthal's support of our graduate program continued to be strong with the creation of two additional FTE GA/TA positions and a corresponding increase in that budget line of $28,000.

5. Departmental Reorganization

Concerns about growth in faculty numbers and problems in communicating ongoing developments within the Department led to establishment by the faculty of an Advisory Council to assist the Chair and to serve as a line of communication between the Chair and faculty. The Advisory Council is
composed of five members, three elected from the subfields of archeology, ethnology and biology, two elected at large, with at least one member from the rank of Assistant Professor, and no more than two members from any one subfield. The Department Chair serves as Chair of the Advisory Council, voting only to break a tie. Subfield convenors are elected on an annual basis by the members of the subfield, and are not necessarily the same as the representative to the Advisory Council.

This year the Advisory Council made recommendations for clearly defined procedures in annual faculty reviews, midterm reviews, as well as reviews for promotion and tenure. They also made suggestions concerning the evaluation of graduate level teaching relevant to promotion and tenure, and designed an evaluation form to be used in graduate level courses and seminars. After review and some modification, all these recommended changes were adopted by the faculty as a whole.

6. Subfield Programs and General Courses

The Ethnology faculty was mostly concerned with administration of the graduate program this year. Plans went ahead for establishing a field research station in Taos, under the direction of Prof. Sylvia Rodriguez. During the Spring semester five visiting anthropological scholars offered lectures on ethnological topics (see Attachment 5). There were 34 Graduate students in Ethnology for 1989/90.
The program in Biological Anthropology continued to be very active, with most of the faculty and many of the students pursuing a variety of research projects. Six distinguished scholars were brought to campus throughout the year to share their knowledge and expertise with students and faculty in the Invited Lecture Series in Biosocial Anthropology (see Attachment 4). A very high quality of graduate student is being attracted to the program. Graduate enrollment in Biological Anthropology for 1989/90 was 17 in Biological and 17 in Biosocial.

The Archeology wing was reorganized this year with the subfield convenor charged to ensure that the subfield faculty does its normal business (e.g. class scheduling, review of students, admissions, comps, GA and scholarship positions, ranking of GA/TA applicants, student petitions, etc.) in timely and orderly fashion. The representative to the Advisory Council is charged with long-range planning for the archeology subfield and will call meetings as appropriate to deal with changes in curriculum, requirements, etc. He convened the archeology faculty a couple of times to begin discussing long-range planning and curricular changes. In January Ann Ramenofsky joined the archeology faculty as an Associate Professor. Plans were initiated for remodeling of space in Anthropology which could be used as an analytical teaching laboratory for her courses in archeology. For 1989/90 there were 53 graduate students in Archeology.
A major effort was made this year to solve the chronic shortage of faculty for the program in Linguistic Anthropology. A year-long search was conducted jointly with Linguistics. In the end, Otto Santa Ana (University of Pennsylvania) was hired full time in Anthropology, to begin Fall 1990. Three graduate students were enrolled in the program for 1989/90. With the addition of new faculty we look forward to increased enrollment in the graduate program.

Course descriptions were revised for fourteen 300 level courses and four 400 level courses in order to reflect more accurately the actual content of the courses. Course descriptions were added to the copy for all courses appearing in the next edition of the Graduate Bulletin.

In the Spring semester 1990 there were 120 undergraduate Anthropology majors in the College of Arts and Sciences, with another 43 majors listed in University College.

7. Leaves

Two faculty were on sabbatical leave during the year. Prof. Straus took a one semester sabbatical during the Fall semester. Prof. Rhine began a two semester sabbatical during the Spring semester.

8. Staff

With the hiring of Gayle Pearce as Department Secretary in July, the office staff was brought to full complement.

ANTH -10
This enabled us to implement our formal plan of operation for the Office, with a clearly specified outline of job descriptions, stimulation of a positive and cooperative work atmosphere, and a backup system with the tasks for each position assigned to at least one other person in the office. In this way absence due to illness, vacation, or any other reason would not seriously impede the flow of work. This year we were able to supply a personal computer for each member of the office staff, which has greatly improved their efficiency, record keeping, and work output. A concerted effort has been made by Mimi Stephens, Administrative Assistant, to create a positive work atmosphere and to reward staff productivity with a variety of small scale perks. These efforts to improve staffing and working conditions have been productive in that there have been no turnovers in staff throughout the year. In May the position of Administrative Assistant (Grade 08) was reclassified to Academic Support Aide II (Grade 09).

9. Space Modifications

Several faculty offices and the adjacent hallway were repainted during Summer 1989. For the Department Office some furniture was reupholstered, mini-blinds were installed on the Conference Room window to provide privacy, two display cases were constructed by the Maxwell Museum staff to provide decorative displays in the Department Office and anthropologically appropriate prints were hung on the office.
walls. All these steps were taken to improve the working atmosphere in the Office and to create a more professional image of anthropological endeavors at this institution.

During the summer and fall major remodeling was undertaken on Rooms 155, 157, 159 to create a computer teaching laboratory. A very handsome facility resulted, which has been partially equipped with a Dell IBM compatible central server and three work stations, as well as a letter quality dot-matrix printer. Plans are underway to add an additional nine work stations and a MAC computer.

To address continuing critical space needs in Anthropology, Dean Wildenthal transferred three offices in Bandelier Hall West to this department. These are currently being used to house graduate and teaching assistants. Two rooms in the Bandelier West basement have also been tentatively transferred to Anthropology for use as archeology teaching labs. They will remain unusable, however, until they can be remodeled for appropriate use of that space.

One of this Chair's major priorities since taking office has been the remodeling of the Clark Field Archive (Rooms 171, 174, 174A) in order not only to expand the shelf space, but also to make it more conducive as a facility for study and research. Construction began in January and is now nearly complete. Great care was taken by the Remodeling section to preserve in the remodeled portion the Spanish colonial style of the adjacent parts of the building. A very handsome
facility has resulted, and the newly remodeled Archive should be ready for full use beginning in the Fall.

With the arrival of Prof. Ramenofsky, additional space was made available at 1839 Lomas NE for storage of her archeological materials. Plans have also been made to remodel Rooms 142 and 142A for her use as archeological research labs. It is hoped that these facilities will be ready for use by the Fall of 1990. We are also exploring several options for providing laboratory space for Prof. Froehlich's use in supporting the teaching and research activity generated by the Paleontology Field School.

Finally, we have been consulting with the Landscape office on ways to improve the exterior space surrounding the Anthropology building. Plans are underway to install sprinklers and decorative planting in bare spaces surrounding the building.

10. Research and Scholarship

Faculty and graduate students maintained their usual impressive level of research and scholarship. Nine faculty presented papers at professional meetings within the United States, four presented papers at international meetings. Several others attended. Because of the distance and expense of professional meetings this year, somewhat fewer graduate students were able to participate in professional meetings, with only 15 presenting papers, while a number of others
attended without presenting papers. On the other hand, there was an increase in research activity by graduate students with at least seven receiving grants of $1,000 or more (one was for $59,500), and 15 receiving smaller grants of a few hundred dollars apiece.

Faculty research activity involved submission of 10 proposals to outside agencies by eight faculty, representing 30 per cent of the total faculty (see Attachment 9.a): During the year seven faculty, or 26 per cent of the total, received 15 grants from outside agencies. Two adjunct faculty were also funded by outside grants during the year (see Attachment 9.a).

Troy Tucker received a three year Graduate Fellowship award from the National Science Foundation. Russell Cole and Caroline Hartse were awarded Graduate Tuition Fellowships for 1989-90. The Department recognized Michael Alvard, a Masters level student, who presented the Frieda D. Butler Memorial Lecture on Wednesday, November 8, entitled "Aspects of Hunting Among a Group of Neotropical Horticulturalists." Nancy L. Nelson, a doctoral candidate, was recognized with her presentation of the Ruth E. Kennedy Memorial Lecture on April 25, entitled "Thieves, Drug Dealers and Similar Assumptions: An Analysis of Street Vending in Bogota, Colombia." Dorothy Scholl-Meeker was named as undergraduate MacCaulley Scholar for the year.

Several scholarly honors were received by faculty. At
the November meetings of the American Anthropological Association, Prof. Binford received the First Annual Distinguished Teaching Award in Anthropology, from the National Association of Student Anthropologists (NASA). Prof. Trinkaus was selected from a large pool of possible speakers by the Archeological Institute of America to hold an AIA Traveling Lectureship for the 1989/90 academic year. Prof. Lamphere served as keynote speaker for the New Mexico Women's Studies Conference held in February at NMSU in Las Cruces.

The Evolution of Human Behavior series brought six leading scholars to campus during the year (see Attachment 3). In addition six on-campus speakers gave presentations to the Biosocial Bag Lunch Speakers series. Four scholars visited us under the aegis of the Distinguished Lecture series in Latin American Anthropology (see Attachment 2). Through the course of the year 22 presentations were made to the Anthropology Brown Bag lecture series. Most of these presentations were by members of the faculty (8) or advanced graduate students (8), but five were offered by visiting scholars (see Attachment 5). The Centennial Lecture Series organized by Prof. Stuart and jointly sponsored with the Maxwell Museum concluded in the Fall with four lectures. This series highlighted for the general public the varied ways in which UNM anthropologists are directly benefitting the Albuquerque and greater New Mexico community (see Attachment 6).
Sixteen individuals held letters of academic title with the Department. Eleven of these were adjuncts; three who were employed elsewhere within the university, were named Senior Research Associates in Anthropology, one was Assistant Professor (part-time) and one was Associate Professor (part-time) (see Attachment 8).

11. Interdepartmental Activities

The departmental history of collaboration with other units was continued in a variety of activities during the past year. The introductory courses in Linguistic Anthropology are cross-listed with Linguistics and taught by faculty from both departments. Prof. Gorbet holds a non-salaried appointment in Linguistics, and the two departments collaborated in the search for a linguistic anthropologist which was successfully concluded by the appointment of Otto Santa Ana. We also co-sponsored with Linguistics the visit of renowned linguist Joshua Fishman in the Spring. Several courses are cross-listed with American Studies and Prof. Weigle holds a joint appointment with these two departments. Prof. Rodriguez holds a joint appointment with the Southwest Hispanic Research Institute (SHRI), and has made significant progress in her efforts to establish a field research station in Taos that will be used by members of both units.

All anthropology faculty with Latin American interests participate at one level or another in the activities of the
Latin American Institute (LAI), serving on committees, on the Board of Directors, etc. With History we jointly administer the Wertheim/Snead endowed lectureship. The first grantee was named this year, from History. Next year the recipient will be Lawrence Straus from Anthropology. Anthropology also helped to sponsor a symposium with Modern and Classical Languages during the Spring on "Books and Learning in the Middle Ages." Last year's very successful joint commencement ceremony with American Studies, Geography and Linguistics was repeated again this year. The effort appeared to be very much appreciated by the graduates and their families.
B. Plans and Recommendations

The chronic and growing limitations of space, with Anthropology fully occupying two buildings and using portions of two more, led to the suggestion by Dean Wildenthal that Anthropology begin considering what our needs might be for a new building. The departmental Space Committee has just completed a survey of present and projected future needs, and their report has been forwarded to the Dean for his consideration. In the interim we will need to provide laboratory space for teaching archeology courses, and for primate paleontological research by Prof. Froehlich, as well as space for graduate assistants and faculty research projects. The need in OCA for additional space also continues to be acute. We are pursuing ongoing discussions with Dean Wildenthal to address these critical needs.

The salary situation continues to be wholly unsatisfactory and will be an issue to which the Chair devotes considerable time and attention in search of even a partial resolution. We have been successful this year in providing better support for other research needs, in terms of laboratory facilities, equipment and supplies, costs for xeroxing, long distance telephone, etc. However, it is important to ensure that funding continues to expand in consonance with growth in scholarly activity as well as
increasing costs generated by rising student enrollments. Greater use of computers and copy machines also contributes to increasing costs for supplies. In order to trim some mailing costs, we will explore increased use of FAX and electronic mail wherever possible.

Ongoing curriculum review within each of the subfields is considering, among other things, ways in which students can be trained across subfield specialties.

An anomalous situation exists with respect to support for graduate assistants (GAs and TAs). Recent agreements between Dean Wildenthal and the Department have provided several student appointments at 0.5 FTE (generally providing $6,300 - $7,000 per year). Previously existing appointments were at 0.25 FTE (providing only $2,900 - $3,250 this year, $3,034 - $3,371 next year). The Chair has developed a proposal to gradually increase the lesser appointments over a three to four year period (0.33 - 0.40 - 0.45 - 0.50 FTE), but has so far been unsuccessful in obtaining approval for this scheme. This will continue to be a priority item until success is achieved.

So far we have been successful only in obtaining permanent funding for half of the position of Department Secretary. This position has proven critical to the efficient operation of the office, and therefore will remain a priority item in terms of seeking additional funding to secure this as a permanent full time position.
We continue to explore ways to create an active development program that would utilize the potential for raising funds from non-traditional sources outside the university. Plans are underway to begin publication of a newsletter for alumni and members of the interested public.

With creation of the Advisory Council, the charge of the Anthro 2000 committee has been delegated to that entity. The Advisory Council will continue to work on developing a comprehensive plan to guide the Department over the next decade.
C. Attachments
*344.....**Comparative Ethnic Relations.** (3)  
Rodriguez  
Ethnic and race relations are examined through focus on case studies from the Americas. Basic questions are pursued about the nature of and relationships among ethnicity, race, gender, and class.  
(Spring 1990 and alternate years)

*362.....**Sex, Behavior and Evolution.** (3)  
Kaplan  
Introduction to biosocial theory in Anthropology. Focus is upon models of biocultural evolution and upon explaining universal and cross-cultural variation in human sexuality and parenting.  
(Spring)

*390.....**Human Origins.** (3)  
Binford, Lancaster  
Interdisciplinary approaches to understanding human origins using evolutionary theory in combination with the archeological, paleontological, cross-cultural, and comparative primate records.  
Prerequisites: at least two of three (120, 130, 150), or consent of instructor.  
(Fall)
ATTACHMENT 2
DISTINGUISHED LECTURES IN LATIN AMERICAN ETHNOLOGY
Anthropology 1989/90

STEPHEN BECKERMAN (Penn State)
Bari Spear Fishing, the Advantages to Group Formation
(02/08/90)
Site Location and Massacres (02/08/90)

JOEL SHERZER (UT-Austin)
Kuna Verbal Art (03/01/90)

MARLENE deRIOS (California State-Fullerton)
Psychedelics in Cross Cultural Perspective: Implications for
Contemporary Psychiatry (04/09/90)

STANLEY BRANDES (UC-Berkeley)
Ceremonial Observances in Tzintzuntzan (04/20/90)
ATTACHMENT 3
EVOLUTION OF HUMAN BEHAVIOR SPEAKERS SERIES
Anthropology 1989/90

LEDA COSMIDES (Stanford, Psychology)
The Logic of Social Exchange: Has Natural Selection Shaped how Humans Reason? (09/21/89)
The Logic of Threat: Evolution of Another Cognitive Adaptation (09/22/89)

JOHN TOOBY (Stanford, Psychology)
Evolutionary Psychology (11/02/89)

DAVID BUSS (Michigan, Psychology)
Short Term and Long Term Mating Tactics in Humans (11/30/89)

KRISTEN HAWKES (University of Utah)
Hunting, Gathering, and "The Sexual Division of Labor" (03/01/90)
Field Research on Hadza Hunter-Gatherers (03/02/90)

WENDA TREVATHAN (New Mexico State University)
Effects of Sexual Behavior and Proximity on Ovarian Function in Chimpanzee and Human Females (03/23/90)

ERIC ALDEN SMITH (University of Washington)
Risk Management and Game Theory (04/02/90)
ATTACHMENT 4
BIOSOCIAL BROWN BAG LUNCH SPEAKERS SERIES
Anthropology 1989/90

RANDY THORNHILL & NANCY THORNHILL (UNM, Biology)
The Evolutionary Psychology of Men's Sexual Motivation (09/13/89)

MICHAEL ALVARD (Biosocial graduate student)
Work, Beer, Sex and Spit. Fieldwork among the Piro of the Peruvian Amazon (09/15/89)

BRYAN CURRAN (Anthropology graduate student)
Comparative Efficiency of Efe Net and Bow Hunting in Different Forest Types (selected commentary by Paula Ivey) (01/26/90)

HILLARD KAPLAN (Ethnology faculty)
Research in Manu National Park, Peru (04/20/90)

PAULA IVEY (Anthropology graduate student)
Attachment and Child Development among the Efe (04/27/90)

DAVID RISSER (Director, Cancer Research Program, Indian Health Service, Albuquerque)
Cancer Research in Native American Populations (02/09/90)
ATTACHMENT 5
BROWN BAG LECTURE SERIES
Anthropology 1989/90

MIGUEL LEATHAM (Ethnology graduate student)
Protest and Leadership in a Mexican Sectarian Community
(09/18/89)

PHILIP BOCK (Ethnology faculty)
Troubadors of the Yucatan (10/02/89)

RICHARD CHAPMAN (Office of Contract Archeology)
Recent Excavations at a Georgetown Village Site near Cuchillo,
New Mexico (10/09/89)

WIRT "CHIP" WILLS (Archeology faculty)
New Exhibitions at Maxwell Museum (10/16/89)

NANCY NELSON (Ethnology graduate student)
Street Smarts: Making a Living Off of Left-overs (10/23/89)

ERIK TRINKAUS (Biological faculty)
Neanertal Landscape Use: From Toes to Noses (10/30/89)

DAVID STUART (Assistant V.P. for Academic Affairs)
Power and Efficiency: Selective Factors in Evolution
(11/06/89)

MICHAEL ALVARD (Biosocial graduate student)
Variability in Time Allocation of Male Horticulturalists
(12/04/89)

GEORGE STONE, M.S.W. (Ethnology graduate student)
A Case Study in Sexual Abuse in a Family Therapy Context
(01/19/90)

VERONICA AGABASHIAN (Ethnology graduate student)
Internal and External Dynamics of Refugee Adjustment: The Case of the Hmong (02/02/90)

MARILEE SCHMIT (Ethnology graduate student)
Contemporary Indigenous Costume of Northern Ecuador (02/16/90)
ATTACHMENT 5

ALAN THORNE (Australian National University)
The Peopling of Australia and the Pacific (03/06/90)

OLIVIA ARRIETA (SHRI)
Social Change Among the Tarahumara Indians of Northern Mexico (03/09/90)

MARCEL OTTE (Universite de Liege, Belgium)
The Middle Paleolithic of Sclayn Cave (Belgium) in the Context of Western Eurasia (03/20/90)

NINA JABLONSKI (Dept. of Anatomy & Human Biology, University of Western Australia)

BOB FRANCISCUS and TRENT HOLLIDAY (Biological graduate students)
Limb Proportions in "Lucy": Implications for Locomotive Behavior (03/30/90)

BREnda MANUELITO (Ethnology graduate student)
Navaho Intermarriage (04/06/90)

STEVEN FELD (UT-Austin)
"Dogs are Not Animals" Narrative and Allegory in Papua New Guinea (04/09/90)

OLIVIA ARRIETA (SHRI)
Hispanic Mutual Aid Societies in New Mexico and Arizona (04/26/90)

CHRIS MUSELLO (American Studies faculty)
Filming Ritual (05/02/90)

BOB LEONARD (Archeology faculty)
Understanding Pueblo Aggregation in the Prehistoric American Southwest (05/04/90)
ATTACHMENT 6
1989/90 CENTENNIAL LECTURES
Anthropology & the Maxwell Museum

WIRT "CHIP" WILLS
A Guest Archeological Curator at the Maxwell (09/13/89)

STANLEY RHINE
Murder in the Maxwell (10/18/89)

MARY SMITH
Adventures in Learning: Outreach Anthropology Programs for Schools and Community Groups (11/01/89)

MARIAN RODEE
The Influence of Museums on Contemporary Indian Arts: Case Studies from Zuni and Alamo (12/13/89)
ATTACHMENT 7.a
ANTHROPOLOGY BACHELOR DEGREES CONFERRED
1989/90

BACHELOR OF ARTS

Summer 1989, Semester III
Cole, Erin E.

Fall 1989, Semester I
Koeppel, Christopher
Muenster, Debbie
Rea, Shan
Woods, Brian

Spring 1990, Semester II
Biedscheid, Bryan
Burton, Rodney
Consola, Susan
Haagenstad, Caroline
Hines, Tommie Earnest
Krantman, Joyce E.
Martin, Phillip B.
Monahan, Sarah
Reeves, Scott
Scholl-Meeker, Dorothy
Schultz, Daniel B., Jr.
Silberberg, Amy B.
Teare, Peter
ATTACHMENT 7.a
1989/90 Anthropology Bachelor Degrees Conferred

BACHELOR OF SCIENCE

Summer 1989, Semester III
Menke, Kurt A.

Fall 1989, Semester I
none

Spring 1990, Semester II
Brown, Gregory
Compas, Lynn Ann
Frank, Eliza
McBride, Pamela J., Honors
Richter, Jeffrey

DEPARTMENTAL HONORS
Seniors who have fulfilled the requirements of the Honors Program by exhibiting outstanding ability in the field of independent research.

Spring 1990, Semester II
Frank, Eliza - Magna cum Laude
McBride, Pamela J. - Magna cum Laude
Scholl-Meeker, Dorothy - Magna cum Laude
ATTACHMENT 7.b
ANTHROPOLOGY MASTERS DEGREES CONFERRED
1989/90

MASTER OF ARTS

Summer 1989, Semester III
Agabashian, Veronica E.
Niemann, Juliane
Olsen, Lenora A.

Fall 1989, Semester I
Cushman, David W.
Innan, Roberta
Satterfield, Theresa A.

Spring 1990, Semester II
Kramer, Karen
Montoya, Phillip J.
Harrison, Robanne

MASTER OF SCIENCE

Fall 1989, Semester I
Moller, Christopher D.

Spring 1990, Semester II
Chino, Michelle
ATTACHMENT 7.c
ANTHROPOLOGY DOCTORAL DEGREES CONFERRED
1989/90

GRADUATE DISSEYATI ON CHAIR SUBFIELD

Summer 1989, Semester III

WANDSNIDER, LuAnn Jeremy A. Sabloff Archeology
The Relationship between Formation Processes and the Structure of the Archeological Landscape: A Case Study from Southwestern Wyoming

MILLS, Barbara Jeremy A. Sabloff Archeology
Ceramics and Settlement in the Cedar Mesa Area, Southeastern Utah: A Methodological Approach

GRAHAM, Martha S. Lewis R. Binford Archeology
Raramuri Residential Site Structure: An Ethnoarcheological Approach to Settlement Organization

Spring 1990, Semester II

LARRALDE, Signa Larue Lewis R. Binford Archeology
The Design of Hunting Weapons: Observations from Southwestern Wyoming Prehistory

KUHN, Steven L. Lewis R. Binford Archeology
Diversity Within Uniformity: Tool Manufacture and Use in the 'Pontinian' Mousterian of Latium (Italy)
**ATTACHMENT 8**
**LETTERS OF ACADEMIC TITLE**
**Anthropology 1989/90**

<table>
<thead>
<tr>
<th>NAME</th>
<th>TITLE</th>
<th>1st APPOINTMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARNOLD, Philip J.</td>
<td>Adj. Asst. Professor Archeology, ceramic analysis; Mesoamerica</td>
<td>1988/89</td>
</tr>
<tr>
<td>BECKER, Thomas</td>
<td>Asst. Professor (part-time) Epidemiology, disease ecology</td>
<td>1986/87</td>
</tr>
<tr>
<td>CAMILLI, Eileen</td>
<td>Adj. Asst. Professor Archeology, methodology; Southwest US, Great Basin</td>
<td>1986/87</td>
</tr>
<tr>
<td>CHAPMAN, Richard C.</td>
<td>Senior Res. Assoc. in Anthro Assoc. Director, Office of Contract Archeology Archeology, cultural resource management; Southwest US;</td>
<td>1982/83</td>
</tr>
<tr>
<td>CORDELL, Linda S.</td>
<td>Adj. Professor Archeology, North America</td>
<td>1987/88</td>
</tr>
<tr>
<td>DEAN, Glenna</td>
<td>Adj. Asst. Professor Archeobotany, palynology, coprolite analysis, paleodiet, paleoecology; Southwest, Great Basin</td>
<td>1988/89</td>
</tr>
<tr>
<td>FRITZ, John M.</td>
<td>Adj. Assoc. Professor Archeology, theory and method; western North America, India</td>
<td>1980/81</td>
</tr>
<tr>
<td>HARRISON, Peter D.</td>
<td>Adj. Assoc. Professor Archeology, Mayan agriculture; Mesoamerica</td>
<td>1980/81</td>
</tr>
<tr>
<td>HOGAN, Patrick F.</td>
<td>Senior Res. Assoc. in Anthro Asst. Director, Office of Contract Archeology Archeology, cultural ecology and evolution, paleo-environmental reconstruction; Southwest, Great Basin;</td>
<td>1988/89</td>
</tr>
<tr>
<td>MATHIEN, F. Joan</td>
<td>Adj. Asst. Professor Archeology, exchange systems; southwestern US</td>
<td>1982/83</td>
</tr>
<tr>
<td>SABLOFF, Jeremy A.</td>
<td>Adj. Professor Archeology, prehistory; Mesoamerica</td>
<td>1986/87</td>
</tr>
<tr>
<td>SMYTH, Michael P.</td>
<td>Adj. Asst. Professor Archeology, ethnoarchaeology, method and theory; Mesoamerica, Andean South America</td>
<td>1988/89</td>
</tr>
<tr>
<td>STAFFORD, Thomas W.</td>
<td>Adj. Asst. Professor Geochronology, radiocarbon dating; paleolithic Europe, paleoindian in the New World</td>
<td>1988/89</td>
</tr>
<tr>
<td>TOURTELLOT, Gair III</td>
<td>Adj. Asst. Professor Mayan archeology</td>
<td>1983/84</td>
</tr>
<tr>
<td>NAME</td>
<td>TITLE</td>
<td>1st APPOINTMENT</td>
</tr>
<tr>
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</tr>
<tr>
<td>TRINKAUS, Kathryn</td>
<td>Senior Res. Assoc. in Anthro, Research Associate-Staff II, Maxwell Museum Old World archeology, lithics, complex societies;</td>
<td>1983/84</td>
</tr>
<tr>
<td>WINTER, Joseph C.</td>
<td>Assoc. Professor (part-time), Director, Office of Contract Archeology Archeology, cultural resource management; California, Southwest</td>
<td>1980/81</td>
</tr>
</tbody>
</table>
ATTACHMENT 9

OUTSIDE FUNDING PROPOSALS SUBMITTED
(Faculty and Adjuncts)
Anthropology 1989/90

FUND FOR IMPROVEMENT OF POSTSECONDARY EDUCATION (FIPSE)

KARL H. SCHWERIN, Professor, Chair
Minority Training in Professional Anthropology
submitted 10/11/89 ($394,200 for 3 years) $101,520
not approved 01/16/90

NATIONAL ENDOWMENT FOR THE HUMANITIES (NEH)

JAMES M. SEBRING, Assoc. Professor, Ethnology
The D.H. Lawrence Ranch Project $36,929
submitted 12/04/89
not approved

NATIONAL SCIENCE FOUNDATION (NSF)

DAVID E. STUART, Visiting Assoc. Professor
Power and Efficiency as Selective Factors in Human Evolution $19,745
submitted 09/20/89
submitted 10/03/89 $143,434

JANE LANCASTER, Professor, Biosocial
RANDY THORNHILL, Professor, Biology
Evolution and Human Nature Research Training Group Program $396,919
submitted 10/31/89 ($1,770,588)

LAWRENCE G. STRAUS, Professor, Archeology
The Middle to Upper Paleolithic Transition: Upper Pleistocene Research at the "Cingles del Capello" (Spain) $50,534
submitted 11/13/89 ($162,772)

LAWRENCE G. STRAUS, Professor, Archeology
BRADLEY VIERRA, Archeology Graduate Student
Post-Pleistocene Adaptations in the Iberian Peninsula $9,950
submitted 11/28/89
JAMES L. BOONE, Asst. Professor, Archeology
CHRIS DORE, Archeology Graduate Student
Ethnoarcheological Study of Xculoc, Campeche, Mexico
submitted 05/16/90 $12,000

HILLARD KAPLAN, Asst. Professor, Ethnology
Research experience for undergraduates
(Maximilian R. Wilson)
submitted 06/04/90 $4,000

JANE LANCASTER, Professor, Biosocial
Research experience for undergraduates
(Michael L. Jordan)
submitted 06/04/90 $4,000

JANE LANCASTER, Professor, Biosocial
Research experience stipend to minority student (Lisa R. Perry, Cherokee)
submitted 06/04/90 $4,000

ERIK TRINKAUS, Professor, Biological
STEVEN E. CHURCHILL, Biological Graduate Student
Fossil Evidence for Subsistence Behavior in Eurasian Late Archaic and Early Anatomically Modern Humans
submitted 06/11/90 $11,386

ROBERT S. SANTLEY, Assoc. Professor, Archeology
Specialized Craft Production in the Tuxtlas Mountains, Veracruz, Mexico
submitted 06/22/90 ($139,389) $79,316

JAMES BOONE, Asst. Professor, Archeology
Archeological Investigations at Alcaria Longa: Archeobotanical Analysis (REU Supplement)
(for 05/15/90 - 08/31/90) $3,984
ATTACHMENT 10.a

OUTSIDE FUNDING RECEIVED
(Faculty and Adjuncts)
Anthropology 1989/90

CENTER FOR FIELD RESEARCH

MICHAEL SMYTH, Adjunct, Archeology
CHRIS DORE, Archeology Graduate Student
Sayil Archeological Project
submitted 04/26/90
approved 05/14/90
$3,500

COUNCIL FOR INTERNATIONAL EXCHANGE OF SCHOLARS (Fulbright Awards)

ERIK TRINKAUS, Professor, Biological
Evolutionary Emergence of Modern Humans in the
Near East and Europe (Univ. de Bordeaux I)
submitted 09/89
approved 02/90

WILLIAM T. GRANT FOUNDATION

JANE LANCASTER, Professor, Biosocial
Male Parenting: Resources, Relationships,
Fertility (planning grant)
submitted 05/24/89 (for 07/01/89 - 06/30/90)
approved 06/16/89
$10,000

HARVARD MEDICAL SCHOOL - Children's Hospital

JANE LANCASTER, Professor, Biosocial
PAULA IVEY, Biosocial Graduate Student
Maternal Investment in Children in the Ituri
Forest: Data Analysis
approved 01/08/90 (for one year)
$7,000

H. JOHN HEINZ, III

GARTH BAWDEN, Assoc. Professor, Archeology, Museum
The Ilo Project; Human Ecology of the South
Peruvian Coast
approved 04/10/89
JPJS FELLOWSHIP FOR RESEARCH IN JAPAN

ERIK TRINKAUS, Professor, Biological Lower Limb Diaphyseal Cross-sectional Geometry of Later Pleistocene and Recent Humans (with Prof. Tasuku Kimura)
approved 01/02/90 (for fall 1990) $6,000

L.S.B. LEAKEY FOUNDATION

HILLARD KAPLAN, Asst. Professor, Ethnology Forgers and Forager-horticulturalists of Manu National Park, Peru: Basic Research and Efforts to Promote their Survival
approved 03/29/88 (04/01/88 - 08/03/89) $12,000

LAWRENCE STRAUS, Professor, Archeology Middle-Upper Paleolithic Transition: Upper Pleistocene Research at Cingles del Capello (Spain)
approved 04/26/90 $9,900

NATIONAL ENDOWMENT FOR THE HUMANITIES (NEH)

JOHN FRITZ, Adjunct Assoc. Professor, Archeology Imperial Styles; Vijayanagara, A South Indian Case Study extension approved 05/22/90 - 12/31/90

NATIONAL GEOGRAPHIC SOCIETY

LAWRENCE STRAUS, Professor, Archeology The Middle to Upper Paleolithic Transition: Upper Pleistocene Research at the "Cingles del Capello" (Spain)
submitted 11/14/89 approved 04/20/90 $5,100

NATIONAL SCIENCE FOUNDATION (NSF)

JAMES L. BOONE, Asst. Professor, Archeology Archeological Investigations at Alcaria Longa: A Medieval Islamic Village in Southern Portugal submitted 12/07/88 (3 years $191,422) approved 06/89 $70,527
Ceramic Analysis (REU Supplement) approved 03/22/90 (for 06/15/90 - 03/31/91) $3,805
HILLARD KAPLAN, Asst. Professor, Ethnology
Research Experience for Undergraduates,
Supplement (Kate Kopischke) $4,000
approved 07/89

ERIK TRINKAUS, Professor, Biological
ROBERT L. TOMKINS, Biological Graduate Student
Relative Dental Development in Upper
Pleistocene Hominids and Recent Humans
submitted 06/02/89 $9,666
approved 10/12/89 (for 11/01/89 - 04/30/91)

JANE LANCASTER, Professor, Biosocial
HILLARD KAPLAN, Asst. Professor, Ethnology
Male Fertility and Parenting in New Mexico:
Tests of Models of Evolutionary Theory
submitted 01/30/90 $137,478
approved 05/10/90 $117,956

SUNY - FORD FOUNDATION

LOUISE LAMPERE, Professor, Ethnology
Changing Relations; Newcomers and Established
Residents in U.S. Communities
submitted 07/31/89 $18,388
approved 09/15/89

UNIVERSITY OF PITTSBURGH

GAIR TOURTELLOT, Adjunct Asst. Professor, Archeology
A Study of Ancient Maya Settlement and
Community Patterns at the Site of Sayil, Puuc
Region, Yucatan, Mexico $6,160
(for 11/15/87 - 04/30/90)
ATTACHMENT 10.b

INSIDE FUNDING RECEIVED
(Faculty and Adjuncts)
Anthropology 1989/90

UNM - BIOMEDICAL RESEARCH SUPPORT GRANT (BRSG)

JANE LANCASTER, Professor, Biosocial
HILLARD KAPLAN, Asst. Professor, Ethnology
Determinants of Fertility and Parenting Practices in the Continental United States
approved 01/05/90
$3,400
$3,400

ERIK TRINKAUS, Professor, Biological
Humeral Diaphyseal Cross-Sectional Geometry and Asymmetry: Biomechanical reflections of activity levels and aging
submitted 03/20/89
approved 05/08/90
$1,773
$1,881

UNM - RESEARCH ALLOCATIONS COMMITTEE (RAC)

WIRT H. WILLS, Asst. Professor, Archeology
An Investigation of Prehistoric Agricultural Field Systems in the Middle Rio Grande Valley
submitted 02/12/90
approved 03/15/90
$7367
$6835
ATTACHMENT 11.a

OUTSIDE FUNDING PROPOSALS SUBMITTED
(Graduate Students)
Anthropology 1989/90

CHARLES A. LINDBERGH FUND, INC.

RUSSELL D. GREAVES (Archeology)
Changing Settlement and Subsistence among
Machiguenga Foragers: Seeking a Balance
between Indigenous Practices and
Modernization
submitted 10/15/89 (for 09/01/90 - 09/01/91) $10,375

L.S.B. LEAKEY FOUNDATION

BRADLEY J. VIERRA (Archeology)
Post-Pleistocene Adaptations in Southwestern
Europe
submitted 11/28/89 $6,150

MICHAEL ALVARO (Biosocial)
Technology and Indigenous Human Predation in
the Neotropics $4,411

LUSO-AMERICAN FRATERNAL FOUNDATION

BRADLEY J. VIERRA (Archeology)
Research in Portugal $500

MacARTHUR FOUNDATION

MICHAEL ALVARO (Biosocial)
Technology and Indigenous Human Predation in
the Neotropics $19,500

NATIONAL GEOGRAPHIC

MICHAEL ALVARO (Biosocial)
Technology and Indigenous Human Predation in
the Neotropics $22,888
NATIONAL SCIENCE FOUNDATION (NSF)

JORG OPHERK (Ethnology - Richard Barrett)
Gender Relations in Sweden: Ideology and Practice
submitted 05/16/89.
resubmitted 05/90

BRADLEY J. VIERRA (Archeology)
Post-Pleistocene Adaptations in Southwestern Europe
submitted 11/28/89
not approved

NEW MEXICO ENDOWMENT FOR THE HUMANITIES (NMEH)

RONALD R. KNEEBONE (Archeology)
JUNE-EL PIPER (Archeology)
The Organization of Land and Space Use, Technology and Activities in Past and Present Societies; A Symposium in honor of Lewis R. Binford
submitted 07/31/89

SIGMA XI

BRADLEY J. VIERRA (Archeology)
research support

CHARLES E. HILTON (Biological)
Locomotor Behavior of Human Ancestors from the Upper Pleistocene

SOCIAL SCIENCE RESEARCH COUNCIL

BRADLEY J. VIERRA (Archeology)
Post-Pleistocene Adaptations in Portugal

JORG OPHERK (Ethnology)
Gender Relations in Sweden: Ideology & Practice
submitted 11/89
not approved
ATTACHMENT 11.b

INSIDE FUNDING PROPOSALS SUBMITTED
(Graduate Students)
Anthropology 1989/90

GSA PROJECTS COMMITTEE

MARY STINER (Archeology) & BOB FRANCISCUS (Biological)
Travel to invite Dr. Robert Foley (Cambridge Univ.) as guest speaker for the Anthropology
Graduate Students (cost $683) $500
submitted 10/03/89

STUDENT RESEARCH ALLOCATIONS COMMITTEE (SRAC)

ROBERT L. TOMPKINS (Archeology)
travel to Montreal for research $125
submitted 09/13/89

KATHARINE H. FULLER (Archeology)
research on the archeology of gender $250
submitted 09/20/89
supplemented from Chair's Fund $50

CHARLES E. HILTON (Biological)
research at the Smithsonian on bipedal locomotion among modern human & Neandertal populations $150
submitted 09/22/89
supplemented from Chair's Fund $50

RUSSELL D. GREAVES (Archeology)
research support $150
submitted 09/21/89

MICHAEL S. ALVARD (Biosocial)
Experimental Analysis of a Fermented Manioc ('"Manihot esculenta") Beverage $150

BRADLEY J. VIERRA (Archeology)
research in Portugal $600

GUIDO RILEY (Biological)
travel to AAPA meeting $150

DANA PERRY (Ethnology)
field research in Ecuador $150
GALEN BURGETT (Archeology)
travel to SAAs to present paper $150

SIGNA LARRALDE (Archeology)
travel to SAAs to present paper ("Anasazi Hunting Strategies as Seen Through Projectile Point Distributions") $150

JAMES ENLOE (Archeology)
travel to SAAs to present paper ("Beasts and Burdens: Package Size Determinants in Differential Butchering Patterns") $100
supplemented from Chair's fund $50

JAMES ENLOE (Archeology)
Travel to ICAZ to present paper, "Carcass Refitting: Food Sharing and Storage in the Paleolithic" $150

MICHAEL J. BERMAN (Archeology)
Travel to SAAs to demonstrate Leitz EDM technology $150

MARTHA BODEN (Archeology)
travel to SAAs to present paper $150
supplemented from Chair's fund $50

SHARON L. GURSKY (Biosocial)
Tarsier parenting behavior in Sulawesi $150
supplemented from Chair's fund $250

BRADLEY J. VIERRA (Archeology)
support for travel to Portugal to conduct field research $150

JULIE A. HELLER (Biological)
travel to AAPA to present paper $150
supplemented from Chair's fund $50

TRENTON W. HOLLIDAY (Biological)
travel to AAPA to present paper $150
supplemented from Chair's fund $50
supplemented from Maxwell Museum funds $50

STEVEN E. CHURCHILL (Biological)
travel to Israel for research at Kebara Cave $150
supplemented from Chair's fund $150

MICHAEL ALVARD (Biosocial)
Experimental Analysis of a Fermented Corn Beverage of the Tarahumara Indians of Northern Mexico $125
JOHN A. BOCK (Biosocial)
Video Documentation of the Production of a Fermented Maize Beverage by the Tarahumara Indians $150

RUSSELL D. GREAVES (Archeology)
In-field testing, sampling and observation of the brewing of corn beer among the Tarahumara Indians $150

ANNA M. BACKER (Archeology)
Analysis of Spatial Distributions at Saint-Cesaire, France $150

CHARLES E. HILTON (Biological)
Locomotor behavior of human ancestors from the Upper Pleistocene $100

GEORGE McCUE (Biosocial)
travel to present papers at Human Behavior & Evolution Society $150

JORG OPHERK (Ethnology)
travel to Sweden for field research $150

SHAWN PENMAN (Archeology)
travel to Pocoma, Moquegua, Peru for research $150
ATTACHMENT 12.a

OUTSIDE FUNDING RECEIVED
(Graduate Students)
Anthropology 1989/90

CENTER FOR FIELD RESEARCH

CHRISTOPHER DORE (Archeology)
MICHAEL SMYTH, Adjunct Asst. Professor, Archeology
Ancient Community Organization at Sayil, Yucatan
approved 10/89

$59,500

FULBRIGHT-KOMMISSION

DAVID C. BATTEN (Archeology)
to study Anthropology at Univ. Erlangen, Germany
DM 950.00/month for 10.5 months
submitted 05/18/89

$59,500

L.S.B. LEAKEY FOUNDATION

RUSSELL D. GREAVES (Archeology)
Dissertation research-Subsistence and Technological Organization among Machiguenga Foragers
submitted 05/01/89
approved 11/09/89 for period 10/30/89-03/01/90
$5,030
supplement approved 02/20/90 to extend period to 01/01/91

$5,030

ANNA M. BACKER (Archeology)
Analysis of Spatial Distributions at Saint-Cesaire, France
submitted 11/17/89
approved 02/90

$4,999

MELLON RESEARCH GRANT

RANI ALEXANDER (Archeology)
Archeology and Ethnohistory at Yaxuna, Yucatan, Mexico

$4,000

MICHAEL ALVARD (Biosocial)
Human Predation on the Animal Communities of Manu National Park (Peru)
RAYMOND MAULDIN (Archeology)  
Developing Methods for Assessing Agricultural Dependance in the Archeological Record (Bolivia)

KENNETH ROBEY (Ethnology)  
Siblingship in Afro-Caribbean Matrilocal Family Organization, the Garifuna of Belize

NATIONAL SCIENCE FOUNDATION (NSF)

WILLIAM TROY TUCKER (Biosocial)  
Graduate Fellowship Award (for 3 years) $12,300/annum

PATRICIA ROBERTS HARRIS GRADUATE STUDY FELLOWSHIP (G-POP)

BRENDA MANUELITO (Ethnology)  
($575/month) $6,900

SIGMA XI

DANA PERRY (Ethnology)  
Indigenous Federations of the Ecuadorian Amazon: Development and Resistance $600
approved 03/16/90

MIGUEL LEATHAM (Ethnology)  
approved 03/16/90 $675

SWEDISH INSTITUTE

JORG OPHERK (Ethnology)  
Gender Relations in Sweden: Ideology and Practice $8,400
submitted 01/90
GSA PROJECTS COMMITTEE

JUNE-EL PIPER & RON KNEEBONE (Archeology)
The Organization of Land and Space Use, Technology, and Activities in Past and Present Societies" Centennial Symposium to honor Lewis Binford’s 20th year at UNM
approved 10/10/89 $1,500

UNIVERSITY OF NEW MEXICO (OGS)

ADRIANA RAMIREZ de ARELLANO (Ethnology)
Graduate Opportunity Fellowship 1989/90 $7,500

FRANCINE ROMERO (Biosocial)
Graduate Fellowship Act Fellowship 1989/90 $7,200

UNM

ROBERT L. TOMKINS (Biosocial)
Challenge Assistantship $6,300

BRADLEY J. VIERRA (Archeology)
Graduate Achievement Award $1,000
UNM's Anthropology Graduate Students, Department of Anthropology, Office of Contract Archeology, Maxwell Museum of Anthropology, and Maxwell Museum Association cordially invite you to

**A SYMPOSIUM;**
The Organization of Land and Space Use, Technology, and Activities in Past and Present Societies in celebration of Dr. Lewis R. Binford's 20th anniversary at UNM and the University's Centennial

*sponsored in part by the NM Endowment for the Humanities*

**Schedule**

**Friday, November 3**
4:00-6:00  1st session (open to the public)
7:00-9:00  Reception sponsored by Maxwell Museum and Maxwell Museum Association
            *(invited guests include the symposium participants; anthropology faculty, students, and former students; and Maxwell Museum Association members.)*

**Saturday, November 4**
9:00-11:30  2nd session (open to the public)
1:30-4:00  3rd session (open to the public)
7:00-9:00  Dinner with Keynote Speaker, Dr. Jeremy A. Sabloff *(ticket-holders only)*
            UNM Continuing Education Center
            1634 University NE, Ballroom C

**Sunday, November 5**
9:00-11:30  4th session (open to the public)

A schedule of papers is available from the Anthropology Dept. A symposium program and abstracts will be distributed at the door. All presentations will be held in the Anthropology Building Lecture Hall.

More than 30 PhDs & senior UNM graduate students will present research papers related to the organization of past lifeways:

Dr. Philip J. Arnold III, Skidmore College
Michael J. Berman, University of New Mexico
Galen R. Burgett, University of New Mexico
Dr. Eileen L. Camilli, University of New Mexico
Dr. Richard C. Chapman, Office of Contract Archeology
William H. Doleman, Office of Contract Archeology
Dr. Amy C. Earls, Mariah Associates
Dr. James I. Ebert, Ebert & Associates
Dr. James G. Enloe, University of New Mexico
Dr. Martha Graham, Zuni Archaeology Program
Dr. Robert J. Hard, Smithsonian Institution
Dr. Robert H. Hitchcock, University of Nebraska
Dr. Robert L. Kelly, University of Louisville
Ronald R. Kneebone, University of New Mexico
Steven L. Kuhn, University of New Mexico
Signa Larralde, Bureau of Indian Affairs

Mark T. Lycett, University of New Mexico
Raymond P. Mauldin, University of New Mexico
Linda Mick-O'Hara, Museum of New Mexico
Dr. Barbara J. Mills, Northern Arizona University
Dr. Alan J. Osborn, University of Nebraska
Dr. Michael D. Petraglia, Smithsonian Institution
Dr. Carol Raish, USDA Forest Service
David J. Rapson, University of New Mexico
Alexandra Roberts, Navajo Nation Historic Preservation
Jacqueline Rossignol, University of New Mexico
Matthew F. Schmader, University of New Mexico
Dr. Michael P. Smyth, University of New Mexico
Dr. Mark Stilger, Ft. Bliss Environmental Protection Office
Mary L. Stiner, University of New Mexico
Bradley J. Vierra, University of New Mexico
Dr. LuAnn Wandsnider, Southern Illinois University

Dr. Jerry Sabloff, University of Pittsburgh, *Evaluator*
Dr. Lynne Sebastian, NM State Historic Preservation Office, *Evaluator*
SOUTHWEST SYMPOSIUM

PREHISTORIC COMMUNITY DYNAMICS
IN THE NORTH AMERICAN SOUTHWEST

January 12-13, 1990
Doubletree Inn
Albuquerque, New Mexico

Sponsored by
The University of New Mexico Department of Anthropology
The Maxwell Museum
The Maxwell Museum Association

January 12, 1990

8:00 - 9:00 AM  Registration and Coffee

9:00 - 12:00  THEORETICAL PERSPECTIVES ON PREHISTORIC COMMUNITY DYNAMICS

Organizer: Ben Nelson, State University of New York, Buffalo
Participants: Elizabeth A. Brandt, Arizona State University
Barbara Mills, Northern Arizona University
Dean Saitta, University of Denver
Katherine Spielmann, Arizona State University

Moderators: Michael B. Schiffer, University of Arizona
Rina Swentzell, Independent Consultant, Santa Clara Pueblo

12:00 - 2:00 PM  Lunch Break

2:00 - 5:00  AGGREGATION IN THE SOUTHWEST

Organizer: Linda Cordell, California Academy of Sciences
Participants: Michael Adler, University of Michigan
Patricia Crown, Southern Methodist University
Paul Fish, Arizona State Museum
Suzanne Fish, Arizona State Museum
Keith Kintigh, Arizona State University
Timothy Kohler, Washington State University

Moderator: William Lipe, Washington State University

6:00 - 8:00 PM  Reception and Light Buffet at the Maxwell Museum
(transportation provided)
January 13, 1990

8:00 - 9:00  Coffee

9:00 - 12:00 AM  DIET, NUTRITION AND HEALTH IN PREHISTORIC SOUTHWESTERN COMMUNITIES

Organizer:  John D. Speth, University of Michigan
Participants:  William Gillespie, University of Arizona
Charles Merbs, Arizona State University
Paul Minnis, University of Oklahoma
Margaret Schoeninger, University of Wisconsin
Chris Szuter, University of Arizona

Moderator:  Steve Lekson, Arizona State Museum

12:00 - 2:00 PM  Lunch Break

2:00 - 5:00  BOUNDARIES AND COMMUNITY DYNAMICS

Organizer:  Stephen E. Plog, University of Virginia
Participants:  Michael Graves, University of Hawaii
Michelle Hegmon, University of Michigan
Jill Neitzel, Connecticut College
Alan Sullivan, University of Cincinnati

Moderator:  Gary Feinman, University of Wisconsin

5:00 - 7:00  Reception at the Doubletree Inn

7:00 - 9:00  KEYNOTE ADDRESS AND PUBLIC LECTURE

David Hurst Thomas, American Museum of Natural History:

How to Find a Lost Spanish Mission in Georgia: Space Age Technology in Service of the Past.
ATTACHMENT 15
1989/90 APPOINTMENTS AND SEPARATIONS
Anthropology

Faculty Appointments:
Ann F. Ramenofsky    Associate Professor    01/08/90

Part-Time Faculty Appointments:
Richard Chapman    Instructor    Semester I
Robert Franciscus    Instructor    Semester I
Patrick Hogan    Instructor    Semester I
Janet Kerley    Instructor    Semester I
Tom Morales    Instructor    Semester I
Nancy Nelson    Instructor    Semester I
Kathy "Guido" Riley    Instructor    Semester I
Kenneth Robey    Instructor    Semester I
Michael Smyth    Instructor    Semester I
Christopher Dore    Instructor    Semester II
Steven Churchill    Instructor    Semester II
Susan Converse    Instructor    Semester II
Trent Holliday    Instructor    Semester II
Kenneth Juell    Instructor    Semester II
Trevor Kludt    Instructor    Semester II
Shawn Penman    Instructor    Semester II
Elizabeth Hoobler    Instructor    Sem. I & II
Nancy Lerman    Instructor    Sem. I & II
Nancy Nelson    Instructor    Sem. I & II
Heidi Reed    Instructor    Sem. I & II

Staff Appointments:
Gayle Pearce    Department Secretary    07/17/89
Mimi Stephens    Academic Support Aide II    05/08/90
II JOURNAL OF ANTHROPOLOGICAL RESEARCH
The Journal of Anthropological Research published four issues in 1989-90 totalling 422 pages. This included our winter issue on Navajo Ethnology which was guest edited by Professor Louise Lamphere.

Subscriptions remained stable: we have 44 new institutional subscribers which is again higher than last year and indicates the success of our journal.

Professor Robert Leonard took over in 1990 as book review editor. We have experienced no change in staff during this period.

Our only concern is that postage rates are changing and costs are expected to rise approximately 20 percent in that area.
III OFFICE OF CONTRACT ARCHEOLOGY
Annual Report of
The Office of Contract Archeology
July 1, 1989-June 31, 1990
by
Joseph C. Winter
Director

A. Review of Activities and Achievements

FY88-89 was another very successful and productive year. We completed a number of important large projects and produced several high quality reports; we started up several other large, significant projects that will generate valuable research data; we employed numerous students and other staff; and for the fourth year in a row we brought in over $1 million in new contracts. Descriptions of projects and finances are presented below.

1. Reports and Projects

Major reports produced this year include The NZ Project Archeological Survey Report, by Janette Elyea, Peter Eschman, Peggy Gerow, Patrick Hogan, Barbara Mills, and Joe Winter; Archeological Testing of Two Prehistoric Sites at Holloman Air Force Base, New Mexico, by William H. Doleman, Janette Elyea, and Robert Dello-Russo; Living On The Land: 11,000 Years of Human Adaptation in Southeastern New Mexico, by Lynne Sebastian and Signa Larralde; Island In The Sun The Mesa del Sol Sample Survey, by William H. Doleman, Joseph C. Winter, John D. Hays, and Michael J. Berman; and American Indian Land Use of El Malpais, by Barbara E. Holmes. All of these reports represent the completion of large projects that have been described in earlier Annual Reports. In addition, several large projects are now in the field or writeup stages, including the following:
Peggy Gerow (with Richard C. Chapman as Principal Investigator) completed an intensive survey of 4,268 acres near Los Lunas, New Mexico. Ten archeological sites were recorded including eight lithic unknown and two, pre-WWII historic. In addition, four sites previously recorded by the National Forest Service on adjacent parcels were redocumented. These sites consist of two Anasazi seasonal residential areas, one possible early Archaic hunting locus and one pre-WWII historic campsite. The cultural resources documented indicate that the area was utilized, though somewhat sporadically at times, by prehistoric and historic groups over the last 9,000 years for such activities as hunting, resource procurement, and ranching.

Jeanne A. Schutt (with Richard C. Chapman as Principal Investigator) directed excavations at three sites within the construction zone for the Cuchillo Negro Dam near Truth or Consequences, New Mexico beginning in July, 1989. Excavations were primarily focused on a multicomponent Late Pithouse/Mimbres village (LA 50548) dating between AD 620 and AD 1150. Ceramic data indicate that the site was occupied during the Georgetown Phase, abandoned and then reoccupied during the Classic Mimbres phase. Structures include a circular community structure and 10 pithouses which date to the Georgetown Phase, and 5 non-contiguous surface rooms which are likely to date to the Classic Mimbres Phase. An additional 150 smaller features and an extensive midden are present. The site represents one of few extensively excavated pithouse villages along the east slope of the Black Range. Excavation was continued at an additional 8 smaller sites beginning in June, 1990. Preliminary results from these excavations indicate further evidence of a substantial Georgetown Phase occupation, overlaid by a Mimbres occupation. Analysis thus far has
emphasized petrographic and refiring studies of Mimbres Style III Black-on-white and Alma Plain ceramics. Preliminary results indicate that the Alma Plain wares may be made locally, while the Mimbres B/W vessels were manufactured at a number of different regions.

Michael Marshall (with Joseph C. Winter as Principal Investigator) surveyed 280 acres in 60 to 80 acre tracts surrounding seven ancestral, eighteenth century Navajo Pueblito complexes in the Dinetah District of northwestern New Mexico. The pueblitos were Split Rock, Largo School, Hooded Fireplace, Tapacito, Frances Canyon, Shaft House, and Simon Canyon. Fifty-three sites including the pueblitos, were located and recorded. The inventory revealed that six of the tracts (the exception is Simon Canyon) consist of large complexes of features and outlying sites (such as fork stick hogans, sweat lodges, and ovens) associated with the pueblitos.

Marshall (with Richard Chapman as Principal Investigator) continued the Pueblito Survey in March, 1990 at two additional Pueblito complexes in Crow Canyon, a tributary to Largo Canyon. The pattern of masonry Pueblitos and apparently associated fork stick Hogans, sweat lodges and ovens was again observed at the Crow Canyon and Hadlock's Crow Canyon locales.

John Hays (with Joseph C. Winter as Principal Investigator) test excavated and surface collected four sites east of the Rio Grande River near Belen, New Mexico. Two (Chance: LA69883 and Banks: LA74161) were prehistoric, of the late Pueblo III/early Pueblo IV period. These date to about A.D. 1250 to 1350. The other two (Tinker: LA69882 and Evers: LA 69881) are historic trash concentrations, probably related to the original railroad construction of the OCA-3
Belen Cutoff in 1904-05. Analysis of materials and surface patterns collected from the Evers site indicates that it was probably a construction workers' camp. Tinker is similar but shows less coherent site structure.

William Doleman (with Joseph C. Winter as Principal Investigator) carried out a ten percent Class II archeological survey of 68 whole or partial sections (40,160 acres) within the BLM's El Malpais National Conservation Area by walking 20 m wide transects at 200 m intervals, with transects oriented across prevailing environmental zones. One hundred and four sites were recorded along with over 500 isolates. The majority of the sites are Anasazi Pueblo II-III in age, although one Archaic site and several historic sites were found as well.

Peggy Gerow (with Patrick Hogan as Principal Investigator) supervised excavations at 21 sites in south-central New Mexico. The sites date primarily to the Late Archaic and early Formative periods and, for the most part, reflect wild resource procurement in upland areas adjacent to the Rio Grande Valley. Analysis of the materials should provide the data needed to assess preliminary models of regional subsistence strategies.

Janette Elyea (with Patrick Hogan as Principal Investigator) completed a second season of excavations of three Archaic sites south of Farmington, New Mexico. Investigations centered on five components, each marked by two or more structures and associated extramural work areas. At least two major occupation periods are represented, one dating 4000 - 5000 BP and the other 2500-2000 BP. We suspect that these are winter camps. If our analysis support this contention, current models of Archaic mobility strategies in the
region will have to be revised significantly to accommodate this new information.

Charles Amsden (with Joseph C. Winter as Principal Investigator) surveyed the 120 mile long San Juan Basin Pipeline Route from Bloomfield to Thoreau, NM. Seventy-four sites, ranging from Archaic through Anasazi and early Navajo to recent Navajo, were recorded. Because of the high density of sites on Chacra Mesa and at Casamero Pueblo, the pipeline has now been rerouted well to the west, and the new route is being surveyed. OCA will also survey the 210 mile long, related Transwestern Pipeline from Gallup to Needles, California, and carry out all excavations and related work on the two ENRON pipelines.

Charles Amsden (with Joseph C. Winter as Principal Investigator) also completed excavation at a small, multicomponent Anasazi-Spanish site near Valencia, and completed most of the excavation at a much larger Anasazi-Hispanic site at Valencia. The former yielded Socorro Phase, Pueblo II artifacts and Colonial Phase Hispanic trash, while the latter is a Pueblo IV midden with a burial, and an early Spanish Colonial trash dump.

Finally, other ongoing projects include excavations at the Cox Land Exchange sites near Las Cruces, the development of a mitigation plan for the Fruitland Coal-Gas Development project near Farmington, the survey of 52 sites in Cebolla Canyon near El Malpais, and the production of the Guadalupe Mountain and GBFELTIE reports. The status of all these and other projects is shown in Table 1.
2. Financial Statement

For a fourth year in a row, OCA brought in over $1 million in new projects worth over $298,000.00 in Indirect Cost. Table 2 lists these new contracts. Most of the funds are from our large BLM and Army Corps of Engineers open-ended contracts, but a considerable amount is also from our ENRON Pipeline projects, while the rest is from many smaller contracts.

As summarized in Table 3, OCA's operating budget for FY89-90 was $127,486.00. With $27,301.75 in salary credits in contracts applied against this, the money supplied to OCA by UNM was actually $100,175.25. Total new IDC represented by new contracts was $298,364.00, meaning that we brought in a potential "surplus" of $198,179.75 for UNM.

3. Scholarly Accomplishments

In addition to the research reports discussed above, OCA staff made a number of scholarly contributions in the form of papers presented at professional meetings, articles in books, and classes taught at UNM. Joseph C. Winter, OCA Director, taught Anthropology 497 and 597 through the Southwest Institute, and presented papers at the 1990 Ethnobiology Conference, the 1989 Navajo Studies Conference, and the 27th Annual Transportation Conference. Winter also co-authored articles in The Archaeological Society of New Mexico's Publication 16 and The New Mexico Archaeological Council's Protohistoric Conference Report.
Table 1
Summary of OCA Activities
7/1/89-6/31/90

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<thead>
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<th>Project</th>
<th>Sponsor</th>
<th>Brief Description</th>
<th>Status</th>
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<td>Lithic analysis</td>
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<td>185-272</td>
<td>FAA</td>
<td>Excavation of 14 sites at Sierra Blanca</td>
<td>Final Report in Preparation</td>
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<td>185-247o</td>
<td>BLM</td>
<td>Santa Teresa Survey</td>
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<td>BLM</td>
<td>Excavation of Bolack Navajo Sites</td>
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<td>U.S. Army Corps</td>
<td>Geomorphological Study at White Sands</td>
<td>Final Draft Report in review</td>
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<td>BLM</td>
<td>Excavation of Bolack Anasazi Sites</td>
<td>Final Report In Preparation</td>
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<td>Excavation of 3 sites at White Sands</td>
<td>See 429A/B</td>
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<td>185-346</td>
<td>State Engineer</td>
<td>Expert Witness for Water Rights Litigation</td>
<td>Ongoing</td>
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<td>185-363</td>
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<td>Excavation of Bolack Archaic Sites</td>
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<td>BLM</td>
<td>NZ/State Mineral Exchange Survey</td>
<td>Completed</td>
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<td>185-361</td>
<td>State Office of Cultural Affairs</td>
<td>Mesa del Sol Survey</td>
<td>Completed</td>
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<td>185-364E/M</td>
<td>BLM</td>
<td>Cox Ranch Exchange Survey</td>
<td>Draft Final Report in Preparation</td>
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<td>Hawk Missile Excavation</td>
<td>Draft Final Report in Preparation</td>
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<td>BLM</td>
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<td>Brief Description</td>
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<td>Project</td>
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<td>Brief Description</td>
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<td>BLM</td>
<td>Los Lunas Exchange Survey</td>
<td>Final Report In Preparation</td>
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<td>Field work of original route complete; reroute being surveyed</td>
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<td>Crow Canyon Survey</td>
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<td>GBFEL Vol. 2 Report Production</td>
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<td>185-429B</td>
<td>Fluor Construction</td>
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<td>185-436A</td>
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<td>Cebolla Canyon Survey</td>
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<td>185-437</td>
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<td>Kirtland AFB Survey</td>
<td>Field work in progress</td>
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### Table 2

Summary of OCA Contracts Awarded In FY89-90

<table>
<thead>
<tr>
<th>Date of Proposal</th>
<th>Proposal #</th>
<th>Sponsor</th>
<th>Description</th>
<th>Total Award Amount</th>
<th>IDC Amount</th>
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<td>185-406</td>
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<td>IDC Amount</td>
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Table 2

Summary of OCA Contracts Awarded In FY89-90 (Continued)

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<th>Date of Proposal</th>
<th>Proposal #</th>
<th>Sponsor</th>
<th>Description</th>
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Table 3
Overall Financial Summary,
FY89-90

Salary Credits For FY89-90

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<td>6/6/90</td>
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$27,301.75

Overall Financial Summary

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<td>Total new IDC</td>
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Potential Surplus $198,179.75
Richard C. Chapman (Associate Director) presented papers at the 1989 Pecos Conference, the 1989 Jornada Mogollon Conference, and UNM's Symposium in Honor of Lewis Binford. He also taught Anthropology 120 and 497, gave numerous guest lectures, and served as a participant in a School of American Research special seminar.

Patrick Hogan (Assistant Director) taught Anthropology 320/570, and presented papers at the 1990 Society For American Archaeology Annual Meeting, and the 1990 American Association for the Advancement of Science Annual Meeting. He also co-authored an article (with Winter) in The New Mexico Archaeological Council's Protohistoric Conference Report.

William Doleman (Project Director) also presented a paper at UNM's Binford Symposium, while Martha Binford (Laboratory Supervisor) served as a Panel Member in the Arizona and New Mexico's Museum Association 1990 Symposium.

B. Plans and Recommendations

As in all years, our major challenge is to maintain a high level of research and to balance it with our need to generate adequate funding. We were re-awarded the large, open-end BLM contract this year, but our open-end Army Corps contract has run out, and we will be submitting a proposal in July on the new contract. We also submitted a proposal for the multi-million dollar, 5 year long Animas-La Plata contract, and if awarded it, we will require a major reorganization, with a branch office-laboratory in Durango, Colorado.
C. Staff Appointments

Donna Lasusky - Hired as 1.0 FTE Staff Assistant, on February 1, 1990
Colleen Johnson - Hired as .5 FTE Office Manager on 12/6/89
Charles Amsden - Hired as .5 FTE Project Director on 4/16/90
Robert Swain - Hired as .5 FTE Project Director on 12/6/89

Separation From Staff

Tim Seaman - Resigned as .5 FTE Project Director, on 8/10/89
Sheryl Jones - Resigned as 1.0 FTE Staff Assistant, on 8/31/89
Barbara Lane - Resigned as .5 FTE Editor, on 11/7/89
Robert Swain - Resigned as .5 FTE Project Director, on 3/5/90

Overall, the OCA employed 86 staff employees this past year, with most of them serving on an "on call" basis (4 were 1.0 FTE, 13 were .5-.75 FTE, and 4 were Work Studies). In addition to the 4 Work Study Students, we also employed 11 other UNM undergraduates, and 22 graduate students.

D. Sponsored Research/Other Projects

See Section A, above.
IV  MAXWELL MUSEUM OF ANTHROPOLOGY
General Information, A./B.:

During the past year the Maxwell Museum has continued to develop its two-fold mission - to support the formal research and educational activities of the University of New Mexico as they pertain to anthropology and to bring the fruits of anthropological scholarship to the general public. This year has seen considerable movement in both of these areas. The Maxwell's research ability has been enhanced through a combination of programmatic and personnel development and expansion of physical plant while public access to the museum's collections and programs has been significantly increased through the continuing comprehensive expansion of the permanent galleries. Again, certain restructuring of staff positions is facilitating this endeavor.

Specifically, in the area of research, the existing capacity of the Maxwell has been improved in several ways. The collaborative relationship between the Maxwell Museum and the National Park Service for curation and utilization of the Chaco Canyon archaeological collections continue to develop. Recent efforts have involved the implementation of regular meetings between the NPS Regional Curator, the Chaco Canyon Park Director and the Maxwell Museum Director to integrate collections management and utilization activities. In addition the NPS has created a new cataloguing position which complements the existing efforts of the Maxwell's Curator of Archaeology. In a related area of the Maxwell's curatorial staff have almost completed a planning phase for totally upgrading the computerized cataloguing system for all archaeological and ethnological collections to incorporate research needs of local and visiting scholars.
We envisage a major implementation grant being submitted during the coming year. The three year NSF-funded project which established the Maxwell Museum's Photographic Archive concluded at the end of the year and its staffing is now supported solely by Museum funds. This facility is increasingly serving the educational needs of UNM researchers and various regional constituencies while its collections expand at an impressive rate. Future plans for the archive are centered on obtaining directed collection conservation grants in order to upgrade the physical state of the holdings. The Maxwell Museum's Clark Field Library has also been expanded and improved during the past year with the incorporation of the museum's old conference room and major renovations of the other rooms. The library's 15,000 volume inventory can now be comfortably housed with growth space for expected expansion of the collections. The Maxwell has implemented a badly needed process of catalogue upgrade for its library and archival collections in collaboration with the Zimmerman Library and with the support of Maxwell Museum Association volunteers who are also repairing damaged books. This process will continue during the next year and result in overdue improvement of the physical and organizational aspects of the Maxwell's library collections which will in turn facilitate their research use. Finally, the existing educational strengths have been potentially expanded as part of overall personnel position reclassification undertaken this year with the support of the College of Arts and Sciences. The Maxwell's five Curators (Chief Curator, Curator of Collections, Curator of Archaeology, Curator of Osteology and Curator of Southwestern Ethnology) now hold positions in which academic achievement at the PhD level is expected and their responsibilities now officially include research and the possibility of teaching. This development brings curatorial responsibilities more in line with the Maxwell's strong educational mission as a university museum and offers an additional source of potential support for the Department of Anthropology.
In addition to these refinements of existing research facilities a major new development has occurred. Dr. Frank Hibben, a major figure in UNM's Department of Anthropology for many years, an internationally known scholar and the founding director of the Maxwell Museum (then the Museum of Anthropology) has, with his wife, made a major deferred gift to the Museum to create a research center. The center will come into being upon the deaths of the Hibbens, be housed in their home and be supported, together with its programs, by endowed funds administered by the UNM Foundation. Although constituting another research division of the Maxwell Museum this center will clearly represent a major contribution to the activities of the Department of Anthropology. In facilitating the gift the museum is following its mission to encourage and generate support for the academic programs of the College of Arts and Sciences.

The public mission of the museum also continued to evolve during the past year. The multi-year expansion and renovation of the permanent gallery wing is now reaching its concluding phase. The first major portion to be completed is the new permanent exhibit ANCESTORS, an exposition of the biological and cultural emergence of modern Man. This project whose principal curator was Dr. Erik Trinkaus opened in January and has already attracted national notice and brought increased visitor attendance. In addition the exhibit has significantly expanded the teaching potential of the museum with large numbers of classes from local schools using it in conjunction with the Maxwell's educational program. The completed area has also enabled the museum to resume its role as a venue for UNM public events. Both the President's office and the UNM Foundation have held luncheon series for benefactors and friends of the institution. This is a trend which appropriately utilizes the Maxwell's role as the interface between
university and the New Mexico public and will expand further when the renovation program is complete. Finally, work is now well into its concluding stage with the two-story permanent gallery PEOPLES OF THE SOUTHWEST, curated by Dr. W. Wills, which also incorporates a new, enlarged museum store. When complete this gallery will constitute the most conceptually and structurally up-to-date interpretive exposition of regional cultures from 10,000 BC to the present in existence and can be expected to raise public awareness of UNM anthropological resources even further than at present.

The previously mentioned staff re-structure has involved the creation of two halftime positions from the existing fulltime FTE which supported public programming. These positions address the much expanded activity of the museum in terms of public events and public relations. These tasks are now too large to be combined in a single position. While their separation alone will significantly help definition of the various duties pertaining to each their absolute quantity of work will be alleviated to some extent by the contribution of a part-time support staff position by the Maxwell Museum Association.

The Association is the Maxwell's public support group whose mission is to assist the museum in generating and funding its programs and in enhancing its overall public involvement. The Board of Directors of the organization are extremely active in these areas and over the past year have continued a process of organizational development which is leading to significantly greater activity and effectiveness. The most visible consequence of this ongoing development during 1989 was the first MMA-sponsored auction which was extremely successful in bringing in badly needed programmatic funds to the organization. Further development is planned for the coming year.
Thus while, in common with most College of Arts and Sciences divisions, the Maxwell faces ongoing financial pressures, the present and future are bright. Much progress is being and will continue to be made on both formal research and public service levels. Overall the Maxwell is making a consistently greater contribution to wider aspects of UNM mission and responsibilities, a trend that is being reflected in growing public membership and contributions such as the Hibben bequest. It is to be expected that the coming year will see continuation of these positive trends.

C. Appointments to staff:

Elizabeth Lopez, CS-IV, 08/28/89

Paula Morgan, Acctg. Clerk, 02/01/90

D. Sponsored research or other projects:

Dr. Garth L. Bawden, Assoc Prof/Director, sponsored:

The Ilo project. Ongoing field research in southern Peru. Heinz Fund, $8,000, (1987-1990)

Dr. Stanley Rhine, sponsored:

Alpine Archaeological Consultants, (February 27, 1989)
Cuchillo Dam Project, (1989)
United States Forest Service, (March, 1989)
Coroner, Washoe County, Nevada, (08/28/89)

unsponsored:

Guadalupe Historical Foundation excavation/Santa Fe, (7/6/89-10/28/89)
Zuni Archaeological Project, (6/90-present)
Western New Mexico University, (01/90)
Laboratory of Anthropology/Santa Fe, (in progress)
Office of the Medical Investigator

Grants:

National Science Foundation, $90,200, (7/15/87-6/30/90)
National Endowment for the Humanities, $118,255, (2/1/86-10/31/89)
National Endowment for the Humanities, $337,744, (7/1/88-2/31/90)
Institute of Museum Studies, $64,536, (6/1/89-5/31/90)
New Mexico Humanities Council, $3,673, (10/2/89-10/1/90)
Albuquerque Community Foundation, $3,000
ARAMCO, $2,500
Check Deluxe, $1,000
UNM Foundation, $2,500

Donations:

Dr. Marshall Nason, $500
Albuquerque Dental Society, $1,000
PNM, $5,000
John Topham, $500
Oakmead Foundation, $1,000
ANNUAL REPORT
OF THE DEPARTMENT OF BIOLOGY

July 1, 1989 - June 30, 1990

Donald W. Duszynski,
Professor and Chairman
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I. GENERAL INFORMATION

A. Significant Achievements

On June 30, 1990 I completed my eighth year as chair. I gratefully acknowledge the support and hard work of my assistant chair, Professor Kathryn Vogel, and our superb professional staff including (but not limited to) Sharon Kubler, Vivian Kent, Carol Martindale, Claudia Crawford, Irene Farmer, Rhonda Germano, Margaret Banek, David Bleakly, Peter Curtiss, Beth Dennis, Roy Ricci, Bill Gannon, Barbara Wright, Kelly Burks, Jane Mygatt, Pat Leonard, Angela Welford, and Elizabeth McLellan.

1. Building Renovations. The 1989-90 Operating And Capital Budget Plans for the Main Campus included $415,000 for renovating teaching and research laboratories and classrooms in Biology. During the FY we worked with Allen Taylor in Facilities Planning, Mark Yarish at Dekker and Associates, an architectural firm, and with Terry Corlis, Telstar Construction Co., Inc., the company that did major renovations to 13 laboratories in the main building. In addition, the Remodel Section of the UNM Physical Plant finally finished renovating laboratory space for Dr. Fritz Taylor (room 110) and for Dr. Margaret Werner-Washburne (rooms 205-205A), work that had been promised last FY. The room numbers of the 13 labs remodelled by Telstar Company and the individuals served are as follows: 207 - new molecular biology lab renovated for Dr. Mary Anne Nelson, who will begin January 1991; 213, 214 - microbiology teaching labs; 215, 217, 219 - autoclave, media-prep suite for Pat Leonard; 216, 218 - microbe culture area for Dr. Larry Barton; 252 - Dr. Kathryn Vogel's old lab renovated for Dr. Tim Lowrey; 252A - part of Vogel's old lab made into a new office for Dr. Steve Stricker; 253 - renovation of departmental dark room; 255 - new research lab for Dr. Vogel (formerly part of a large under utilized teaching lab, old room 257); 257 - new research lab for Dr. Stricker (also formerly part of old, larger room 257). Finally, in coordination with Allen Taylor's office, we have begun
plans to use Dekker and Associates and Telstar to renovate three faculty offices (one for graduate students and one each for Drs. Donald Natvig and Mary Anne Nelson) in the 206 complex of five small rooms and to build a small graphics illustration suite for Beth Dennis in room 2. The plans have been drawn and the contractor has been notified; all work should be completed before the beginning of Fall Semester, 1990.

2. The Biological Society of New Mexico (BSNM). As of July 1990, we have not yet produced our Sixth Annual Newsletter to our alumni. During FY 1989-90, funds in the Society's account were used (1) to sponsor recruitment of prospective graduate students; (2) to award teaching assistants for demonstrated excellence; (3) to fund a Galapagos research project; (4) to assist in sponsoring departmental seminar speakers; (5) to pay for mailing our Biology Department Video to 31 high schools in Albuquerque, Los Alamos, Las Cruces, and Santa Fe; (6) to pay for mailing our November fundraising effort; (7) to support our Second Annual Departmental Graduation Exercise; (8) to pay for registering a copyright for the Department Video; (9) to fund a Research Assistantship for Ms. Yue-mei Geng, an outstanding Ph.D. student from China; and (10) to give our Second Annual Outstanding Undergraduate Award to a graduating senior Biology major; this Award was shared between Mariel Campbell and Joseph Fazio during our May 12th, Commencement Ceremony (Appendix A).

3. Undergraduate Curriculum. The emphasis in Biology at the undergraduate level remains teaching Biology as a broadly based liberal art and our faculty and teaching assistants are dedicated to providing students with a selection of high-quality courses that are current and meaningful. Biology remains one of the most popular majors in the College of Arts and Sciences with several hundred majors. The Commission on Higher Education Flagging Study (see memo from I. Cordova dated 23 February, 1990) listed 318 registered majors as of Fall Semester 1989; however, a Spring 1990 list of majors by the Admissions and Records Office (16 February, 1990 memo from Jep Choate, Enrollment Research Analyst) named 406 Biology majors including 318 in A & S and 88 in the General College.

We did not add any lower division courses to our undergraduate curriculum during the FY. We have, however, put enough courses in place during late afternoon and evening hours so that
non-traditional students easily can earn a minor in Biology. Our new B.A. degree was approved by the faculty Senate in September and by the Regents in November, 1988. Students now should be able to earn that degree by taking evening classes.

During the FY we generated 17,665 semester credit hours (including Summer Session, 1989) and awarded 82 B.S. degrees during the Summer 1989 (8), Fall 1989 (15), and Spring 1990 (59). This number was 49.1% of the 167 B.S. degrees awarded by A & S for the FY. We also awarded 7 B.A. degrees during the first full year that our BA was available to undergraduates in the College. An additional 36 students who got B.S. (18) or B.A. (18) degrees with other majors graduated with minors in Biology. Our undergraduate advisors for the FY (S. Altenbach, G. Johnson, W. Johnson, M. Molles) served over 100 majors and minors during the FY.

4. Graduate Curriculum.

a. Graduate Courses. We added only one new graduate course to our curriculum this past FY: 522 - Molecular Biology and Evolution.

Our new core curriculum for graduate students, approved by the Biology faculty during Spring Semester 1989, became an official requirement in our graduate program on 1 July 1989.

b. Graduate Student Recruitment. This FY we had difficulty attracting for interviews the most promising graduate students who applied to our program. The reasons for this are unknown, given our success in previous years and the overall quality of our graduate program. Only Gary Huxel accepted our offer to interview in person, but afterward he decided to accept a more lucrative offer at another university. Funds for recruiting Gary were provided by The Biological Society of New Mexico. In the eight years we have been actively recruiting "blue chip" graduate students to improve the quality of our program, 10 of 22 (45%) students brought to campus for interviews have entered our Ph.D. program, still a pretty decent success rate. For the record, 84 students (62 male, 22 female) applied to our graduate program for admission during Fall 1990; 19 students (15 male, 4 female) were accepted.

c. Degrees Awarded. During the FY we awarded 8 Ph.D. degrees and 10 M.S.I degrees. The students who received these degrees, their major professors, and the current whereabouts of each (if known) follows:
Ph.D.s

Joe Cook (Yates). Assistant Professor of Biology and Curator of Mammals, University of Alaska, Fairbanks.

Claudio Dominguez (Loker/Duszynski). Professor of Biology, Universidad Nacional Pedro Henriquez, Santa Domingo, Dominican Republic.

Ollar Fuller (Marshall/Wisdom). Applying for a permanent teaching position at Albuquerque TVI.

Young G. Kim (Nativg). Assistant Professor of Biology, Chosun University, South Korea.

William J. Kuipers (Thornhill). Biology Instructor, Albuquerque TVI.

Brett Riddle (Yates). Assistant Professor of Biology, University of Nevada, Las Vegas.


Michael Yeaman (Baca). Research Associate, Department of Infectious Diseases, Harbor UCLA Medical Center, Los Angeles.

M.S.-I

Carlos Blanco-Montero (Crawford). Ph.D. candidate, Department of Biology, UNM.

Deborah Carr (Dahm). Ph.D. candidate, Department of Biology, UNM.

Charles Carter (Kerkof). Will enter UNM Medical School, August 1990.

Dan Cimino (Loker). Looking for employment as a laboratory technician.

Ross Coleman (Dahm). Owner of Coleman Construction, Albuquerque, NM.

Lee Couch (Loker). Looking for employment in education or as a lab technician.

Steve Evanko (Vogel). Ph.D. candidate, Department of Biology, UNM.

Keith Nislow (Molles). Ph.D. candidate, Department of Biology, Dartmouth.

James Seeley (Snell). Looking for employment; may soon enter a Ph.D. program.

d. **Graduate Teaching Awards.** This year's winners of our department's "Outstanding Graduate Student" teaching awards ($100) were: **Summer 1989** - Kim Kleyboecker; **Fall 1989** - Greg Farley; and **Spring 1989** - Lee Couch and Lauraine Hawkins.

e. **Graduate Student Committee Service.** During the FY the following graduate students served the department as members of important standing committees: **Computer Use** - F. Davis, W. Gannon; **Graduate Policy** - R. Kimball, S. Sommer; **Representatives to Faculty Meetings** - G. Farley, S. Grogan, T. Newberry; **Research Allocations** - S. Evanko, L. Hawkins, S. Loftin, M. Roman; **Graduate Student Selection** - P. Nieuwo1t; **Seminar** - S. Bandoni; **SRAC Representative** - K. Flies, L. Hawkins, G. Venable; **Undergraduate Policy** - S. Kucera, M. Skupski, J. Seeley; **Biological Society of New Mexico** - D. Cimino, F. Davis, W. Gannon; **Search Committees for Molecular and Population Geneticists** - B. Riddle, D. Sugg.

f. **Graduate Student Professional Accomplishments.** During the FY our graduate students made numerous professional contributions and received professional recognition that was exclusive of whatever was accomplished by their major professors. These included 40 papers presented at regional, national and international meetings; 19 publications in refereed journals; 2 awards for outstanding student papers (D. Northup, R. Riddle); 14 grants/awards received for research support from professional societies, state, federal and/private granting agencies (L. Couch, L. Ellis [2], G. Farley, L. Fitzgerald [2], B. Hager, G. Hartmen, L. Hawkins, R. Jennings, D. Oliveras, R. Riddle, M. Skupski, D. Sugg [2]). These awards and grants came from Sigma Xi (Farley), the World Wildlife Fund (Fitzgerald), NSF (Ellis, Hawkins), DOE (Hartman), Theodore Roosevelt Grant-in-Aid for Research (Skupski), The Frank M. Chapman Foundation (Ellis), the American Society of Parasitologists (Couch), the Southwestern Association of Naturalists (Sugg), the Animal Behavior Society (Hager), the American Society of Mammalogists (Riddle), the Ford Foundation (Oliveras), and the NM Department of Fish and Game (Jennings) and the total awards brought more than $173,750 to UNM. Our students also won a 2 Graduate Achievement Awards (Oliveras, Sugg), a Legislatively Endowed Fellowship from the Office of Graduate Studies (Oliveras) and about 30 grants funded by SRAC/VPGRF/A&S at UNM. These many achievements are in addition to departmental teaching awards (item d, above), jobs/postdocs
secured by our degree recipients (p. 4), and departmental research and travel awards of which there were 32.

5. Adjunct Professors, Joint Appointments, etc. Several of our faculty hold joint appointments in other departments and a number of professionals in other academic units, the private sector, industry, and in government labs hold appointments in Biology. Our joint appointments lend breadth and strength to our overall program and the number of joint appointments in Biology now totals 85 (Appendix B).

6. Professional And Technical Support Staff. One of the most important components of our department is our support staff. The Department could not function without this group of dedicated professionals. During the FY, 65 individuals worked in, with, or for the department in a variety of capacities that ranged from postdocs and professionals supported by outside grants to FTE lines in our departmental budget (Appendix C).

7. Biology Faculty, Professional Activities, 1989 (see 6 March 1990 report to A & S for all professional, scholarly, and teaching accomplishments of Biology FTE faculty). Of some considerable note, two biologists, Dr. Margaret Werner-Washburne and Dr. Bruce Milne, were selected in national competition to receive prestigious National Science Foundation Presidential Young Investigator Awards. They join Dr. Diane Marshall, Bruce's wife, who was named a PYI last year. This award recognizes the research and teaching accomplishments of outstanding young Ph.D. scientists and their potential as future leaders in the academic community. Only Stanford University, generally acknowledged to be the best university in the nation, has had three of its Biology faculty members selected to receive this award!!

8. Museum of Southwestern Biology (MSB). The MSB consists of six divisions each with its own curator: Herbarium (Lowrey), Herpetology (Snell), Ichthyology (Molles), Invertebrates (Crawford), Mammalogy (Yates) and Ornithology (D. Ligon). Dr. J.S. Findley is the Director of the MSB and serves to coordinate the activities of the "museum process."

The functions of the MSB are research, education and service. The annual reports from the various divisions that were submitted this year are presented in Appendix D.
9. Castetter Laboratory for Ethnobotanical Studies (CLES). The CLES provides modern vegetational studies and paleoethnobotanical analyses in coordination with archaeological investigations. An update on the CLES Technical Series for the FY is attached (Appendix E).

10. Electron Microscope Facility. Our Department's EM Facility is now under the direction of Dr. Stephan A. Stricker, who joined our faculty as an Assistant Professor in August, 1989. During the transition between the Dr. Bob Chiovetti, the former EM Director, and Dr. Stricker, Ms. Angela Welford has done a superb job of supervising the lab. The annual report prepared by Ms. Welford for FY 1989-90 is attached (Appendix F).

11. National Ecology Center, Denver Fish & Wildlife Service (NEC/DFWS). Details of the cooperative agreement with NEC/DFWS, of the U.S. Fish and Wildlife Service, were noted in a previous Annual Report (FY 1986-87). The annual report of the NEC/DFWS is attached (Appendix G).


13. Loren D. Potter Endowed Chair. A detailed history of the development of the Potter Chair is given in our 1984-85 Annual Report. Currently the Potter Chair exists under the name, the Ross-Brown Endowment (No. 067002, subcode 3620) in the General Accounting Office. As of 30 June 1990, this fund is now worth $126,921.18. I have approached, for the second year in a row, Vice President for Finance, David McKinney, and he has assured me again that he will try to help us achieve our goal of $250,000 by July 1, 1991, the date the First Potter Chair will be announced. He will do this in two ways. First, by working with the UNM Foundation to identify the Potter Chair Endowment as one of the goals of their fund-raising activities and second, by trying to seek matching funds from the New Mexico Legislature through HB524 passed during the January 1989 session that, "creates an Educational Endowment Act to provide matching funds for endowed professorships and faculty chairs."

14. Melinda Bealmear Memorial Scholarship Fund. The development of this Scholarship Fund was detailed in a previous departmental Annual Report (FY 1986-87). The balance in this fund, as of 30 June 1990, is approximately $2,760.
15. **Faculty Excellence Fund.** During the FY we started another account with the UNM Foundation, our Faculty Excellence Fund. The balance in this account, as of 30 June 1990, is $475.

16. **Departmental Seminar Series.** We devote about $5,000 of our overhead return each year to support a strong seminar program that features distinguished outside speakers in many disciplines of biology. During FY 1989-90 we featured the following individuals:

- Dr. Vivian Berlin, Whitehead Institute for Biomedical Research, Cambridge, MA, "BIK 1 is a Yeast Microtubule-Associated Protein Required during Mating and Mitosis."
- Dr. Brooks M. Burr, Southern Illinois University, "Zoogeography of Fishes of the Lower Ohio-Lower Mississippi Basin."
- Dr. Bernard Crespi, Oxford University, "Measurement of Natural Selection on Phenotypes and Alleles."
- Dr. Diane Cowley, North Carolina State University, "Morphology, Evolution and Quantitative Genetics of Development."
- Dr. Carol Dieckmann, University of Arizona, "Yeast Mitochondrial RNA Processing."
- Dr. Michael E. Douglas, Arizona State University, "Morphology, Ecology and History: Hypothesis Testing in a Freshwater Stream Fish Community."
- Dr. John Endler, University of California, Santa Barbara, "Effects of Ambient Light and Vision on Sexual Selection in Guppies."
- Dr. Ann Evans, University of New Mexico, "Evolutionary Implications of Phenotypic Plasticity."
- Dr. Doyne Farmer, Los Alamos National Laboratory, "Autocatalytic Networks and the Origin of Life."
- Dr. Debora Goldberg, University of Michigan, "Components of Resource Competition in Plant Communities."
Dr. Nancy Grimm, Arizona State University, "Resource Control of Productivity and Successional Patterns in Streams."

Dr. Vincent Hascall, National Institutes of Health, "Regulation of Extracellular Matrix Production during Expansion of the Cumulus Cell--Oocyte Complex."

Dr. Lorraine Heisler, University of Oregon, "Applications of Multi-level Selection Theory."

Dr. Ed Heske, University of New Mexico, "Temporal Problems of Population Dynamics in Desert Rodents and Ephemeral Plants."

Dr. Frank Horodyski, University of Washington, "Molecular Analysis of Eclosion Hormone in Manduca sexta and Drosophila melanogaster."

Dr. David Houle, North Carolina State University, "Genetic Variance and Covariance of Life History Characters."

Dr. Rolf Ims, University of Oslo, Norway, "Are Empirical Model Systems of Any Use in Conservation Biology?" and "The Ecology of Reproductive Synchrony."

Dr. Joyce Jentoft, Case Western Reserve University, "Zinc Fingers in the Avian Retrovirus Nucleocapsid Protein" and "How Does RNA Bind to the Avian Retroviral Nucleocapsid Protein?"

Dr. Alan Johnson, University of New Mexico, "Dynamics of Aquatic Ecosystems under Toxicant Stress."

Dr. Armand Kuris, University of California, Santa Barbara, "Guild Structure of Larval Trematodes: Processes and the Role of Competition."

Dr. James A. MacMahon, Utah State University, "Ecosystem Disturbance: Local and Global Considerations."

Dr. Mary Anne Nelson, University of Wisconsin, "Molecular and Genetic Analysis of Sexual Development in Neurospora crassa."

Dr. James Price, Princeton University, "Signal Transduction in Drosophila Oogenesis: The Role of the EGF Receptor Homolog."

Dr. Kermit Ritland, University of Toronto, "Gene Identity and the Genetic Demography of Plant Populations."

Dr. Tom Schroeder, University of Washington, "The Cytoskeleton of Dividing Eggs."
Dr. Mary Seeley, Desert Ecological Research Unit, Gobabeb, Namibia, "Ecological Consequences of the Namib Desert--Benguela Current Interaction."

Dr. Jack Sites, Brigham Young University, "Chromosomal Change and Speciation: Is There a Connection?"

Dr. Allen Smits, University of Texas at Arlington, "Regulation of Fluid Balance in Vertebrate Lungs."

Dr. Mark Taper, University of New Mexico, "Stochastic Demography and the Characterization of Extinction-prone Populations."

Dr. Don Waller, University of Wisconsin, "Implications of Population Structure for the Evolution of Inbreeding Depression."

B. Plans And Recommendations

All of our plans for the future continue to center around the theme of making this Biology Department the best possible program it can be, given the resources available to us. We recognize that only a small percentage of these financial resources will continue to come through the UNM budgeting process, while the majority of our funding will come from private, state and federal contracts and grants. Plans for the upcoming FY include: (1) first and foremost, to push as hard as we can to get the College, the University, the Regents, and the Legislature to fund the immediate construction of a new Biology Building; the site is available and already in the long range plans of the University, and we have completed a detailed planning document, a floor plan and a scale model of a proposed building and presented these to the Office of Facility Planning; (2) our continued effort to get the NM Legislature to match the private funds we have accumulated in the Potter Endowment; (3) working with Dean Wildenthal and, hopefully Vice President Risser and President Peck, to achieve stable and consistent matching funds of $37,500/year for five years for our three Presidential Young Investigators; and (4) considering further the possibility of implementing an M.A. in Biology.

C. Appointments To Staff

All appointments to our staff during the FY are noted in bold face type in Appendix C.
D. **Separations From Staff**

All separations from our staff during the FY are noted at the end of Appendix C.

E. **Staff Promotions**

**May 1990.** Clifford N. Dahm and Eric S. Loker were promoted from Assistant Professor to Associate Professor and awarded tenure, both effective on 1 July 1990.

F. **Sponsored Research**

During 1989, 23 of our 32 FTE professors (72%) and their colleagues submitted 79 proposals to outside agencies totalling $13,884,058 (Appendix H). Also during 1989, 16 of 32 FTE professors (50%) received 20 new awards/contracts from private, state and federal agencies outside UNM. The outside contracts in force in Biology for only the FY 1989-90 totalled $4,380,571; these represented $9,480,691 in total awards committed to the department (Appendix I).

G. **Employees, Department of Biology, FY 1989-90**

At the request of Dean Wildenthal made last year, I have included a complete roster of all Department of Biology Employees for FY 1989-90 (Appendix J).

H. **Course Offerings, Department of Biology, FY 1989-90**

Also, replying to last year's request by Dean Wildenthal, I have included a complete listing of all courses and laboratories offered by Biology during FY 1989-90 (Appendix K). The total number of student credit hours may differ somewhat from those provided by the Office of Institutional Research (p. 3) because the latter are based on the "21 day count" whereas the figures in Appendix K are taken from final grade reports issued at the end of each semester.

I. **Affirmative Action**

It is the policy of the Department of Biology to provide equal opportunity in all personnel actions, institutionally sponsored education, training, tuition assistance, social and recreational programs and advancement, without regard to race, color, religion, national origin, sex, handicap, age, or veteran's status.

Hiring procedures for Biology Department faculty and staff are conducted within Affirmative Action guidelines with respect to advertising, search committees, interviewing, and selection.
Student employee, work-study, and other job opportunities are advertised on campus and within the department.
APPENDIX A

Biology Graduation Program
Summer 1990

Charles Carter (Dr. Kerko) Thesis: Thyroid Stimulating Hormone Regulation of Gene expression in Sheep Thyroid Culture Cells.

Lee Couch (Dr. Loker) Thesis: Characterization of Hemolymph Agglutins from Biomphalaria glabrata and Their Response to the Trematode Echinostoma paraensei.

Doctor of Philosophy Degrees:
Summer 1989

Kenneth Schoenly (Dr. Crawford) Dissertation: Empirical Test of Food Web Theory.

Fall 1989

Richard Steece (Dr. Allenbach) Dissertation: Rabies Virus in the Mexican Freetailed Bat (Tadarida brasiliensis mexicana) at Lava Cave, New Mexico.

Spring 1990

Young Gon Kim (Dr. Natvig) Dissertation: Superoxide Dismutase: Gene Replacement Studies.


Summer 1990


Claudio Dominguez (Drs. Loker & Duszynski) Dissertation: Thriàra graniferà From the Dominican Republic: Distribution, Competitive Ability, and Host Potential for Digeneic Trematodes.

Brett Riddle (Dr. Yates) Dissertation: A Gene Tree Approach to Continental Historic Biogeography: Mitochondrial DNA Evolution in Grasshopper Mice (genus Onychomys) and the Development of Arid Regions in Western North America.

William Kuipers (Dr. Thornhill) Dissertation: Sexual Selection and the Evolution of Sexual Differences in Blister Beetles (Coleoptera: Meloidae).

The Department of Biology gratefully acknowledges the following for their help in making this commencement celebration possible:

Scott Allenbach & Lyle Berger for the pig that became the green chili stew

The UNM Club for cooking the green chili stew

Billy Schaedle for contacting the graduates

The Biological Society of New Mexico for the commencement spirits

The Musicians: Chuck Carter, Fritz Thurmond, Maggie & Bruce Werner-Washburne; Mike Yeaman

May 12, 1990
**Graduation Program**
**Department of Biology**

Welcome: Dr. Kathryn Vogel, Professor and Assistant Chairman

"Now What?": Dr. Loren D. Potter, Professor Emeritus, Chairman 1958-1972

Commencement Address: Dr. Donald W. Duszynski, Professor and Chairman

Presentation of the Biological Society of New Mexico Award to Outstanding Undergraduate: Dr. Diane Marshall, Assistant Professor

Presentation of Graduates: Dr. Kathryn Vogel
- Bachelor of Arts Degrees
- Bachelor of Science Degrees
- Master of Science Degrees
- Doctor of Philosophy Degrees

Closing Announcements

**List of Graduates**

Bachelor of Arts Degrees
- Spring 1990
  - Theran Adamson
  - Julie Arellano
  - Theresa Elliot
  - Melody Holmes
  - Robert Turner

- Fall 1989
  - Neal But
  - Norma Kreischer
  - Dale R. Leonard, Jr.
  - Joel Lusk
  - Christopher Whisonant

Bachelor of Science Degrees
- Summer 1989
  - Adam Aragon
  - Michael Hsu
  - Jennifer Smith
  - Christopher A. Schreiner

- Fall 1989
  - Julian Atencio
  - Francesca Chavez-Giles
  - Michael J. Cubbage
  - Jennifer Vickers
  - Kristine Price

- Elizabeth Detmer
  - Devona Ratliff
  - Joseph Visalli

- Jessica Harrah
  - Monica Rusk

Spring 1990
- Clinton Albert
  - Laura S. Caskey
  - Joseph Anthony Fazio

- Denise Elaine Anderson
  - Leticia Castaneda
  - Mike T. Friggens

- Sarah Lucille Baron
  - Sharmila Chandran
  - Amy Garcia

- John Bennett
  - Michael J. Cubbage
  - Elicia Mills Garcia

- Christopher C. Bradley
  - John Dewitt
  - Roberto Gutiérrez

- Mariel Campbell
  - Darren Del Divine
  - Robert Haight

- Ysela Maria Carrillo
  - Julie Farrer

- Patrick Kelly Honsinger
  - Philip Ortega
  - Leslie Pino

- Kenneth B. Johnson
  - Mary Paulin Reed
  - Eric Reese

- Cornelia W. Lange
  - Deborah Risberg
  - Richard Rivera

- Joseph Lovato
  - Katherine Rodgers
  - Dean Roller

- Cristina Martinez
  - Marigene Salazar
  - Lynne A. Sampson

- Mary McManus
  - April Sauer
  - Amy Shortess

- Scott Patrick McLean
  - Cheryl Sofaly

- Irene Melow
  - Farzaneh Zamanian
  - Gretchen E. Zeppelin

- Omeed Memarsadeghi
  - Barbara Worland
  - Kristin Vaitkus

- Susan Kay Middleton
  - Brent Wagner
  - Cherylene Ward

- Steven Michael Mitchell
  - Kevin Travis Williams
  - Barbra O'Donohue

- Erik Nelson
  - Garth Winkless

- Peggy Jean Norton
  - Farzaneh Zamanian

- Summer 1990
  - Dancia Shaw

- Daniel N. Sweis

- c = cum laude
  - = magna cum laude

Master of Science Degrees
- Summer 1989
  - Deborah Carr (Dr. Dahm) Thesis: Retention Mechanisms in Streams: Effects on oxygen and Nutrient Concentrations in Interstitial Waters.

- Ross Coleman (Dr. Dahm) Thesis: Anaerobic Zones in Streams: Effects on Aquatic Primary Production.

- Carl Shuster (Drs. Yates & Hafner) Thesis: The Phylogenetic and Historical Biogeographic Relationships Among Least Shrew (Cryptotis parva) Populations at the Western Periphery of Their Range.

- Fall 1989
  - Stephen P. Evanko (Dr. Vogel) Thesis: Morphological and Biochemical Description of the Developing Fibrocartilaginous Region of Bovine Tendon.

- Keith Nislow (Dr. Molles) Thesis: The Influence of Case Morphology on the Vulnerability of Linepithus fijole (Trichoptera: Limnephilidae) to Predation.

- James Seely (Dr. Snell) Thesis: Geographic Variation and Thermal Relations in the Mound-Nests of the Western Harvester Ant, Pogonomyrmex occidentalis Cresson.

- Spring 1990
APPENDIX B

Adjunct Professors, Joint Appointments, Etc.

Department of Biology, FY 1989-90
ANCILLARY FACULTY, DEPARTMENT OF BIOLOGY
1989/90

Joint Appointments (with other departments or areas):

Robert Kelley, Prof., Anatomy
Tokio Kogoma, Prof., Cell Biology
Paul Risser, Prof., Vice President for Research

Adjuncts (not on UNM payroll):

Richard Aguilar, Asst. Prof., Forest Service
Cynthia Annett, Asst. Prof., Univ. of Arkansas
William H. Balsmaier, Asst. Prof., NMG&F
Celestyn Broeck, Assoc. Prof., Lovelace Foundation
Robyn J. Burnham, Asst. Prof., Univ. of Washington
Richard A. Byles, Asst. Prof., USFWS
David M. Chapin, Asst. Prof., Univ. of Washington
Roger Conant, Prof., UNM
John O. Corliss, Prof., UNM
Harry Crissman, Prof., Los Alamos National Labs
Steven Freeman, Asst. Prof., Lovelace Foundation
Philip R. Fresques, Asst. Prof., Forest Service
Thomas Fritts, Assoc. Prof., DWRC
Deborah Goldberg, Res. Assoc. Prof., Univ. of Michigan
Gary Graham, Asst. Prof., NMG&F
David Hafner, Asst. Prof., NMMNH
Deborah C. Hayes, Asst. Prof., Kansas State Univ.
John Horner, Asst. Prof., Bucknell University
David Hsi, Prof., NMSU
John P. Hubbard, Assoc. Prof., NMG&F
Ronald D. Ley, Prof., Lovelace Foundation
John E. Lobdell, Assoc. Prof., Univ. of Alaska

Research or Visiting Status (usually on UNM payroll):

James Bednarz, Sr. Research Assoc.
Brooks Burr, Research Assoc.
Dan Caprioglio, Research Assoc.
Gerardo Ceballos-Gonzalez, Visiting Scholar
Glenna Dean, Research Assoc.
Michael Folsom, Research Assoc.
Herbert Grover, Sr. Research Assoc.
Jon Hastings, Sr. Research Assoc.
Timothy Hayden, Research Assoc.
Lynn Heretl, Research Assoc.
Edward J. Haske, Visiting Research Asst. Prof.
Richard Holloway, Res. Assoc.
Alan Johnson, Research Assoc.

Herbarium Affiliates
Margaret Caffey-Moquin, M.S.
Elizabeth Grower, B.S.
Anne Cully, M.S.
Ellen DeBruin, M.S.
Reggie Fletcher, M.S.
Paul Knight, M.S.
Yavonn Wilson-Ramsay, B.A.

Herbarium Research Associates
Karen Clary, M.S.
Molly Toll, M.S.

Emeriti
William Degenhardt
Loren D. Potter
William Martin
APPENDIX C

Professional and Technical Support Staff

Department of Biology, FY 1989-90
<table>
<thead>
<tr>
<th>Employee</th>
<th>Title</th>
<th>Grant P.I.</th>
<th>Employment Dates</th>
<th>Note</th>
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<tr>
<td>Bednarz, Ph.D., James</td>
<td>Sr. Research Associate II</td>
<td>Bednarz</td>
<td>06/01/85 - 09/30/90</td>
<td>Staff - Bldg. Coordinator/Lab Supervisor</td>
</tr>
<tr>
<td>Bleakly, David</td>
<td>Lab Technician III</td>
<td></td>
<td>02/27/89 - 08/03/90</td>
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<tr>
<td>Brown, David</td>
<td>Lab Technician IV</td>
<td>Werner-Washburne</td>
<td>01/23/89 - 04/30/91</td>
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<tr>
<td>Brunt, James</td>
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<td>Gosz</td>
<td>01/02/89 - 03/31/91</td>
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<td>Gosz</td>
<td>11/01/88 - 10/31/90</td>
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<td>Markus, Kelly</td>
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<td>01/01/90 - 12/31/99</td>
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<td>Burr, Ph.D., Brooks</td>
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<tr>
<td>Capriglio, Ph.D., Dan</td>
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<td>09/01/89 - 06/30/90</td>
<td>Postdoc</td>
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<tr>
<td>Chapin, Ph.D., David</td>
<td>Visiting Researcher</td>
<td>Gosz</td>
<td>01/28/89 - 12/31/99</td>
<td>Staff - Storekeeper</td>
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<tr>
<td>Curtis, Peter</td>
<td>Staff Assistant</td>
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<td>01/10/19 - 12/31/99</td>
<td>Staff - Artist/Illustrator</td>
</tr>
<tr>
<td>Dennis, Beth</td>
<td>Graphics Designer III</td>
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<td>02/01/87 - 12/31/99</td>
<td>Postdoc</td>
</tr>
<tr>
<td>Evans, Ph.D., Ann</td>
<td>Consultant - Research</td>
<td>Marshall</td>
<td>09/01/89 - 05/31/99</td>
<td>Staff - MSB Collections Manager</td>
</tr>
<tr>
<td>Folsom, Ph.D., Michael</td>
<td>Research Associate II</td>
<td>Marshall</td>
<td>10/01/89 - 09/30/91</td>
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<td>Gannon, William</td>
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<td>04/14/86 - 12/31/99</td>
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<td>Gerson, Tom</td>
<td>Research Technologist IV</td>
<td>Gosz</td>
<td>07/17/89 - 02/28/91</td>
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<tr>
<td>Gayheart, Claudia</td>
<td>Accounting Technician</td>
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<td>02/01/87 - 12/31/99</td>
<td>Staff</td>
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<tr>
<td>Grover, Herbert</td>
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<td>11/01/88 - 10/31/90</td>
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<td>01/30/89 - 10/15/90</td>
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<td>Hayden, Timothy</td>
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<td>08/21/85 - 09/30/90</td>
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<tr>
<td>Heidrich, Ph.D., DVM, John</td>
<td>Lecturer III</td>
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<td>Hertel, Lynn</td>
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<td>Loker</td>
<td>08/18/86 - 11/30/90</td>
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<tr>
<td>Heske, Ph.D., Eckard</td>
<td>Research Asst. Professor</td>
<td>Brown</td>
<td>04/03/89 - 01/31/91</td>
<td>Postdoc</td>
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<td>Johnson, Ph.D., Alan</td>
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<td>Milne</td>
<td>04/03/89 - 12/31/99</td>
<td>Staff - A.A. &amp; Graduate Program Coordinator</td>
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<tr>
<td>Kent, Vivian</td>
<td>Administrative Assistant</td>
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<td>03/05/90 - 12/31/99</td>
<td>Herbarium</td>
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<td>Knight, Paul</td>
<td>Research Associate</td>
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<td></td>
<td></td>
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<tr>
<td>Koob, Ph.D., Thomas</td>
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<td>Vogel</td>
<td>11/01/85 - 08/31/90</td>
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<tr>
<td>Kubler, Sharon</td>
<td>Department Administrator IV</td>
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<td>01/11/88 - 12/31/99</td>
<td>Staff</td>
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<tr>
<td>Leonard, Patricia</td>
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<td>08/01/89 - 12/31/99</td>
<td>Staff - Media/Culture Center Supervisor</td>
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<tr>
<td>Maddux, Troy</td>
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<td>05/23/88 - 10/15/91</td>
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<tr>
<td>Martindale, Carol</td>
<td>Accounting Clerk</td>
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<td>02/03/86 - 12/31/99</td>
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<tr>
<td>McConnell, Dee</td>
<td>Lab Animal Technician III</td>
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<td>06/23/86 - 12/31/99</td>
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<tr>
<td>McEwan, Elizabeth</td>
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<td>06/11/90 - 12/31/99</td>
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<td>Monroy, Ph.D., Fernando</td>
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<td>Loker</td>
<td>07/01/90 - 11/30/90</td>
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<td>Moore, Douglas</td>
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<td>Gosz</td>
<td>09/01/80 - 02/28/91</td>
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<td>Morris, Carol</td>
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<td>02/12/90 - 12/31/99</td>
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<td>Music, Hugh</td>
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<td>Gosz</td>
<td>05/10/90 - 10/31/90</td>
<td>Staff - Greenhouse/Herbarium</td>
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<td>Myslatt, Jane</td>
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<td>09/21/84 - 12/31/99</td>
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<td>Parmenter, Ph.D., Robert</td>
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<td>Gosz</td>
<td>01/01/89 - 10/15/91</td>
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<td>Ramsey, Marikay</td>
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<td>Ricci, Keith</td>
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<td>Ricci, Roy</td>
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<td>01/02/90 - 01/02/91</td>
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<td>Ricci, Roy</td>
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<td>01/01/88 - 10/31/90</td>
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<tr>
<td>Taper, Ph.D., Mark</td>
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<td>White, Ph.D., Carl</td>
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<td>Wyss, Colleen</td>
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**Terminated 1989/1990 Fiscal Year:**

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<th>Employment Dates</th>
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<td>Benek, Margaret</td>
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<td>Barnett, Jenny</td>
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<td>Berger, Lyle</td>
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<td>08/14/89 - 05/11/90</td>
<td>Temporary Lab Coordinator replacing Sandy Ligon</td>
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<tr>
<td>Farmer, Irene</td>
<td>Editorial Assistant II</td>
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<td>02/22/88 - 05/31/90</td>
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<td>Feather, Frank</td>
<td>Horticulturist</td>
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<td>1965 - 10/31/89</td>
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<tr>
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<td>Postdoc</td>
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<td>Mason, Clarence</td>
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<td>Brown</td>
<td>04/14/86 - 06/30/90</td>
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<td>Brown</td>
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<td>Thurnmond, Frederick</td>
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<td>Vogel</td>
<td>06/26/89 - 06/30/90</td>
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<tr>
<td>Trotter, Ph.D., Eleanora</td>
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<td>Dahn</td>
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<td>Thornhill</td>
<td>01/01/87 - 08/31/89</td>
<td>Postdoc - Terminated</td>
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APPENDIX D

Annual Report: Museum of Southwestern Biology
June 28, 1990

TO: Don Duszynski, Chairman of Biology
FROM: Jim Findley, Director


I submit herewith the annual summaries provided by the Curators of the Museum divisions. Because of Professor Ligon's absence in Australia, the usual summary for the Ornithology Division is not included. Museum Associates in Ornithology, Drs. Stacey, Baltosser, and Dickerman, have been very active, however, and their published work and field activity during the year are impressive. Bob Dickerman's work in Liberia, especially, promises to yield intriguing results.

Table 1 provides a summary of statistics summed over the divisions. Since some of the Divisions did not provide the relevant data, all of these counts are underestimates. Many of the counts are similar to last year's, but I think that the total of papers presented at national or international meetings by Museum students and staff, at least 69, is especially impressive. This means that on at least 69 occasions during 1989 a representative of UNM from the Museum of Southwestern Biology stepped before a national or international audience of scientists and presented the results of his or her research. And I know from personally listening to many of these presentations that most are excellent. Indeed, at a recent meeting at Frostburg, Maryland, the Plenary session of the American Society of Mammalogists, reserved for award-winning presentations, featured two MSB associates out of five talks!

MSB scientists worked in at least 12 foreign countries during the report period. Of particular note, it seems to me, is the large number of studies in Latin American countries (Galapagos [Ecuador], Argentina, Paraguay, Mexico, Bolivia, Chile). I wonder, is any other part of the University contributing at this level to relationships with Latin America?
### TABLE 1.

MUSEUM OF SOUTHWESTERN BIOLOGY
STATISTICAL SUMMARY FOR CALENDAR YEAR 1989

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<thead>
<tr>
<th>Category</th>
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<tr>
<td>Items accessioned</td>
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<tr>
<td>Loans to other agencies</td>
<td>120 +</td>
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<tr>
<td>Professional visitors</td>
<td>500 +</td>
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<tr>
<td>Non-professional visitors</td>
<td>2000 +</td>
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<tr>
<td>Ph.D.'s awarded</td>
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<td>M.S.'s awarded</td>
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<tr>
<td>Grants in effect ($762,004)*</td>
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<tr>
<td>New proposals ($1,686,720)</td>
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<tr>
<td>Refereed publications</td>
<td>77 +</td>
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<tr>
<td>Presentations at meetings</td>
<td>69 +</td>
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<tr>
<td>Courses supported</td>
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</tbody>
</table>

* does not include Sevilleta LTER project.
22 June 1990

TO: Jim Findley
FROM: Cliff Crawford

SUBJECT: Annual Report and a Special Comment: Division of Entomology

**Annual Report**

Much of the past year's activity in the Division of Entomology centered on sorting specimens and then developing a representative arthropod collection from the Sevilleta National Wildlife Refuge. Most of the specimens are from the massive numbers of pitfall-trapped specimens taken in from near-monthly LTER collections. Carlos Blanco-Montero, the division's Assistant Curator, and Sandra Brantley, an undergraduate arachnid expert who is paid half-time by the LTER, were responsible for most of the processing. I did some as well. Most of the work is done in my research lab, room 233, which has become something of an extension of the Collection, which is housed in room 131.

Carlos will continue as Assistant Curator next year. In 1989-90 he devoted about one-fourth of his time to the LTER work, one-third to cataloging existing specimens (see below), and the balance to various other duties including making displays and interacting with countless people who have arthropod-related questions. The displays are used for educational purposes such as the talk I gave on insect adaptations at Washington Middle School in February.

Although we have no exact count of our arthropod specimens (I estimate about 10,000), this year saw the first real effort to catalog them. The insects (only) now have card file listings of their identifications (to the extent known), their data-label information and their specific locations within the Collection. The new organization is hardly in keeping with real insect museum standards, but it represents a distinct improvement over the past arrangement and is a real credit to the incentive and concern of Carlos. Clearly the Collection needs to be computerized, but that will not happen until it is brought up to speed in other respects (see below).

During the past academic year we made no specimen loans. However, we do have a number of outstanding loans and we hope to send quite a few specimens out for identification this coming year. Many of these will be from the LTER material.

Our visitors this past year numbered between 25 and 50. Because of our low staffing level and the small collection room, we make no effort to encourage visitors -- although plenty of people see our displays in the hall.

Two papers now in press emanated in part from use of the
facility. Both will be published in Acta Zoologica Mexicana: nueva serie. Titles and authors are as follows: 1) "Assemblage organization of surface-active arthropods in Sonoran Desert dune ecosystems" by C.S. Crawford, and 2) "Assemblage organization of surface-active arthropods along horizontal moisture gradients in a coastal Sonoran Desert ecosystem" by C.S. Crawford, M.L. Campbell, W.H. Schaedel and S. Wood. To my knowledge, no papers were read at meetings this year that resulted from direct use of the Collection.

The following graduate students used the facility for a variety of purposes in the past year: Allejandra Alvarado-Zinck, Carlos Blanco-Montero, Katelijne Flies, Ollar Fuller, Lauraine Hawkins, William Kuipers, Steve Kucera, Paul Nicoletto, Michael Patrick and Stephan Sommers.

Courses using the Collection were: Bosque Biology, Desert Biology, Invertebrate Biology and a special 551 course in insect biology.

As to grants, I have already mentioned research associated with the LTER. I should add that Charles Wisdom and I applied for, but did not receive, an NSF grant that would have involved the Collection to some extent as well. We intend to resubmit next fall.

Special Comment

It is increasingly apparent to me as Curator -- a job I accepted even though I was not really qualified to do it in a truly professional manner -- that the Division of Entomology requires some major changes. These fall under the headings of curating and space, neither of which will be adequate if UNM is to have a respectable collection of terrestrial arthropods at a time when UNM is committed to a prolonged study of their local diversity, and when the conservation of biological diversity is being recognized as a topic of global significance. After giving the matter a lot of thought I am now ready to make the following recommendations:

First, I recommend that a terrestrial arthropod systematist (doctoral level) with strong training in ecology and evolution be given a joint appointment in the Biology Department at UNM and the New Mexico Museum of Natural History. Details concerning such matters as rank, tenure, teaching, etc. would have to be worked out of course, but such an arrangement would begin to rectify an area of serious weakness in both institutions.

Second, I recommend that the main part of our arthropod collection be housed at the Natural History Museum while special research collections be kept, as needed, at UNM. The Museum has plenty of space for this purpose; we do not and apparently have no assurance of any in the foreseeable future. It is my understanding that they also have more drawers, cabinets and possibly technician help than we do.
I have discussed this plan informally with members of the Museum curatorial staff, who appear interested in the prospect of even closer ties with the department and university than now exist. But to me, the overriding reason for implementing such a plan is that, however necessary, good entomology collections are expensive and require highly professional management and considerable space. Therefore, any means of making them more efficient as well as more valuable to a spectrum of users seems desirable. As I see it, the existing Collection will continue to grow rapidly in the coming decade. Increasing demands from a variety of government, state and local agencies will be placed on it, to say nothing of demands from educational institutions and private individuals. At its present level of care and support it will, at best, remain barely adequate to meet these needs. On the other hand, it can become an entity to which we can point with pride, and one that simultaneously brings us closer to the Museum of Natural History.

Accordingly, I urge you and Don Duszynski to discuss this potential mutualism, and then to bring it up with our own curators, with personnel at the Museum of Natural History and with administrators at UNM. I will of course be happy to meet with any and all concerned whenever that seems appropriate.

During the past year the UNM Herbarium operated without a permanent Curator until the arrival of Dr. Tim Lowrey in February 1990. During the interim period between the retirement of the previous Curator and the arrival of Dr. Lowrey, the Herbarium was ably administered by the Asst. Curator, Patricia Barlow, under the supervision of the Museum Director, Dr. James Findley.

Previously, the Herbarium has been without a permanent Assistant Curator. The position was filled by graduate students. As a result there was a frequent turnover of personnel in the position. During this year Ms. Jane Mygatt was appointed permanent Asst. Curator on a half-time basis. This was an important step to add continuity to this important position. Graduate students continue to contribute to curation in the Herbarium as Teaching Assistants funded by the Biology Dept. The Herbarium now has a full-time T.A. for each semester including the Summer term. This position is important not only for providing much needed curatorial assistance but also for providing a vital curatorial training to graduate students.

As a result of years of relative inefficiency in the Herbarium throughout the late 70's and 80's, a large backlog of pressed specimens has accumulated. Additionally, a large amount of space in the herbarium was occupied by out-dated equipment and accumulated detritus. Much time has been devoted this year to a general clean-up and reorganization of the Herbarium. Although still incomplete, the reorganization has resulted in a significant increase in curatorial efficiency and activity. A major increase in specimen processing and accessioning is one of the major benefits.

One of the goals of the present Curator is the computerization of herbarium management activities as well as computerization of the collection to produce a specimen database for research and teaching. The computerization of the herbarium administration has largely been completed. Unfortunately, the computer being used is on loan from Pat Barlow and will be reclaimed when she completes her degree. Therefore, it is very important that the Herbarium obtain its own computer system to initiate the specimen database project.

The production of a specimen database will be useful to researchers and students at the University of New Mexico and throughout the world. Discussions are in progress with the data manager of the Sevilleta LTER Project and the Collections Manager of the Museum of SW Biology with respect to developing software and interfacing for optimal usage of the database by the LTER project and other interested universities and governmental agencies. This is an important new development for the Herbarium.

Summary of research, education, and curatorial activities

1. Number of specimens accessioned: 500.

2. Numbers of research loans to outside researchers or agencies: 17.

4. Graduate students utilizing the Herbarium for Research:
   Biology Dept.: Patricia Barlow, Carol Malcom, Gordon
   Venable, Ed Henson, Stefan Sommer.
   Geography Dept.: Amanda Arra

5. Courses using the Herbarium: Biol.363-New Mexico Flora,
   Botany; 402/502-Threatened and Endangered Flora of New
   Mexico; Architect and Planning 470/570-New Mexico Flora
   for planners and architects.

6. Outside agencies using Herbarium on a continuing basis:
   Nature Conservancy- the Herbarium is the current site of
   the New Mexico Plant Heritage Database project; N.M. Dept.
   of Forestry; U.S. Forest Service; U.S. Fish and Wildlife
   Service; U.S. Bureau of Land Management; various agencies
   of the Navajo Nation.
1989 ANNUAL REPORT OF THE DIVISION OF HERPETOLOGY
MUSEUM OF SOUTHWESTERN BIOLOGY
THE UNIVERSITY OF NEW MEXICO

Howard L. Snell and Derrick W. Sugg

CURATOR'S SUMMARY

Research Activities

This report contains figures that summarize the activities of the Division of Herpetology in the Museum of Southwestern Biology for 1989. As was true in 1988, division personnel and associates were involved in a number of regional, national and international activities. We co-hosted the Southwestern Association of Biologists Annual Meetings at Ghost Ranch, New Mexico. We continued our major research programs at the international, national, and state levels (Figure 1): evolutionary ecology of land iguanas, lava lizards, and tortoises in the Galápagos, Ecuador; ecology and control of brown tree snakes in the South Pacific; ecology and management of tegu lizards in Argentina; feeding ecology of caimans in Paraguay; developmental ecology of Isla San Esteban chuckwallas, Mexico; ecology and conservation of Harter's watersnake in Texas; population biology and ecology of desert tortoises in California, Nevada, and Arizona; ecology and conservation of the Jemez and Sacramento Mountain salamanders, New Mexico; ecology and distribution of New Mexico's leopard frogs; and community ecology of lizards in Hildago Co., New Mexico.

We continued the major new research effort started last year which centered around the Division's involvement in the Biology Department's Long Term Ecological Research Project at the Sevilleta National Wildlife Refuge, Socorro Co., New Mexico. We will be studying geographic and temporal variation in the ecology of reptiles at the population and community levels for at least the next six years. We also continued the initial survey work for a project that will involve experimental island biogeography at Elephant Butte Reservoir in Socorro and Sierra Counties, New Mexico.

Remarkably our production of papers and reports was identical to last year! Thirty-one papers and reports of Division personnel or associates were either published or in press by the end of the year. Faculty, students, and associates of the Division presented 22 seminars, papers, or posters at international, national, and regional meetings; universities; and research institutes. Funded research included 20 active grants and approximately 12 new proposals.
Geographic Distribution of UNM Herpetological Research

New Mexico & Texas
- Habitat of Salamanders
- Phenotypic Plasticity of Frogs
- Community Ecology of Lizards
- Ecology of Watersnakes
- Distribution of Reptiles & Amphibians

Mexico
- Ecology of Rattlesnakes
- Reproduction of Chuckwallas

Worldwide
- Systematics & Taxonomy of Pit Vipers of the Agkistrodon Complex

Galápagos Islands & Ecuador
- Conservation Biology of Reptiles
- Natural Selection of Iguanas & Lava Lizards

Guam
- Ecology & Control of Introduced Brown Tree Snakes

Argentina & Paraguay
- Conservation Biology of Reptiles
- Ecology of Tegu Lizards & Caimans
- Community Ecology of Lizards
Division Growth and Improvement

The Herpetology Division continued to grow and expand during 1989. We catalogued 679 specimens, and ended the year with a total collection of 50,869 specimens. Other figures of collection use are summarized below.

Collection Growth and Use

Accessions -- Seventy-two lots, totaling 614 specimens, were accessioned in 1989.

Catalogued -- Six hundred-seventy-nine specimens were catalogued in 1989, bringing the total collection size to 50,869.

Specimen Loans -- Eight loans totaling 63 specimens were made to other institutions during 1989.

Guests -- Approximately 20 guests from other schools and institutions visited the museum in 1989. An additional 210 children visited the division on school tours.

Phone Inquiries -- Approximately 50 inquiries about museum function and herpetology were received from the public during 1989.

Academic Activities of Herpetology Division Personnel

R Conant: Research Associate

PUBLICATIONS:

GRANTS, AWARDS, & FELLOWSHIPS:
-- Recipient of the Marlin Perkins Award from the American Association of Zoological Parks and Aquariums. Presented at Pittsburgh, PA, 28 September, 1989 for "strong commitment to the cause of education, conservation, scientific studies, and recreation as proper zoo and aquarium purposes; innovation and leadership in the field of zooculture; and excellence as a professional in the zoo and aquarium field." Roger Conant, who has had more than 45 years of experiences in zoo work, and who was Director of the Philadelphia Zoological Garden for many years, was only the fifth recipient of this award, which is given at irregular intervals, not annually.

ACTIVE RESEARCH PROJECTS:
-- Snakes of the genus Agkistrodon
-- Herpetofauna of the Delmarva Peninsula

W.G. Degenhardt: Curator Emeritus

PUBLICATIONS:
GRANTS, AWARDS, & FELLOWSHIPS:

ACTIVE RESEARCH PROJECTS:
-- Made collections from selected localities within the state.
-- Now plotting localities of specimens housed in the UNM collection.

TH Fritts: Research Associate

PUBLICATIONS:

N. J. Scott, Jr.: Curatorial Associate

PUBLICATIONS:
Scott, N.J., Jr. Book review -- five recently published books on Texas reptiles and amphibians. Submitted to Wildlife Review.

ABSTRACTS & PRESENTATIONS

TECHNICAL REPORTS:


GRANTS, AWARDS, & FELLOWSHIPS:


MANUSCRIPTS REVIEWED:

National Geographic Society
Copeia
American Midland Naturalist
Biological Conservation
New Mexico Department of Game and Fish
Herpetologia
Anales del Instituto de Biología, Serie Zoología, U.N.A.M.

SERVICE:

- Co-coordinator and Instructor. The evaluation of populations of anuran amphibians and strategies for their management and conservation. A workshop sponsored by the Secretaria de Desarrollo y Ecología, Dirección General de Conservación Ecológia de los Recursos Naturales de México and the U.S. Fish and Wildlife Service Region 2, Chapala, Jalisco, México.
- Research Associate, Department of Vertebrate Zoology, Smithsonian Institution.
- Corresponding Member, Turtle and Tortoise Specialist Group, International Union for Conservation of Nature.
- Board of Directors, Society for the Study of Amphibians and Reptiles.
- Member of U.S. Fish and Wildlife Service, Region 2, Herpetological Recovery Team.
- Chair, Department of Biology Liaison Committee for the Latin American Institute.
- Research Associate, Natural History Museum of Los Angeles County.
- Member of the New Mexico Salamander Working Group.
- Visiting Professor with the Organization for Tropical Studies, Costa Rica.
- Associate Editor, Southwestern Naturalist.
- Associate Editor for the Museum of Southwestern Biology Publication Series.

ACTIVE RESEARCH PROJECTS:

- Biology of captive and wild Harter's water snakes.
- Effects of logging on the Sacramento Mountain salamander

H.L. Snell: Curator

PUBLICATIONS:

ABSTRACTS & PRESENTATIONS:

Research on the evolution of body-size in Galápagos land iguanas was featured as a news item in BioScience 39(10):674-675.


TECHNICAL REPORTS:


GRANTS, AWARDS, & FELLOWSHIPS:
Submitted:


Funded or in Effect From Previous Years:


The Herpetology of the Galápagos Islands: Research and Conservation. H. L. Snell and T. H. Fritts. The Tinker Foundation, Inc. $50,000; starting date: August 1987; ending date: June 1989; $5,000 yr 1, 30,000 yr 2, 10,000 yr 3.


GRADUATE EDUCATION:
A. Masters degrees awarded:


B. Doctors degrees awarded:


MANUSCRIPTS REVIEWED:
American Naturalist: 1
Herpetologica: 2
Evolutionary Ecology: 1
Society for the Study of Reptiles and Amphibians: 2

SERVICE:
Associate Editor of Noticias de Galápagos
Councillor of the Charles Darwin Foundation

ACTIVE RESEARCH PROJECTS:
Analyses of temporal and spatial patterns of lizard communities in Southwestern New Mexico, with Charlie Painter.

The Role of Natural Selection in Explaining Patterns of Sexual Dimorphism Among Populations of Galápagos Tropidurus.

Fluctuating Balance of Reproductive and Natural Selection on Body Size of Galápagos Land Iguanas.

Academic Activity of Graduate Students:
Lee Fitzgerald:

Publications:


Invited Presentations:


Abstracts & Presentations:

Grants & Fellowships:
New in 1989:

In effect from previous years:

Manuscripts Reviewed:
Herpetological Review: 1
Vida Silvestre Neotropical: 1

International Consulting:

International Travel:
Several Months of Field work in Argentina.
Additional international travel included in above activities (consulting in Paraguay, invited presentations in Britain and Switzerland).

Other:
Lee's work on Tupinambus in Argentina was featured as a news report in Américas
Dave Germano:

Abstracts & Presentations:

Professional Experience:
Upon receiving his Ph.D. Dave was immediately hired as a full-time ecologist to research endangered species of reptiles and mammals in the San Joaquin Valley, California.

Randy Jennings:

Publications:

Abstracts & Presentations:

Technical Reports:

Grants, Awards and Fellowships:
New for 1989:


In effect from previous years:
Studies of the leopard frogs of New Mexico, emphasizing the ecology and status of *Rana chiricahuensis* in a variety of situations. R. D. Jennings. New Mexico Department of Game and Fish. $27,472. 1987-1989. Approximately $9,000/yr.

Manuscripts Reviewed:
Copeia: 1
Southwestern Naturalist: 1

Maria Nieuwolt:

Abstracts & Presentations:

Grants, Awards and Fellowships:


Travel grant for annual meetings of the Southwestern Association of Biologists. Student Research Allocations Committee, UNM. Maria Nieuwolt. $39. October, 1989.

James Seely:
Publications:

Abstracts & Presentations:

Derrick Sugg:
Publications:


Invited Presentations:
Sugg, D.W. Galapagos: The management and conservation of diversity. Departmental Seminar, Univ. of Arkansas at Little Rock

Abstracts & Presentations:
Grants & Awards:

Awards:
1989. Graduate Achievement Award, University of New Mexico.

1989. Nomination for the Outstanding Publication Award, Southeastern Section of the Wildlife Society.

Grants, new for 1989:


Service:
Coordinator -- Third annual meeting of the Southwestern Association of Biologists, Abiquiu, NM.
Graduate Student Representative -- Evolutionary Geneticist Search Committee.

Manuscripts Reviewed:

International Travel:
6 weeks of field work in the Galápagos Islands, Ecuador.

Gerald Zegers:

Publications:

Presentations & Abstracts:
The Fish Division of the Museum of Southwestern Biology was extremely active during 1989. The most significant event during the past year was our hosting of the annual meeting of the Desert Fishes Council. Over 200 biologists from the Canada, Mexico, and the United States attended this three day meeting hosted by the Department of Biology/Museum of Southwestern Biology. About 150 people toured the Fish Range during the open house/social held the first night of the meeting. Several of these individuals returned to the Fish Division later that week to examine specimens of fish that they were studying. An additional 120 non-Desert Fishes Council people toured the Fish Range during open house and graduation.

In preparation for the Desert Fishes Council meeting, the Fish Division went through a major reorganization and cleaning operation. Literally every jar in the museum was cleaned, filled with fluid, and checked to see if it was shelved in the correct location. In addition, the card catalogues were brought up to date.

In 1989, the over 3,000 lots were added to the collection. To put this into perspective, the total number of pre-1989 lots was 4,820. There are an additional 750 to 1,000 lots that are in the process of being incorporated into the collection. These collections are primarily represented by specimens from the Rio Grande in New Mexico and Texas and the San Juan River (NM and UT).

The Fish Division made six loans during 1989 to individuals at six different institutions. Specimens are being used for description of a new species of catfish from the Rio Grande drainage, taxonomic revisions, dissertation research, for illustrations, and life history information.

Courses which used the resources of the Fish Division were Biology 121 and 122, Vertebrate Zoology, Limnology, and Comparative Anatomy. I can only find records of one graduate student using the museum for his research.

Funding received during 1989 includes $156,000 for the Rio Grande fish inventory and macrohabitat analysis from Velarde to Elephant Butte, $25,000 for completion of the three year San Juan River endangered fishes survey, $5,000 for a survey of the fishes of the Animas and San Juan Rivers, and $7,000 for an ichthyofaunal survey from Big Bend National Park downstream to Falcon Reservoir.
Reports and Publications

Platania, S. P. and D. A. Young. 1990. A survey of the ichthyofauna of the San Juan and Animas rivers from Archuleta and Cedar Hill (respectively), to their confluence at Farmington, New Mexico. Report to the N.M. Department of Game and Fish. 42 pp.


Papers presented:

"Streams as amplifiers of climatic change", a symposium on "Global Climatic Change and Natural Resource Implications for the Intermountain West". Utah State University, Logan UT. April, 1989. (Molles)


"Geographic variation in the structure of caddisfly cases: clues to the influences of competition and predation". 6th Intern. Symposium on Trichoptera. Lodz-Zakopane, Poland. September, 1989. (M. C. Molles and K. Nislow)

ANNUAL REPORT
1 JULY 1989 TO 30 JUNE 1990
DIVISION OF MAMMALS
MUSEUM OF SOUTHWESTERN BIOLOGY
DEPARTMENT OF BIOLOGY
UNIVERSITY OF NEW MEXICO
ALBUQUERQUE, NM 87131

Prepared by W. L. Gannon

NUMBER OF VISITORS AND PUBLIC SERVICE

The Division of Mammals hosted 1710 people who used the collection for a total of 183 days; a 65% increase over last year's number. These included 76 professional biologists from outside the Biology Department, 111 professionals within the University, and 60 community professionals. Roughly 1310 school-aged children as well as many other groups, educators, artists, and members of the community were also served. The increase in usage is partly due to better record keeping with regards to group tours. However, the collection was used 111 days by archaeologists, 76 days by mammal researchers and 60 days by museum-related personnel. Twenty-three people just peeked in the door "to look", 70 senior citizens toured the facility, and over 20 "potential students" (both graduate and undergraduate) from out of town made arrangements to see the Division. The Collection Manager showed the departmental video to 14 school groups and hosted an open house for Showcase UNM, Homecoming, and Graduation (180, 43, and 74 visitors respectively); one tour was given to a father and his boy to help his son "deal with death". We also answered nearly 40 phone inquiries per day (almost 200 per week!) from the community, the University, and within the department.

Several items were reported stolen during the year including an inexpensive printer, a work table, and an orangutan skull. Mariel Campbell purchased a Bolivian Sturnira lilium for $0.50 from some graduating seniors who were having a yard sale before moving out of town. Intensified security measures have since been implemented.

NUMBER OF LOANS

The mammal collection processed 91 outgoing loans, including 12 loans of frozen tissues or collateral material. This material was used in electrophoretic or DNA studies (12), karyotype analysis (2), and 2 loans of bacula. Interestingly, our loaned material covered much of North and part of South America with loans to the American Museum of Natural History in New York, University of Michigan, University of Alaska, California State University Long Beach, University of Wisconsin, Auburn University, SUNY Stony Brook, Florida State University. Within the southwest, we serviced four institutions in Texas, the Denver Museum, Northern Arizona University. Within the state we did business with all the major institutions of higher education including Western New Mexico State, Eastern New Mexico State, New Mexico State Las Cruces, and Museum of New Mexico in Santa Fe. Loans were made to APS schools for use in the classroom, to the Sevilleta National Wildlife Refuge, the US Army, and with particularly heavy association with the New Mexico Museum of Natural History and the New Mexico Department of Game and Fish. Of

note, we made permanent loans to two natural history museums in Bolivia and the Zoological Museum in Moscow, USSR. In-house use of the collection was also heavy and was not documented to the extent that outgoing loans were (we're fixing that for the next FY). These loans included; researchers (Altenbach, Findley, Heske, Brown, Duszynski), graduate students (particularly Cook, Gardner, Riddle, Hartman, Martin, Frey, Kelt, Skupski, and Davis), class use for several courses (see below), and other departments such as Anthropology, Geology, Contract Archaeology, and Maxwell Museum. We also handled 23 incoming loans.

NUMBER OF ACCESSIONS AND SPECIMENS CATALOGED

The Mammal Division accessioned 12 groups of specimens and cataloged 2210 specimens into the main mammal collection (MSB 60119-62329). Several important and particularly noteworthy accessions were accepted. Over 800 specimens were received from the New Mexico Department of Game and Fish through the efforts of Dr. John Hubbard. The entire collection came with notes, field catalogs, and was fairly well cleaned and in an excellent state of preservation. Dr. Robert Dickerman donated 125 specimens from New York and other parts of the East coast. Dr. Dvit Ivey recently donated over 600 valuable specimens collected mostly in the 1940s from Michigan, Florida, and New Mexico. As with the other collections, this was complete but also provided us (and the rest of the scientific community) with specimens from populations that probably no longer exist (such as Peromyscus gossypinus and P. polionotus from the Miami, FL area). Dr. Troy Best gave us another few hundred kangaroo rats. The most constant influx of material from this past year and for years to come has been and will be the Long Term Ecological Research (LTER) study granted to ten investigators of the Department and Bolivian grant to Cook, Anderson, and Yates. The LTER deposited approximately 750 specimens from last years efforts. We anticipate a similar flood of material this year as well as about 700 specimens from the Bolivian expedition due back in August. Many small accessions were accepted as well. About 35 specimens were brought in by Cook and Gannon from Costa Rica. Robert Sullivan deposited approximately 400 chipmunks, ground squirrels, and woodrats this year. Greg Hartman had the museum process and will deposit approximately 300 moles as a result from his dissertation. Riddle will donate his 200 Onychomys once his project is complete.

UNIVERSITY COURSES USING THE COLLECTION

The Division of Mammals assisted 4 Biology Department classes and 2 other UNM classes (Anthropology, Art) with loans of specimens from our teaching collection or use of the collection in the Museum:

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Loans</th>
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<tbody>
<tr>
<td>Biology 121</td>
<td>Principles of biology</td>
<td>2</td>
</tr>
<tr>
<td>Biology 122</td>
<td>Principles of biology</td>
<td>4</td>
</tr>
<tr>
<td>Biology 386</td>
<td>General vertebrate zoology</td>
<td>2</td>
</tr>
<tr>
<td>Biology 489</td>
<td>Mammalogy</td>
<td>8</td>
</tr>
<tr>
<td>Art 412</td>
<td>Museum management</td>
<td>1</td>
</tr>
<tr>
<td>Anthro 449</td>
<td>Paleontology</td>
<td>2</td>
</tr>
</tbody>
</table>
The following courses used the collection extensively as part of their coursework:

- Biology 489: Mammalogy - 18 students
- Biology 490: Principles of Biological Systematics - 16 students
- Biology 402/502: Topics in Cytogenetics - 5 students
- Biology 502: Advanced vertebrate biology - 15 students
- Biology 502: Cytogenetics - 5 students
- Biology 502: Topics in Chromosomal Evolution - 6 students
- Biology 512: Population Biology - 14 students
- Biology 651: Advanced Field Biology - 3 students

INFORMATION DISSEMINATION (details attached below)

Summary: The Mammal Division supported 16 Ph.D. dissertations and 4 M.S. theses, 9 grants, 21 published papers, 10 papers in press, 6 submitted as manuscript, and 43 papers presented at scientific meetings during this time.

MISCELLANEOUS

MSB expanded its computer pod and computer applications abilities. The Pod has developed into a core for manuscript production and data analysis. Application software development was begun and made functional to drive the museums dbase IV database management system for patron use. Three future directions are currently being assessed.

Distinguished Departmental Visitors Hosted:

- Dr. Michael Smith, Director, Savannah River Ecology Laboratory
- Dr. Ira F. Greenbaum, Professor, Texas A&M, University
- Dr. Sydney Anderson, Curator, American Museum
- Sr. William Lopez-Forment, professor UNAM, Mexico
- Dr. Rodney Honeycutt, Assoc. Professor, Harvard
- Dr. Hisashi Abe, Japan
- Dr. Voytex, Poland

GRANTS AND CONTRACTS, EXTRAMURAL AND INTRAMURAL.

Submitted to all agencies in 1989

Premanagement laboratory analyses of New Mexico Vertebrates (year 8). T.L. Yates. New Mexico Game and Fish, $35,000, 1 Yr.


Ithyological Investigations of New Mexico fishes. T.L. Yates and Steve Platania. New Mexico Game and Fish. $37,000. 1 August - 1989 - 30 June 1991.


Awarded in 1989

Ithyological Investigations of New Mexico fishes. T.L. Yates and Steve Platania. New Mexico Game and Fish. $37,000. 1 August - 1989 - 30 June 1991.


Premanagement laboratory analyses of New Mexico Vertebrates (year 8). T.L. Yates. New Mexico Game and Fish, $35,000, 1 Yr.

Endangered Fishes in New Mexico and Adjacent States, T.L. Yates and Steven Platania, New Mexico Game and Fish, $82,000, 18 months.

Long-Term Ecological Research - the Sevilleta. Co-PI, NSF, $2,400,000, 6 Years.

Awards in force from previous years
Survey of endangered fishes of the Rio Grande, T.L. Yates, Steve Platania, and Kevin Bestgen, New Mexico Game and Fish, $100,000. 2 Years.


Other Grants and Awards:

Joe Cook,
  Genetics of Bolivian Tuco-tucos, Mellon Foundation, $1000.
  Graduate Achievement Award, UNM, $1000
  Mammalian diversity in Bolivia - The Yungas and Valles, NSF, $163,000

Jennifer Frey,
  Graduate Student Research Allocation (GRAC), $250
  Student Research Allocations Committee (SRAC), $100

William Cannon,
  Graduate Student Research Allocation (GRAC), $150
  Student Research Allocations Committee (SRAC), $100
  American Society of Mammalogists, Grants-in-Aid, $500

Greg Hartman,

Brett Riddle,
  American Society of Mammalogists, Shadle Award, $3500
  American Fisheries Society, Best Student paper

PUBLICATIONS

The Mammal Division supported many types of publications in 1989-90. Among these are included book chapters, refereed journal articles, oral presentations, and published abstracts.

PAPERS AND OTHER PRESENTATIONS:

Papers Published in 1989


### Papers Published in 1989

<table>
<thead>
<tr>
<th>Paper ID</th>
<th>Author(s)</th>
<th>Title</th>
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### Papers Published in 1990

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<tr>
<th>Paper ID</th>
<th>Author(s)</th>
<th>Title</th>
</tr>
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</table>


Contributed Talks at Professional Meetings:


Brown, J. H. 1990. (award presentation) Homage to Joseph Grinnell, or Why are there so few kinds of mammals? Presented to the American Society of mammalogists, Frostburg, Maryland.

Brown, J. H. 1990. (invited symposium) Priorities for the conservation of Southwestern biodiversity. Presented to the Southwestern Association of Naturalists at University of North Texas, Denton, TX.


Davis, F. W. 1990. Burrow structure and natural history of Ctenomys boliviensis. Presented to the Southwestern Association of Naturalists at University of North Texas, Denton, TX.


Frey, J. K. 1990. Fluctuation of a mammalian faunal element in response to climatic change. Presented to the Southwestern Association of Naturalists at University of North Texas, Denton, TX.


Heske, E. J. 1990. Sexual and seasonal differences in the home range of the southern grasshopper mouse Onychomys torridus. Presented to the Southwestern Association of Naturalists at University of North Texas, Denton, TX.


Kelt, D. A. Biogeography of small mammals across a transition zone in southern South America. Presented to the Southwestern Association of Naturalists at University of North Texas, Denton, TX.


Palma, E. 1990. Systematics of Oryzomys longicaudatus (Rodentia: Cricetidae) in Chile. Presented to the Southwestern Association of Naturalists at University of North Texas, Denton, TX.

Riddle, B. R. 1990. A gene lineage approach to continental biogeography: The basal units of historical evidence and their relevance to ecology and conservation biology. Presented to the Southwestern Association of Naturalists at University of North Texas, Denton, TX.


Shuster, C. J., and D. J. Hafner. Genetic and biogeographic relationships among populations of the least shrew (Cryptotis parva) at the western periphery of its range. Presented to the American Society of Mammalogists, Fairbanks, Alaska.


ABSTRACTS (REFEREED OR INVITED)


ABSTRACTS (CONTRIBUTED)


GRADUATE EDUCATION.

The Mammal Division offered "Principles of Collection Management" (Biology 402/502; 3 hours) taught by William Gannon, with Terry Yates as course administrator. Aside from typical classroom instruction and using a current textbook (Mammalian collection management (1988) by Genoways, Jones, and Rossolimo), there were numerous field trips to see other museums and how they operated as well as a 5-day excursion to Chaco Canyon (by way of the Santa Fe museums). Of the required term projects six have been submitted for publication with another three being modified for submission to museum and discipline-type journals.

Masters degrees awarded:

Shuster, C. J. Genetic and biogeographic relationships among populations of the least shrew (Cryptotis parva) at the western periphery of its range.

(with Dr. Dave Hafner).

Doctors degrees awarded:

Cook, J. A. Phylogenetics of the South American tuco-tuco (Genus Ctenomys).

Riddle, B. R. Continental historical biogeography: Inferring areas of endemism and area-hybridization using mitochondrial DNA.

Students Supervised by the Curator and Staff:

Biol 699 (spring and fall)
Joe Cook
Greg Hartman
Brett Riddle

Biol 699 (Summer)
Greg Hartman

Biol 551 (Spring)
Jennifer Frey
Marianne Martin

Biol 499 (Fall)
James Heneghan
Monica Rusk
Suzanne Peurach

Biol 551 (Fall)
Kim Kleyboecker
Marianne Martin

Biol 599 (Fall)
John Conwell
Mike Friggens

Biol 499 (Spring)
Stan Moolenijzer
Monica Rusk

As a note on education, the Division has consistently provided education at a multitude of levels including: the kindergartners looking up at a stuffed chipmunk and asking, "Why are its eyes white?"; or the fifth grader who goes on and on about the time he and his dog were sprayed by skunks when he was asked if he knew what k-rats ate in the desert; or the community member that calls in about the "raven problem"; the Boy Scout with a special natural history project on ultrasound; the Future Farmers of America who are trying to win the championship; the news media interested about bats; the volunteer who wants to "just scrape a few bones and get some experience"; the undergraduate who thought they wanted medical school, but never thought there was this; the graduate student needing help making ends meet and cannot afford some equipment, xeroxes, and needs help on a trapping grid; the professional inquiring about the number of Neotoma cinerea from Socorro County; the retired orthopedic surgeon just wanting to x-ray a few sloth bones, but ending up x­raying the entire Eutheria; the rest-home elderly who recall the sea of gemsbok and impala on their trip to Kenya with Roosevelt. These are the everyday users and learners of the collection. No price can be put on what they learn, glean, or regurgitate from the holdings of this Division. No numbers can be put on insight, intrinsic values, or a good story about how vampires really feed. It is good to be here.
PERSONNEL

Curatorial Staff, Division of Mammals -- Jan 1989 - present

Terry L. Yates, Curator of Mammals
William L. Gannon, Collections Manager
Joseph A. Cook, Assistant Curator (88-89)
Jennifer K. Frey, Assistant Curator (89-90)
Marian P. Skupski, Curatorial Assistant (89)
Rosanne L. Humphrey, Head Preparator, work-study (89)
Mariel L. Campbell, Head Preparator, work-study (90)
Susie C. Peurach, Head Preparator, work-study (90)
Roberto U. Gutierrez, Preparator, work-study (88-89)
Lisa A. Valle, Preparator, work-study (89)
Jon O. Dunnum, Preparator, work-study (89-90)
Kristin Vaitkus, Preparator, work-study (90)
Nancy Heimbigner, volunteer (90)
Mike Friggins, volunteer (89-90)
Stan Moolenijzer, volunteer (89)
Monica K. Rusk, USFWS, Preparator (89)
Tom G. Roe, karyology, MBRS (89-90)
Millan Baca, museum-wide, SAP (90)
Miguel Romero, museum-wide, SAP (90)

Other Mammalogists and Professionals Associated With the Division of Mammals

Dr. Sydney Anderson, MSB Research Associate
Curator, Mammals,
American Museum of Natural History

J. Scott Altenbach, Associate Biology Professor
Chiropteran Anatomy and Physiology

William Baltosser, MSB Research Associate
UNM Department of Biology

Troy L. Best, MSB Research Associate
Assistant Professor, Biology
Mammalian Morphology and Systematics; Dipodomys

James H. Brown, Professor of Biology
Mammalian Biogeography
Community Ecology

Astrid Kodric-Brown, Associate Professor
Community Ecology
Joseph A. Cook  
Ph.D., 1990  
Frozen Tissue Collection  
studies in Ctenomys

Donald W. Duszynski  
MSB Research Associate  
Chair, Department of Biology  
Mammalian hosts of coccidian parasites

James S. Findley  
Director of MSB, MSB  
Ecomorphology, Community Ecology  
Curator Emeritus, Mammal Division

Curatorial Associates:  
James H. Brown  
UNM Department of Biology

Robert W. Diekerman  
Museum of Southwestern Biology

William Lopez-Ferment  
UNAM, Mexico (1990)

Research Associates:  
J. Scott Altenbach  
UNM Department of Biology

Sydney Anderson  
Mammal Division  
American Museum of Natural History  
New York

Robert J. Baker  
The Museum  
Texas Tech University  
Lubbock, TX

Troy L. Best  
Department of Biology  
Auburn University

Scott L. Gardner  
Dept. Nematology  
UC Davis.

Sarah B. George  
Curator of Mammals, LA County  
Museum of Natural History

Gary L. Graham  
Bat Conservation International

David J. Hafner  
Director of Science  
New Mexico Museum Nat. History  
Historical Biogeography and Systematics
Division of Mammals, Annual Report 1989-1990

Bruce J. Hayward
Department of Biology
Western New Mexico University
Silver City, NM

Edward J. Heske
Department of Biology, UNM
Ecology, voles, southwestern deserts

Dwit Ivey
Retired. Active in
Botany, mammals

Clyde Jones
The Museum
Texas Tech University
Lubbock, TX

Dwight W. Moore
Emporia State University

Robert Parmenter
Department of Biology
LTER coordinator

James L. Patton
Museum of Vertebrate Zoology
University of California
Berkeley, CA

Richard A. Smartt
Curator of Zoology,
New Mexico Museum of Natural History.

Robert M. Sullivan
New Mexico Mus. Nat. History
Biogeography and systematics

GRADUATE STUDENTS ASSOCIATED WITH THE DIVISION OF MAMMALS

Ph. D.
Forrest W. Davis
Kris A. Ernest
Jennifer K. Frey
William L. Gannon
Scott G. Gardner
Lauraine Hawkins
Greg G. Hartman
Douglas A. Kelt
Marianne Martin
Shahroukh Mistry
Paul Nicoletto
Eduardo Palma
Michael Patrick
Jorge Salazar B.
Marian P. Skupski
Derrick Sugg

Masters
Kim Kleyboecker
Carol Malcolm
Ursula Sheppard
Lisa A. Valle

54
This year has been fairly busy for the bird range. Bob Dickerman has been very active, both in acquiring new specimens for the collection (mostly through government agencies and wildlife rescue organisations) and by preparing many of these specimens. In addition, we are presently trying to computerize the collection, having already begun work on the egg collection.

Collections:

1. This year we have catalogued 193 new specimens. Many of these have been skeletal specimens for species which have not been previously represented in our skeletal collection.

2. The egg collection, consisting of 898 sets of eggs, has been computerized and reorganized.

3. There were 2 incoming loans and 23 outgoing loans this year. While several of those loans were to classes in the biology department (such as Bio 122), the majority were to individuals outside the university.

4. 71 visitors signed the guest book this year, though this is an underestimate of the number of visitors as some do not sign in, particularly the school groups as they receive their tours in a different room.

5. Approximately 40 tours were given to school groups.

6. There were also about 50 phone calls from the public requesting information.

7. The museum was used by several other agencies: The Rio Grande Bird Research, New Mexico Fish and Game, Museum of New Mexico, as well as the Anthropology Department and the Art Department here on campus.
Publications:


Abstracts:


Seminar Presentations:


Talks at Professional Meetings:


Grants and Awards:

Ellis, L. NSF Pre-doctoral Fellowship
Frank M. Chapman Grant
Sigma Xi Research Award
Student Research Allocation Committee Award
Graduate Research Allocation Committee Award

Farley, G. Sigma Xi Research Award
Student Research Allocation Committee Award
Graduate Research Allocation Committee Award
Student Teaching Award
Biology Graduate Student Association President

Kimball, R. Student Research Allocation Committee Award
Vice-President Graduate Research Fund Award
Graduate Research Allocation Committee Award

Ligon, J.D. University of New England Visiting Research Fellowship, Armidale, New South Wales, Australia
APPENDIX E

Annual Report: Castetter Lab for Ethnobotanical Studies
CASTETTER LABORATORY FOR ETHNOBOTANICAL STUDIES


Technical Series Additions:

250  Toll, Mollie S.  Flotation remains from Archaic to late Pueblo Sites in the Rio Puerco Valley, New Mexico. Ms on file Rio Grande Consultants 3512 Chalmers SE Albuquerque NM. M. Schmader Project Director. 17p. 8DEC 89

251  Dean, Glenna.  Pollen Analysis of samples from Anasazi hearth and metate-bin features at NM-H-22-133 near Farmington, New Mexico. Ms on file Navajo Nation Archaeology Department. Window Rock AZ Rena Martin NNAD Archaeologist. 16p. 29 MAY 89

252  Dean, Glenna, Lambert, Christine.  Paristological analysis of sediment samples from the Civil War-era mass grave at Glorieta, Santa Fe County, New Mexico. Ms on file, Laboratory of Anthropology, Museum of New Mexico, Santa Fe, New Mexico. Yvonne R. Pakes Project Director. 4 p. 1 JUN 89.

253  Dean, Glenna.  Pollen analysis of samples from hearth and burial features from LA65031 and 65030, La Plata Highway-Barker Arroyo Testing Project, San Juan County New Mexico. Ms on file, Laboratory of Anthropology, Museum of New Mexico, Santa Fe, New Mexico. Stephen C. Lent Project Director. 19 p. 5 JUN 89.

254  Dean, Glenna.  Archeobotanical analysis of a small whole vessel and its fill, Forest Road 218 monitoring project, Rio Arriba County New Mexico Ms on file, Moore Anthropological Research Project, P.O. Box 1156 Aztec NM 87410. Roger Moore, Project Director. 9 p. 19 OCT 89.

255  Holloway, R.G.  Pollen analysis of LA69571 and LA69578 Valencia and Socorro Counties New Mexico. MS on file Chambers Group Inc. Albuquerque NM. Jack Bertram Project Director. 12p. 10 OCT 89

256  Holloway, R.G.  Pollen analysis of NM:12:L3:01, NM:12L3:05, NM:12:L3:08, and NM:12:L3:70 Pueblo of Zuni, Zuni New Mexico. MS on file Zuni Archaeological Program, Pueblo of Zuni, P.O. Box 339, Zuni NM 87327. 33 p. OCT 89

257  Toll, Mollie S.  Flotation from six small sites along the Santa Fe Relief Route, North Central New Mexico. Museum of New Mexico Project #41.414. Ms on file Laboratory of Anthropology, Museum of New Mexico, Santa Fe NM. Dan Wolfman and Tim Maxwell Project Directors. 7 p. 29 OCT 89

258  Dean, Glenna.  Pollen analysis of archaeological samples from a multicomponent Mogollan site on the W S Ranch, Catron County, New Mexico. Ms on file, Texas Archarological Research Laboratory, Balcones Research Center, 10100 Burnet Road, Austin TX 78758. Jean Landrum Project ARchaeologist. 21 p. 24 NOV 89.
Holloway, R.G. Pollen analysis of 4 sites from the All American Pipeline Project. Ms on file, Texas Archarological Research Laboratory, Balcones Research Center, 10100 Burnet Road, Austin TX 78758. Solveig Turpin, Project Archaeologist. 5 p. DEC 89.

Toll, Mollie S. Flotation from a Pueblo I pitstructure (CDC-7) in upper Canyon de Chelly National Monument, Arizona. Ms on file, National Park Service, Southwest Regional Office, Santa Fe NM 11p. 7MAR 90

Dean, Glenna. Phytolith analysis of archaeological samples from possible Anasazi agricultural fields at LA6599 & LA59659, Rio Chama Valley, New Mexico. Ms on file, Laboratory of Anthropology, Museum of New Mexico, P.O. Box 2087, Santa Fe NM. James Moore Project Director. 9p. 2 DEC 89

Dean, Glenna. Pollen analysis of 3 archaeological samples from site SJC 1569, San Juan County New Mexico. Ms on file, Cultural Resource Management Program, San Juan College, 4601 College Blvd. Farmington NM 87401. Catherine Kent Project Director. 13p. 7 DEC 89

Macrobotanical analysis of the SWEPI Project, Ms on file, CASA, 12400 Highway 666 Cortez CO 81321. Nancy Hammack Project Director. 15p. JAN 90

Macrobotanical analysis of two sites, 5MT8934 and 5MT8899 Towaco Canal Reach One Project. Ms on file, CASA, 12400 Highway 666 Cortez CO 81321. Nancy Hammack Project Director. 20p. JAN 90


Holloway, R.G. Pollen and plant macrofossil analysis of the Holloman A.F.B. Test Track. Ms on file, Office of Contract Archaeology, University of New Mexico, Albuquerque NM 87131. 9p. MAR 90

Dean, Glenna Pollen analysis of samples from Anasazi burial and floor features at UT-C-55-39, near Neth, Utah. Ms on file, Navajo Nation Archaeology Department. Unit B, 609 South Hehrend Farmington NM Paul F. Reed Project Director. 17p. 18 APR 90.

Dean, Glenna. Pollen analysis of samples from a Basketmaker III-Pueblo I pitstructure at LA3223, Newcomb Chacoan Protection site near Newcomb San Juan County New Mexico. Ms on file, Navajo Nation Archaeology Department. Unit B, 609 South Hehrend Farmington NM Rena Martin Project Director. 19p. 25 APR 90.

Dean, Glenna. Assessment of pollen preservation in 20 samples from 4 archaeological sites N30/31 Project near Mexican Springs, New Mexico. Ms on file, Zuni Archaeological Program, Pueblo of Zuni, P.O. Box 339, Zuni NM 87327. 11 p. 30 APR 90.

Toll, Mollie S. Flotation from site MV-138-86, La Quemada region, Zacatecas Mexico. Ms on file, Dept. Anthropology, Washington University, St. Louis. Charles D. Trombold Project Director, 11p. 2 MAY 90
271 Dean, Glenna. unfinished

272 Toll, Mollie S. Flotation from Maljamar (LA44974) an undated series of hearths in Lea County New Mexico. Ms on file, Laboratory of Anthropology, Museum of New Mexico, P.O. Box 2087, Santa Fe NM Rhonda Main Project Director. 6p. 22 MAY 90

273 Dean, Glenna. Pollen analysis of samples from four beehives, Bosque Honey Farm, Socorro County NM. Ms on file, Bosque Honey Farm 600 N. Bosque Loop, Bosque NM Rick Cole, Beekeeper. 7P. 17 MAY 90

274 Dean, Glenna. unfinished.

275 Holloway, R.G. Flotation analysis of five samples from LA68924, Brown Site. Ms on file, Dept. Anthropology, University of New Mexico, Albuquerque NM. Chip Wills Project Director. 8p. MAY 90

276 Toll, Mollie S. unfinished.


279 Holloway, R.G. Macrobotanical Analysis of two flotation samples from LA71743, Casa Blanca. Ms on file, Laboratory of Anthropology, Museum of New Mexico, P.O. Box 2087, Santa Fe NM Rhonda Main Project Director. 3p. JUN 90

280 Holloway, R.G. Pollen analysis of LA 59958. Ms on file, Laboratory of Anthropology, Museum of New Mexico, P.O. Box 2087, Santa Fe NM Steve Post Project Director. 8p. JUN 90

Professional Activities:

R.G. Holloway: field trip for vegetational assessment, UNM Anthropology Dept. field school under direction of C. Wills. guest lecture to field school JUN 90

OCT 89- Judge of student paper competition, A.A.S.P. annual meeting, Tulsa OK
FEB 90- nominated for Board of Directors, A.A.S.P.

Dean, Glenna. field trip for vegetational assessment, UNM Anthropology Dept. field school under direction of C. Wills. guest lecture to field school JUN 90

MAY 90- attended Corn and Culture in Prehistoric North America Conference held in Minneapolis MN.

Toll, Mollie S. information not available.
APPENDIX F

Annual Report: Electron Microscope Facility
Annual Report, 1989-1990

Electron Microscopy Facility

The Electron Microscopy facility continues to be the only facility on campus to offer a course in Electron Microscopy Techniques (Transmission and Scanning). It is also the only facility to offer technical assistance for anyone (departmental or non-departmental, or non-University) needing to perform Electron Microscopy in the course of their research. It is hoped that under new Directorship the facility will see increased use and an expanded enrollment in the courses.

PERSONEL:

Dr. Stephen Stricker began his position as Assistant Professor/Director, E.M. Facility in August, 1989. He brings with him an enthusiasm not only for Electron Microscopy but for related microscopical techniques, especially Confocal Lazer microscopy. His primary research interests utilize electron microscopy.

Carol Morris was hired in Feb. 1990 as a part-time lab. technician to help with the increased work load. She has quickly picked up the needed skills to perform her work competently.

Angela Welford returned to part-time (20 hrs/wk) in July 1989. She continues to oversee the day to day operation of the lab, troubleshoots equipment problems and performs microscopy when needed. She assisted with instructing the lab portion of the SEM course.

TEACHING:

Due to University policies, Dr. Stricker did not teach the TEM course (Biology 547) in the fall, 1989. SEM (Biology 548) was offered in the spring with 7 students enrolled. There is already a waiting list of those wishing to take the TEM course in the fall.
SERVICE:

The Electron Microscopy facility assisted several department members in their research investigations throughout the year. Their support provided most of the income into the facility, amounting to ca. $2,650.00. Non-department users support amounted to $805.00. The Dr. Suzanne Smith in the Department of Pathology hired her own E.M. Technologist in Jan. 1990, which means she no longer uses the services of this lab.

As a multi-user service facility, equipment is prone to wear out or suffer from misuse. One such incident caused the Scanning Microscope to require extensive repair, costing the facility $2,351.69, and the department $2,000.00. Other equipment and supply expenses amounted to $2,286.57, part of which was for re-sharpening a diamond knife ($1,200.00). Neither the department nor the EM facility were able to come up with the funds to renew the service contract for the Zeiss EM-109 transmission microscope this year. A facility like this is quite expensive to maintain, and it is hoped that more researchers will take advantage of the excellent service we offer so we are able to continue to provide it.

Respectfully Submitted by:

Angela N. Welford

28 June 1990
Grants and Projects

"Studies of the leopard frogs of New Mexico emphasizing the ecology and status of *Rana chiricahuensis* in a variety of environmental situations;" $27,473; Project funded by the New Mexico Department of Game and Fish, Share with Wildlife Program; R.D. Jennings and N.J. Scott, Jr., Principal Investigators.

"Studies of thermoregulation, habitat use, foraging, and growth rates of juvenile *Nerodia harteri*;" $7,500; Project funded by the Texas A&M Foundation and the Colorado River Municipal Water District; N.J. Scott, Jr., Principal Investigator.

Task Order funded under the Cooperative Agreement, No. 14-16-0009-87-964, between the Department of Biology, University of New Mexico, and the National Ecology Research Center, U.S. Fish and Wildlife Service: Task Order No. 4 "Studies of the effects of logging on the Sacramento mountain salamander," $4,325.

"Studies of the effects of logging on the Sacramento mountain salamander, *Aneides hardii*;" $13,800; Project proposal submitted to the U.S. Forest Service, Alamogordo; N.J. Scott, Jr., Principal Investigator.

Publications


Reports and Non-refereed Publications


Manuscripts Submitted


Scientific Meetings, Symposia, and Workshops


Committees, Awards, and Other Significant Activities

Dr. Scott served as Research Associate, Department of Vertebrate Zoology, Smithsonian Institution.

Dr. Scott served as a Member of the U.S. Fish and Wildlife Service Region 2 Herpetological Recovery Team, an interagency consortium of renowned herpetologists.

Dr. Scott served as Corresponding Member, Turtle and Tortoise Specialist Group, International Union for the Conservation of Nature.

Dr. Scott served as Chair of the University of New Mexico, Department of Biology, Liaison Committee with the Latin American Institute.

Dr. Scott served as a Research Associate of the Natural History Museum of Los Angeles County.

Dr. Scott served as a Member of the New Mexico Salamander Working Group, an interagency team concerned with the management and conservation of New Mexico's endemic salamanders.

Dr. Scott served as Associate Editor in Herpetology, Southwestern Association of Naturalists.

Dr. Fritts served as Editor, Dr. Howard L. Snell served as Associate Editor, and Ms. Robino served as Editorial Assistant to Noticias de Galápagos, a biannual news publication about science and conservation in Galápagos, the Galápagos National Park Service, and the Charles Darwin Research Station.

Dr. Scott and Ms. Robino served on the Board of Editors for the Museum of Southwestern Biology Publication series.
Ms. Robino served as an Editorial Assistant for the Fish and Wildlife Service Research Information Bulletin, an informal and interim reporting system published by the Office of Information Transfer.


Ms. Robino served as Program Assistant on a temporary duty assignment, Gainesville, Florida.

Dr. Scott assisted the New Mexico Nature Conservancy in identification of potential areas of protection in New Mexico.

Dr. Scott assisted the Paraguayan Ministerio de Agricultura y Ganadería and the Museo Nacional de Historia Natural del Paraguay in coordinating caiman and tegu lizard research projects, Asunción, Paraguay.
APPENDIX H

Research Proposals Submitted, 1989
### Biology Department
#### 1989 Calendar Year

## Proposals

### January

<table>
<thead>
<tr>
<th>Principal Investigator</th>
<th>Agency</th>
<th>Period of Performance</th>
<th>Proposed Funding</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baca, D.</td>
<td>P.H.S.</td>
<td>12/01/89 - 11/30/94</td>
<td>$967,841</td>
<td>Coxiella burnetii: Modeling Persistent Infection</td>
</tr>
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<td>Brown, J.</td>
<td>N.S.F.</td>
<td>01/01/89 - 06/30/90</td>
<td>$80,480</td>
<td>Long-term Monitor/Manipulation Desert Granivore Systems</td>
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<tr>
<td>Brown, J.</td>
<td>N.S.F.</td>
<td>05/01/89 - 08/30/89</td>
<td>$3,375</td>
<td>Long-term Monitor/Manipulation Desert Granivore Systems</td>
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<td>Gosz, J.</td>
<td>N.S.F.</td>
<td>05/01/89 - 05/01/90</td>
<td>$10,000</td>
<td>LTER</td>
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<tr>
<td>Gosz, J./Dahm, C.</td>
<td>N.S.F.</td>
<td>05/01/89 - 05/01/90</td>
<td>$8,000</td>
<td>Long-path FTIR Analyzer, Biospheric/Atmospheric Interactions</td>
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<tr>
<td>Kodric-Brown, A.</td>
<td>N.S.F.</td>
<td>05/15/89 - 08/15/89</td>
<td>$2,993</td>
<td>Pupfish: M. Competition/F. Choice/Breeding Color</td>
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<td>Loker, E.</td>
<td>N.I.H.</td>
<td>12/01/89 - 11/30/94</td>
<td>$851,656</td>
<td>Role of Lectins in Smail-Trematode Associations</td>
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<tr>
<td>Milne, B.</td>
<td>N.S.F.</td>
<td>06/01/89 - 08/15/89</td>
<td>$7,700</td>
<td>Spatial Scaling/Patch Mosaic Structure, Semiarid Ecosystem</td>
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<td>Thornhill, N./Shields, W.</td>
<td>N.S.F.</td>
<td>06/01/89 - 11/30/89</td>
<td>$14,600</td>
<td>Symposium: Natural History - Inbreeding/Outbreeding</td>
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<td>Werner-Washburne, M.</td>
<td>N.I.H.</td>
<td>12/01/89 - 11/30/94</td>
<td>$369,900</td>
<td>Gene Expression - Starvation-Induced Arrest - Yeast</td>
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<th>Period of Performance</th>
<th>Proposed Funding</th>
<th>Title</th>
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<tbody>
<tr>
<td>Dean, G.</td>
<td>Museum of N.M.</td>
<td>Open</td>
<td>$8,000</td>
<td>Pollen Analysis - La Plata Hwy. Excavations</td>
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<tr>
<td>Dean, D.</td>
<td>Museum of N.M.</td>
<td>Open</td>
<td>$1,440</td>
<td>Parasitological Analysis/Battle-Glorieta Excavation</td>
</tr>
<tr>
<td>Degenhardt, W.</td>
<td>N.M.G.&amp;F.</td>
<td>07/01/88 - 06/30/91</td>
<td>$10,500</td>
<td>Book MS Prep.: Amphibians &amp; Reptiles of N.M.</td>
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<td>Tomel, F.</td>
<td>N.S.F.</td>
<td>04/15/89 - 10/15/89</td>
<td>$12,000</td>
<td>Planning Grant for Minority Research Initiation</td>
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### March

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<tbody>
<tr>
<td>Gosz, J.</td>
<td>N.S.F.</td>
<td>03/27/89</td>
<td>$94,913</td>
<td>LTER - Geographic Information System</td>
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<td>Toll, M.</td>
<td>Museum of N.M.</td>
<td>01/02/89 - 05/01/89</td>
<td>$2,000</td>
<td>Flotation Analysis - Gallo Mt. Project</td>
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<td>Toll, M.</td>
<td>Museum of N.M.</td>
<td>01/02/89 - 05/01/89</td>
<td>$1,358</td>
<td>Macrobotanical Analysis - Gallo Mt. Project</td>
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<td>Toll, M.</td>
<td>Museum of N.M.</td>
<td>01/02/89 - 04/01/89</td>
<td>$1,695</td>
<td>Flotation/Macrobotanical Analyses - Abiquiu Project</td>
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<tr>
<td>Toll, M.</td>
<td>Museum of N.M.</td>
<td>02/01/89 - 09/30/89</td>
<td>$8,442</td>
<td>Macrobotanical Analysis - La Plata Hwy. Project</td>
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<td>Yates, T.</td>
<td>U.S.F.E.N.</td>
<td>03/01/89 - 09/30/89</td>
<td>$5,462</td>
<td>Flotation Analysis - La Plata Hwy. Project</td>
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<tr>
<td>Zuk, M./Bailey, W.</td>
<td>N.S.F.</td>
<td>09/15/90 - 01/15/91</td>
<td><strong>13,320</strong></td>
<td>Environmental Contaminants on N.M. Fish &amp; Wildlife</td>
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<td><strong>TOTAL:</strong></td>
<td></td>
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<td><strong>$124,718</strong></td>
<td>Evolution of Insect Song</td>
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**First Quarter Total:** $4,478,661
# Biology Department 1969 Calendar Year
## Proposals
### April

<table>
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<tr>
<th>Principal Investigator</th>
<th>Agency</th>
<th>Period of Performance</th>
<th>Proposed Funding</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dean, G.</td>
<td>Museum of N.M.</td>
<td>Open</td>
<td>$240</td>
<td>Le Plata Hwy - Barker Arroyo Pollen Analysis</td>
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<tr>
<td>Gosz, J./ Turner, S.E.</td>
<td>N.S.F.</td>
<td>01/01/90 - 12/31/90</td>
<td>102,049</td>
<td>Dev. Image Acquisition/Process. Sys.- Spatial Analy.</td>
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<tr>
<td>Rice, W.</td>
<td>N.S.F.</td>
<td>12/01/89 - 11/30/91</td>
<td>6,500</td>
<td>Natural/Sexual Selection Interactions</td>
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<tr>
<td>Riedesel, M.</td>
<td>N.A.S.A.</td>
<td>07/01/89 - 06/30/90</td>
<td>49,988</td>
<td>Glycerol-Induced Hyperhydration</td>
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<tr>
<td>Riedesel, M.</td>
<td>N.S.F.</td>
<td>06/01/89 - 06/01/90</td>
<td>11,544</td>
<td>Glycer.-Induc.Hyperhyd.-Fluid Compartments/Hemodyn.</td>
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<td>Thornhill, N.</td>
<td>N.S.F.</td>
<td>06/01/89 - 12/30/89</td>
<td>10,000</td>
<td>Symposium-Natural History of Inbreeding/Outbreeding</td>
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<td>Wisdom, C.</td>
<td>N.S.F.</td>
<td>10/01/89 - 09/30/91</td>
<td>12,455</td>
<td>Effect of Climatic Variability on Water Use-Pinyon Pine</td>
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<tr>
<td><strong>TOTAL:</strong></td>
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<td></td>
<td><strong>$192,776</strong></td>
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### May

| Miller, G.             | N.S.F.          | 10/01/89 - 03/31/93   | $181,029         | Reproductive Strategies of So. Polar Skuas                           |
| Natvlg, D.             | N.S.F.          | 01/01/90 - 12/31/93   | 483,190          | Cellular Responses Superoxide-mediated damage in *N. cressa*          |
| Natvlg, D.             | N.I.H.          | 01/01/90 - 12/31/93   | 483,190          | Cellular Responses Superoxide-mediated damage in *N. cressa*          |
| Stacey, P./Natvlg, D.  | N.S.F.          | 01/01/90 - 12/31/92   | 280,825          | Social/Genetic Consequences of Natal Philopaternity in Birds         |
| **TOTAL:**             |                 |                      | **$1,428,234**   |                                                                       |

### June

| Degenhardt, W.         | N.M.G.&F.       | 07/01/89 - 06/30/90   | $10,500          | MS Prep: Amphibians & Reptiles of N.M.                                |
| Gosz/Dahm/ Rissler     | N.S.F.          | 02/01/90 - 01/31/93   | 919,750          | Long-path FTIR Analysis/Ecosystem Processes - Varying Landscapes     |
| Marshall, D.           | N.S.F.          | 07/01/89 - 06/30/90   | 2,000            | REU Student Funding                                                  |
| Duszyinski, D.         | U.S.F.&W.       | 06/01/89 - 12/31/89   | 4,325            | Effects of Logging on the Sacramento Mt. Salamander                  |
| Vogel, K.              | D.H.H.S         | 09/01/89 - 08/31/90   | 183,611          | Proteoglycan Structure, Metabolism & Role in Tendon                  |
| White/Thompson/Brockins| U.S.A.F.-Kirtland| 07/01/89 - 07/01/90   | 20,283           | Peer Review Panel: South Valley Groundwater Problems                  |
| Werner-Yashburne, N.   | N.S.F.          | 10/01/89 - 09/30/92   | $270,000         | Gene Regulation - Yeast *s. cerevisiae*                               |
| **TOTAL:**             |                 |                      | **$1,410,469**   |                                                                       |

**SECOND QUARTER TOTAL:** $3,031,479

### July

| Yates, T./Cook, J.     | NSF (105-568)   | 02/01/90 - 02/01/93   | $163,000         | Mammalian Diversity in Bolivia - The Yungas & Valles                |
| Taylor, F.             | NSF (105-404C)  | 08/01/89 - 08/30/89   | 2,578            | Measurement of Adult Activity Patterns - Drosophila Fruitflies/Meal Moths |
| Yates, T./Platanus, S. | N.M.S (105-602) | 09/01/89 - 06/30/92   | 33,500           | Ichthyological Investigations in New Mexico                        |
| Wisdom, C./Crawford, C.| USDA Forest (105-603) | 08/01/89 - 07/31/90 | 8,675            | Cooperative Distributions of Lepidopteran Herbivores of Snakeweed - Areas NM |
| **TOTAL:**             |                 |                      | **$207,753**     |                                                                       |
## Biology Department
### 1989 Calendar Year

#### Proposals

**August**

<table>
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<tr>
<th>Principal Investigator</th>
<th>Agency</th>
<th>Period of Performance</th>
<th>Proposed Funding</th>
<th>Title</th>
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<tr>
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**September**

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<th>Period of Performance</th>
<th>Proposed Funding</th>
<th>Title</th>
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<tbody>
<tr>
<td>Milne, B.</td>
<td>NSF (105-609)</td>
<td>1990 - 1995</td>
<td>$125,000</td>
<td>Presidential Young Investigator Award</td>
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<tr>
<td>Riedesel, M.</td>
<td>USARO (105-604)</td>
<td>01/01/90 - 12/30/93</td>
<td>$517,917</td>
<td>Glycerol-Induced Hyperhydration, Exercise, and Heat</td>
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<tr>
<td>Gooz, J.</td>
<td>Env. Protect. (105-605)</td>
<td>03/01/90 - 02/28/92</td>
<td>$49,323</td>
<td>Effect of Organic Matter on Selenium Export from Soils</td>
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<tr>
<td>Stacey, P.</td>
<td>NSF (105-607)</td>
<td>06/01/90 - 05/31/92</td>
<td>$244,473</td>
<td>Dispersal Patterns &amp; Genetic Diversity in Fragmented Populations</td>
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<tr>
<td>Bednarz, J.</td>
<td>DOE/Nestinghs. (105-4160)</td>
<td>10/01/89 - 09/30/90</td>
<td>$74,870</td>
<td>Los Medanos Raptor Research &amp; Management Program</td>
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<tr>
<td>Werner-Washburne, M.</td>
<td>NSF (105-608)</td>
<td>03/01/90 - 02/28/95</td>
<td>$125,000</td>
<td>Gene Regulation during Starvation-Induced Arrest in Yeast</td>
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**Third Quarter Total:**

| $1,136,583 |

**October**

<table>
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<tr>
<th>Principal Investigator</th>
<th>Agency</th>
<th>Period of Performance</th>
<th>Proposed Funding</th>
<th>Title</th>
</tr>
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<tbody>
<tr>
<td>Toll, M.</td>
<td>Museum NM (105-610)</td>
<td>09/30/89 - 12/01/89</td>
<td>$400</td>
<td>Flotation Analysis, Santa Fe Relief Route Project</td>
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<tr>
<td>Gooz, J.</td>
<td>NSF (105-612)</td>
<td>05/01/90 - 04/30/93</td>
<td>$120,000</td>
<td>REU in Ecosystem Studies</td>
</tr>
<tr>
<td>Toolan, E.</td>
<td>NSF (105-530C)</td>
<td>06/01/90 - 08/15/90</td>
<td>$13,528</td>
<td>Cladoc Thermobiology</td>
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<tr>
<td>White, C.</td>
<td>DOE/NM (105-606)</td>
<td>01/15/90 - 08/30/90</td>
<td>$74,334</td>
<td>Preproposal: Factors Affecting Microbial Degradation of Organic Contaminants</td>
</tr>
<tr>
<td>Werner-Washburne, M.</td>
<td>NSF (105-566A)</td>
<td>11/01/89 - 11/01/90</td>
<td>$23,937</td>
<td>Role Gene Reg. in Starvation-Induced Arrest - Yeast Saccharomyces cerevisiae</td>
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<tr>
<td>Gooz, J.</td>
<td>NSF (105-529)</td>
<td>10/15/89 - 03/31/91</td>
<td>$400,000</td>
<td>Ecological/Climatic Gradients on the Sevilleta</td>
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<tr>
<td>Kadic-Brown/Nicoletto</td>
<td>NSF (105-613)</td>
<td>04/01/90 - 04/01/92</td>
<td>$6,417</td>
<td>Relationship between Male Vigor/Female Choice in Guppy, Poecilia reticulata</td>
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<tr>
<td>Gooz, J./Loftin, S.</td>
<td>NSF (105-614)</td>
<td>05/01/90 - 04/30/92</td>
<td>$25,626</td>
<td>Effect of Organic Matter on Selenium Loss from Soils</td>
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<tr>
<td>Thornhill, R.</td>
<td>NSF:BBSS (105-615)</td>
<td>5 years</td>
<td>$1,765,268</td>
<td>Preproposal: Evolution/Human Nature Res. Training Group Program</td>
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**Fourth Quarter Total:**

<p>| $2,609,961 |</p>
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<th>Period of Performance</th>
<th>Proposed Funding</th>
<th>Title</th>
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<tbody>
<tr>
<td>Goldberg,D./Parmenter</td>
<td>NSF (105-618)</td>
<td>06/01/90 - 12/31/90</td>
<td>73,916</td>
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<tr>
<td>Baca, O.</td>
<td>Am. Heart Asn. (105-619)</td>
<td>07/01/90 - 06/30/91</td>
<td>15,000</td>
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<tr>
<td>Toolson, E.</td>
<td>NSF (105-620)</td>
<td>08/15/90 - 05/15/91</td>
<td>42,638</td>
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<tr>
<td>Stacey, P.</td>
<td>A.Sloan Fnd. (105-621)</td>
<td>09/01/90 - 01/31/91</td>
<td>13,887</td>
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<tr>
<td>Stricker, S.</td>
<td>NSF (105-622)</td>
<td>07/01/90 - 06/30/90</td>
<td>$ 266,186</td>
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<td>TOTAL:</td>
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<td>$ 480,673</td>
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**December**

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<th>Period of Performance</th>
<th>Proposed Funding</th>
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<tr>
<td>Stacey, P./Natvig, D.</td>
<td>NSF (105-624)</td>
<td>06/01/90 - 05/31/93</td>
<td>280,825</td>
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<td>Wisdom, C./Crawford, C.</td>
<td>NSF (105-625)</td>
<td>07/01/90 - 08/01/93</td>
<td>360,343</td>
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<td>Toolson, E.</td>
<td>NSF (105-626)</td>
<td>01/15/90 - 06/30/90</td>
<td>2,800</td>
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<td>Barton, L.</td>
<td>DOE (105-627)</td>
<td>02/15/90 - 08/31/92</td>
<td>275,681</td>
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<td>Natvig, D.</td>
<td>NSF (105-55A-Rev.)</td>
<td>07/01/90 - 06/30/94</td>
<td>527,866</td>
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<tr>
<td>Toolson, E.</td>
<td>NSF (105-600A-Rev.)</td>
<td>02/01/90 - 07/31/91</td>
<td>68,883</td>
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<tr>
<td>Werner-Washburne, M.</td>
<td>NSF (105-566A-Supp.)</td>
<td>12/01/89 - 12/01/90</td>
<td>22,550</td>
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<tr>
<td>TOTAL:</td>
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<td>$ 1,908,948</td>
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**Fourth Quarter Totals:**

$ 4,999,582

**GRAND TOTAL:**

$13,844,058

Prop/CY: 1989
APPENDIX I

Active Contracts/Grants, FY 1989-90
## Active Contracts and Grants

**Biology Department**  
**Active Contracts and Grants**  
**July 1, 1989 - June 30, 1990**

### Estimated Awards
- **$10,363** RAC Awards
- **$21,274** MBRS Awards
- **$21,409** BRSG Awards
- **$9,533,737** Active Grants
- **$9,537,737** Total

### Account | Principal Investigator | Agency | Project Title | Total Award | Current Year | Period of Performance
--- | --- | --- | --- | --- | --- | ---
1-02369 | Rice | UNM | RAC Award | $2,220 | $2,220 | 09/01/89
1-02370 | Johnson, G. | UNM | RAC Award | 1,600 | 1,600 | 09/01/89
1-02397 | Barton | UNM | RAC Award | 2,410 | 2,410 | 09/01/89
1-02415 | Ligon | UNM | RAC Award | 1,669 | 1,669 | 09/01/89
1-02320 | Stricker | UNM | RAC Award | 2,464 | 2,464 | 10/10/89
1-02397 | Barton | UNM | RAC Award | 1,600 | 1,600 | 09/01/89
1-02369 | Rice | UNM | RAC Award | 2,220 | 2,220 | 09/01/89
3-13665 | Stricker | UNM | BRSG Award | $7,500 | $7,500 | 01/01/90
3-13665 | Taylor | UNM | BRSG Award | 6,942 | 6,942 | 01/01/90
3-13665 | Baca | UNM | BRSG Award | 6,967 | 6,967 | 01/01/90
3-13665 | Stricker | UNM | BRSG Award | $21,409 | $21,409 | 06/30/90
3-10591 | Baca | UNM | MBRS Award | $4,964 | $4,964 | 12/31/89
3-10591 | Duzymski/Yates | UNM | MBRS Award | 5,110 | 5,110 | 12/31/89
3-10591 | Loker | UNM | MBRS Award | 5,600 | 5,600 | 12/31/89
4-06478 | Vogel | UNM | MBRS Award | $21,274 | $21,274 | 02/15/89
4-06856 | Werner-Washburn | UNM | MBRS Award | $21,274 | $21,274 | 02/15/89

### Account | Principal Investigator | Agency | Project Title | Total Award | Current Year | Period of Performance
--- | --- | --- | --- | --- | --- | ---
3-10202 | Miller | DOE | Spatial Scaling: Analysis/Effects Animal Movement on Semi-arid Landscape (2) | $150,000 | $49,976 | 08/09/90 - 08/08/91
3-10203 | Miller | DOE | Ciprofloxacin - Controlling Coxiella Burnetii Isolates-Q Fever (completed) | 9,000 | 49,444 | 08/09/90 - 08/08/91
3-10591 | Baca | Mares Pharm. | Ecology for a Changing Earth Symposium (complete) | 53,226 | 53,226 | 08/09/90 - 03/31/90
3-10591 | Scott | CO RV NRD | Biology of Harter's Water Snake | 22,500 | 4,500 | 08/09/90 - 07/31/90
3-11414 | Toolson | NSF | Thermal Physiology of Cicadas | 159,000 | 62,000 | 02/15/90 - 07/31/91
3-11412 | Toolson | NSF | 105-530C: Supplement: Cicada Thermobiology | 130,688 | 12,528 | 06/01/90 - 08/15/90
3-11421 | Marshall | NSF | Cicada Physiology - Additional Support | 10,100 | 10,100 | 03/09/90 - 07/31/90
3-11421 | Marshall | NSF | Non-Random Seed Paternity in Wild Radish Raphanus sativus | 174,000 | 62,297 | 03/09/90 - 03/31/92
3-11421 | Marshall | NSF | 105-547C: Supplement: REU | 182,000 | 8,000 | 01/10/90 - 08/22/92
<table>
<thead>
<tr>
<th>Account</th>
<th>Principal Investigator</th>
<th>Agency</th>
<th>Project Title</th>
<th>Total Award</th>
<th>Current Year</th>
<th>Period of Performance</th>
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<tbody>
<tr>
<td>3-11581</td>
<td>Rice</td>
<td>NSF</td>
<td>Evolution of Dimorphic Sex Chromosomes</td>
<td>$165,282</td>
<td>$74,233</td>
<td>05/01/89 - 08/31/89</td>
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<td>3-11661</td>
<td>Thornhill/Zuk</td>
<td>NSF</td>
<td>Sexual Selection: Jungle Fowl</td>
<td>$166,516</td>
<td>$83,258</td>
<td>05/01/89 - 08/31/90</td>
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<td>3-11761</td>
<td>Yates</td>
<td>USFW</td>
<td>Impact of Environmental Contaminants on MN Fish &amp; Wildlife</td>
<td>$8,493</td>
<td>$8,493</td>
<td>01/25/89 - 12/31/89</td>
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<td>3-11937</td>
<td>Yates</td>
<td>MNGF</td>
<td>Premanagement Lab Analysis of MN Vertebrates (yr. 7)</td>
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<td>$25,000</td>
<td>10/11/88 - 06/30/90</td>
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<tr>
<td>3-12341</td>
<td>Marshall</td>
<td>NSF</td>
<td>Presidential Young Investigator Award</td>
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<td>$25,000</td>
<td>06/30/89 - 06/30/94</td>
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<td>3-12381</td>
<td>Degenhardt</td>
<td>MNGF</td>
<td>Continuation - MS Prep: Amphibians &amp; Reptiles of MN</td>
<td>$10,500</td>
<td>$10,500</td>
<td>05/24/89 - 06/30/93</td>
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<td>3-13071</td>
<td>Wisdom</td>
<td>US Forest Sv.</td>
<td>Coop. Distribution of Lepidopteran Herbivores/Grazed &amp; Ungrazed Areas (time ext.)</td>
<td>$8,675</td>
<td>$8,675</td>
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<td>3-13231</td>
<td>Loker</td>
<td>AID</td>
<td>Biotic/Abiotic Factors Controlling Disease-Transmitting Snails in Kenya</td>
<td>$150,000</td>
<td>$69,072</td>
<td>08/07/92 - 12/31/92</td>
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<td>3-13581</td>
<td>Riedesel</td>
<td>NASA</td>
<td>Glycerol-Induced Hyperhydration</td>
<td>$59,763</td>
<td>$30,000</td>
<td>10/01/89 - 09/30/90</td>
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<td>3-13671</td>
<td>Werner/Haselton</td>
<td>NSF</td>
<td>Gene Regulation in Starvation-Induced Arrest in Yeast Saccharomyces cerevisiae</td>
<td>$90,000</td>
<td>$90,000</td>
<td>11/15/89 - 11/14/90</td>
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<td>3-14061</td>
<td>Brown/Muikin</td>
<td>NSF</td>
<td>Dissertation Res: Banner-Tailed Kangaroo Rats &amp; Cache Molds: Possible Mutations</td>
<td>$8,000</td>
<td>$8,000</td>
<td>11/15/89 - 10/31/91</td>
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<td>3-14741</td>
<td>Bednarz</td>
<td>DOE/Neast</td>
<td>Los Medanos Raptor Research &amp; Management Program (Amendment #9)</td>
<td>$305,483</td>
<td>$74,870</td>
<td>10/01/89 - 09/30/90</td>
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<tr>
<td>3-15454</td>
<td>Vogel</td>
<td>NIH</td>
<td>Proteoglycan Structure, Metabolism &amp; Role in Tendon (renewal $1 million/5 yrs.)</td>
<td>$1,000,000</td>
<td>$71,818</td>
<td>09/01/88 - 08/31/93</td>
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<tr>
<td>3-15561</td>
<td>Taylor</td>
<td>NSF</td>
<td>Evolution of Diapause Induction in the Indian Meal Moth</td>
<td>$134,556</td>
<td>$2,576</td>
<td>10/15/85 - 08/31/90</td>
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<tr>
<td>3-15601</td>
<td>Thornhill/Ligon</td>
<td>NSF</td>
<td>Components of Individual Selection - Red Jungle Fowl</td>
<td>$239,997</td>
<td>$80,000</td>
<td>02/01/86 - 07/31/89</td>
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<tr>
<td>3-15602</td>
<td>Thornhill/Watson</td>
<td>NSF</td>
<td>Sex/Arachnid</td>
<td>$30,000</td>
<td>$30,000</td>
<td>06/30/88 - 08/31/87</td>
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<tr>
<td>3-16281</td>
<td>Yates</td>
<td>MNGF</td>
<td>Rio Grande Fishes: Status/Biology of Notropis Simus &amp; N. Orca</td>
<td>$193,645</td>
<td>$82,402</td>
<td>06/30/86 - 03/01/90</td>
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<tr>
<td>3-16282</td>
<td>Yates</td>
<td>MNGF</td>
<td>Ichthyological Investigations in MN (new contract #788-516.6-01)</td>
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<td>$36,850</td>
<td>08/30/89 - 06/30/92</td>
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<td>Role of Lectins in Small-Trematode Associations</td>
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<td>$150,955</td>
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Note: New grants are in bold print.

Total: $9,480,691 | $4,380,571
APPENDIX J

Biology Department Employees, FY 1989-90
List of all employees, Department of Biology, UNM, FY 1989-90.

FACULTY

Professors (11)

Altenbach, J. Scott
Baca, Oswald G.
Brown, James H.
Duszynski, Donald W. (Chair)
Crawford, Clifford S.
Findley, James
Riedesel, Marvin
Gosz, James

Associate Professors (12)

Barton, Larry
Bourne, Earl
Johnson, Gordon
Johnson, William
Kerkof, Paul
Kodric-Brown, Astrid
Natvig, Donald O.
Taylor, Fritz
Toolson, Eric
Yates, Terry

Assistant Professors (9)

Dahm, Clifford L. - code 6
Loker, E. Samuel - code 6
Lowery, Timothy - code 3
Marshall, Diane L. - code 5
Milne, Bruce T. - code 4
Snell, Howard L. - code 5
Stricker, Stephen - code 1
Werner-Washburne, Margaret - code 2
Wisdom, Charles, S. - code 4

Joint Appointments (5)

Kelley, Robert - Professor, Anatomy
Kogoma, Tokio - Professor, Cell Biology
Risser, Paul - Vice President for Research
Trotter, John - Professor, Anatomy
Waterman, Robert - Professor, Anatomy

Lecturers

Heidrick, John
Ligon, Sandy

All Technical and Professional Support Staff

See Appendix C
GRADUATE STUDENTS AND FACULTY ADVISORS:

<table>
<thead>
<tr>
<th>Student</th>
<th>Advisor</th>
<th>Student</th>
<th>Advisor</th>
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<td>Adams, K.</td>
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<td>Kleyboecker, K.</td>
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<td>Yates</td>
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<td>Vogel</td>
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APPENDIX K

Biology Courses/Labs, FY 1989-90
## APPENDIX K

Course offerings and semester credit hours, Department of Biology, UNM, FY 1989-90.

### SUMMER 1989

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Total, Summer 1989

|     |                     | 29 | 305 | 791 |

### FALL 1989

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Total, Spring 1990: 216, 3,603, 8,508

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TOTALS, FY 1989-90: 484, 7,423, 17,527
A. Significant Achievements During Academic Year 1989-90

Several faculty personnel changes occurred during the course of this past academic year. In spite of a concentrated effort to hire two new Assistant Professors, both searches were without fruitful result. In one case a candidate agreed to come and then backed out at the last moment, and in the other the inability of a spouse to find satisfactory professional employment in the Albuquerque area has caused our one satisfactory candidate to be unable to accept our offer at this time.

Associate Professor Mark Ondrias, on the basis of superior teaching, outstanding research accomplishments, and sincere service contributions, was promoted to Professor of Chemistry. This decision was supported by the department, the Dean and his committee, and throughout the central administration.

Lorraine Deck, after many years of service as Instructor of Chemistry, received her Ph.D. degree and was promoted to Assistant Professor.

John Shelnutt, a senior scientist at Sandia National Laboratory who works in the area of biophysical chemistry,
joined our department as one of the prestigious group of University of New Mexico/National Laboratory Professors. He will participate fully in departmental activities, including teaching an occasional course, while retaining his laboratory and affiliation with Sandia. Jeff Brinker, also of Sandia, has the same appointment on a half-time basis in chemistry (the other half is in Chemical and Nuclear Engineering). We are very pleased to have these senior and distinguished scientists as faculty members. Both appointments serve to support our interdisciplinary development in the areas of biophysical chemistry and materials chemistry.

Professor James Satterlee resigned from the department to accept a similar position at Washington State University. Professor Riley Schaeffer was granted a two-year leave without pay to pursue research interests at the University of Colorado.

The department had a major announced safety inspection this reporting year. By the hard work of nearly everyone, but especially of Carl Hilton, we cleaned and fixed up enough to pass with flying colors. We understand our continuing responsibility in this area, and will continue to exercise vigilance. Our vulnerability to problems of this nature was underlined by a serious fire in Professor Bein's laboratory during the year. The damage has now been repaired, and the lab actually made more efficient and safer in the process.

The facilities committee was particularly active this last
year. We spent a fair amount of time consulting with engineers and architects regarding a major renovation of our HVAC system in Clark Hall that is slated to begin in the 1990-91 academic year. Fritz Allen and Richard Holder visited five new chemistry buildings across the country this year to assist the architectural programming efforts toward additional, high-quality research space for chemistry. Much progress was made.

The graduate recruitment and selection committee again was most active and succeeded in attracting a highly qualified group of new graduate students to the department. Appendix A summarizes activities in this area. An additional sum of $20,000 for stipend support was granted by the Dean, and we were able therefore to offer $9,000 teaching assistantships for nine months of service to this group. That is still not as competitive as we would like, since other universities in our region offer up to $12,000, but it is a definite improvement and we are grateful.

We had our second annual departmental commencement, this time in our own renovated lecture room (Chem. 101), followed by an elegant catered buffet luncheon served on the adjacent patio. Over 100 graduates and guests attended, with Dr. Holder and Dr. Ondrias presenting certificates to B.S. and B.A. graduates and award winners, and hooding the M.S. and Ph.D. candidates.

The department was awarded a grant from the National Science Foundation (the Chair is the Principal Investigator)
under their Research Experiences for Undergraduates program to host promising undergraduate students for summer research. We conducted a national search, selected eleven students (six males, five females; four Hispanics, seven Anglos), and each worked intensively with a faculty member for ten weeks this past summer. Each felt at the end of the summer that the program had been very beneficial, and we will track these students in the future so that we will know how our program ultimately affects their future careers.

Our own undergraduate program produced a small but well prepared group of graduates this year. Several will attend graduate or professional schools this fall. Six students earned a B.S. degree (two men and four women), one of whom (Man Lu) stood for departmental honors and graduated magna cum laude. Ten obtained the B.A. degree (five men and five women). In addition to these students who finished chemistry degrees, sixteen men and fifteen women took a minor in chemistry. At the graduate level, four students earned the M.S. degree (two men and two women), and six finished with Ph.D. degrees (five men and one women). Individuals receiving degrees in chemistry during the 1989-90 academic year are listed below.

Students receiving the B.A. Degree in Chemistry in 1989-90

Kevin Barkocy              William McGuinness
Charles Boyd               Sharon McIntyre
Frank Cooley               Jimmy Lee Romero
Patrick Honsinger  
Christina Huber  
Susan Vigil  
Eve Yu

**Students receiving the B.S. Degree in Chemistry in 1989-90**

Michael Akard  
Eric Gulliver  
Man Lu  
Kristin Reda  
Mary Sandstrom  
Mary Willcox

**Students completing the M.S. Degree in Chemistry in 1989-90**

Maomian Fan  
Keith Fox  
Bih-Show Lou  
Mary Ann Mensi

**Students completing the Doctor of Philosophy Degree in Chemistry in 1989-90**

Rhett Alden, May 1990 (Prof. M.R. Ondrias)  
Eduardo Builes, December 1989 (Prof. C. Bustamante)  
Jose Coria-Garcia, May 1990 (Prof. T.M. Niemczyk)  
Beverly Crawford, December 1989 (Prof. M.R. Ondrias)  
Randy Larsen, May 1990 (Prof. M.R. Ondrias)  
Jyh-Shing Lin, December 1989 (Prof. J.V. Ortiz)

At our graduation ceremony we also presented the following awards for academic excellence to our majors for the 1989-90 academic year:

Eric Gulliver was awarded the Merck Index Award.  
Claire Likar was awarded the Ann Kahn Memorial Award.  
Kenneth Kolbeck & Michael Akard were awarded the Charles LeRoy Gibson Prize.  
Mary Sandstrom was awarded the American Institute of Chemists Award.
Theordore Borek received the Chemistry Graduate Scholarship Award.

The Smith/Dow graduate fellowship, begun last year through the generosity of Hillard and Mary Smith and the Dow Chemical Company, was awarded this year to Indira Adhihetty, Mark Chavez, and Laura Finzi.

All classes offered by the chemistry department are listed in Appendix B.

In addition to its strong regular seminar schedule (Appendix C), the department hosted three distinguished scientists as Centenniel Lecturers this past year (H. Noth, W. N Lipscomb, and W. C. Lineberger). The annual Milton Kahn lecture was ably presented by Nobel laureate Roald Hoffmann of Cornell University.

The department continued its aggressive efforts to add to its experimental research base. The total value of accountable equipment rose from $4,195,381 to $4,663,415 at the end of the accounting period in 1990. Major pieces of equipment (more than $10,000 in cost) acquired during the reporting year were:

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<td>189371</td>
<td>FTIR Spectrometer</td>
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After several years of difficulty in living within its overall budget, this year we were able to manage the departmental finances within the budget provided by the Dean. We finished the fiscal year very slightly to the good.

The department's personnel, including faculty, visiting faculty, postdoctoral and research fellows, adjunct professors, staff, and graduate students are listed in Appendix D. Also included there are brief summaries of staff assignments. At our faculty retreat in August, 1989, several modifications in our management structure were approved. Most notable were the addition of a Director of Undergraduate Studies (filled by Professor Cary J. Morrow) and a Director of Graduate Studies (filled by Professor Fritz Allen) to the faculty administrators in the department. These two individuals have worked hard and long defining and filling their new positions this past year, and contributed enormously to the effectiveness of the department's administration. Also active this year, are the several faculty standing committees, including executive, graduate, undergraduate, awards, graduate recruitment and selection, facilities, safety, computer, library, and seminar.

Staff appointments, changes in status, and separations are
listed below in sections C and D. Section E is a compilation of current faculty grant activity, and of proposals for research support submitted in 1989-90.

B. Significant Plans and Recommendations for the Future

We will continue our annual faculty retreat in August before classes begin, and there refine our goals and aspirations for the future. This next year we will again seek to recruit new faculty (probably an organic chemist and a biophysical chemist, both at the assistant professor level), and we will push very hard to bring the plans for additional research space to the edge of approval within the central administration of the university. We still favor the creation of several new centers or institutes to mesh with our own research activities: biophysical chemistry and sensor chemistry seem likely choices.

C. Appointments to Staff

Ms. Kinzie A. Byrd joined the staff as an Accounting Clerk on May 21, 1990.

Mr. Kriss B. Stanley joined the staff as a Laboratory Technician III on August 07, 1989.

Mr. Roger S. Eldridge joined the staff as Administrative Assistant on July 17, 1989.

Mr. Lewis E. Hartwick, Jr., joined the staff as Electronics Facility Manager on September 01, 1989.
Cl. Changes to Staff Personnel

Ms. Eva Quesnell, Editorial Assistant II, was reclassified to Editorial Assistant III on July 01, 1989.

Ms. Lisa Meyer, Storekeeper II, was reclassified to a Staff Assistant on July 01, 1989.

Mr. Robert C. Garcia, Storekeeper II, was reclassified to a Laboratory Technician III on July 01, 1989.

Mr. Carl R. Hilton, Supervisor of Chemical Stores, was reclassified to a Chemical Stores Operator Manager on July 01, 1989.

D. Separations

Ms. Ruth Rue, Department Secretary, resigned on June 13, 1990.

Mr. Albert V. Schnoebel, Administrative Assistant, retired on July 31, 1989.

Mr. Bruce W. Tilford, Laboratory Technician III, resigned on July 26, 1989.

E. Sponsored Research

Once again our faculty continued to seek and obtain outside research funding at a very high level. Of the twenty-one faculty, 17 (81%) held one or more active grants or contracts during the 1989-90 academic year. Table 1 below summarizes the growth of grant dollars over the past six years, and compares that with the growth of the Research and Development Price Index (i.e., the amount the department would
have had to bring in to maintain the 1984-85 value, taking into account inflation).

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<td>1989-90</td>
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This past year saw 70 active grants in the department (up from 56 last year), and 85 new applications for a sum of $14,920,000 (up from 52 applications for $6,879,000 last year). The compilation below lists the active grants of each faculty member this past year. It is followed by data recording the proposals submitted.
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APPENDIX A

Applications Received for Graduate Study in Chemistry
1989-90

APP - Applications Received
APR - Applications Approved
DIS - Applications Disapproved
INC - Applications Incomplete
DEC - Applications Approved but Declined

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AMERICAN INDIAN 0  
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OTHER 0
Applications Received for Graduate Study in Chemistry
1989-90

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BLACK 0
ASIAN 141
HISPANIC 1
OTHER 3

GRAND TOTALS: 178 26 127 7 18

ETHNICITY: MALE 120 67%
FEMALE 58 33%
WHITE 31 17%
AMERICAN INDIAN 0
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ASIAN 142 80%
HISPANIC 1 1%
OTHER 3 2%
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<td>Prof. Dr. Noth</td>
<td>Munich</td>
<td>Aug 28, 1989</td>
<td>&quot;From Electron-Precise Polyboranes to an Electron-Deficient Cluster&quot;</td>
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<td>Dr. J. Brauman</td>
<td>Stanford</td>
<td>Sept. 1, 1989</td>
<td>&quot;Rates and Mechanisms in Gas Phase Ionic Reactions&quot;</td>
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<td>Dr. W. N. Lipscomb</td>
<td>Harvard</td>
<td>Sept. 8, 1989</td>
<td>&quot;How do Enzymes Work?&quot;</td>
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<td>Dr. R. A. Caldwell</td>
<td>Texas, Arlington</td>
<td>Sept. 15, 1989</td>
<td>&quot;Perpendicular Alkene Triplets Revisited&quot;</td>
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<td>Dr. W. D. Edwards</td>
<td>Idaho</td>
<td>Sept. 22, 1989</td>
<td>&quot;INDO Calculations on Electronic Structure of Metalloporphyrins&quot;</td>
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<td>Dr. C. Y. Ng</td>
<td>Iowa State</td>
<td>Sept. 29, 1989</td>
<td>&quot;State-to-State Ion Molecule Reaction Dynamics&quot;</td>
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<td>Dr. J. A. Olson</td>
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<td>Oct. 6, 1989</td>
<td>&quot;Nonadiabatic Atom-Surface Collision Dynamics&quot;</td>
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<td>Dr. P. Ford</td>
<td>California, Santa Barbara</td>
<td>Oct. 19, 1989</td>
<td>&quot;The Use of Flash Photolysis to Study Organometallic Intermediates&quot;</td>
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<td>Dr. W. C. Lineberger</td>
<td>Colorado</td>
<td>Oct. 23, 1989</td>
<td>&quot;Molecular Clusters: A Bridge Between Gas Phase and Condensed Phase Chemistry&quot;</td>
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<td>Dr. Thomas Bein</td>
<td>New Mexico</td>
<td>Oct. 27, 1989</td>
<td>&quot;Zeolite Materials Chemistry: Molecular Wires, Sensors and Organometallics&quot;</td>
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Dr. J. Wang  
Mexico State  
Nov. 3, 1989  
"Electrochemical Sensors New Based on Chemically and Biologically Modified Surfaces"

Dr. J. D. Simon  
San Diego  
Nov. 10, 1989  
"Solvation and California, Intramolecular Electron Transfer"

Dr. Mark Mizen  
MIT  
Nov. 17, 1989  
"Rectification in Quinone-Based Polymers"

Dr. Kurt Mikkelsen  
Brookhaven National Inst.  
28, 1989  
"Application of Solvent Models for Ionization, Nov. Excitation and Electron Transfer Reactions"

Dr. J. Preses  
National Lab.  
Dec. 1, 1989  
"Electronic Energy Brookhaven Relaxation in Hydrocarbons"

Dr. C. Quate  
Stanford  
Dec. 8, 1989  
"Atomic Force Microscopy"

Dr. Meier  
Dec. 19, 1989  
"Electron Transfer in Alanine Oligopeptides"

Spring 1990

Dr. Scott Gilbertson  
Univ. of Chicago  
"Control of Polyene Biosynthesis and Jan. 5, 1990 Organometallic Reactions"

Dr. Richard McCullough  
Columbia University  
Jan. 16, 1990  
"The Design and Synthesis of Organic Metals and Substrate Selective Catalysts"

Dr. Douglas Grotjahn  
West Germany  
Jan. 23, 1990  
"Cobalt And Chronium in Alkaloid Synthesis"

Dr. T. Kuwana  
Kansas  
Feb. 2, 1990  
"Challenges in High Sensitivity Analysis of Biological Substances"
Dr. Bunel
DuPont
Feb. 9, 1990

"Synthesis and Reactions of Metal Cyanides for Olefin Hydrocyanations"

Dr. Robert Twieg
IBM
Feb. 15, 1990

"Optimization of Ferroelectric Liquid Crystal Performance by Judicious Incorporation of Sulfur and Fluorine"

Dr. P. Legizdins
Columbia
16, 1990

"Synthetic Utility of British Organometallic Nitrosyl Feb. Complexes of Group VI Metals"

Dr. A. Jacobson
Exxon
Feb. 23, 1990

"Synthesis and Reaction Chemistry of Mixed Metal Oxides with Pyrochior Structure"

Dr. Terrell Vanderah
Dept. of the Navy
March 1, 1990

"Synthesis and Characterization of Infrared Window Materials"

Dr. T. M. Mayer
Carolina
March 2, 1990

"Selected Areas of North Processing of Thin Films for Microstructure Fabrication"

Dr. Sita
Carnegie
March 9, 1990

"The Molecular Architecture of Polycyclic Polystannanes"

Dr. J. Atwood
Alabama
March 23, 1990

"Complexation of Cations, Anions and Neutral Molecules by Water Soluble Calixarenes"

Dr. C. Cantor
California, Berkeley
March 30, 1990

"Mapping the Human Genome"

Dr. Wissan Neilson
Southern Methodist
April 6, 1990

"Inorganic Polymers: New Derivatives of Poly(alkyl/arylphosphazene)"

Dr. A. Heller
Texas
April 13, 1990

"Electrical Wiring of Redox Enzymes"
Dr. T. Moore
Arizona State
April 20, 1990

"Photoinitiated Electron Transfer in a Molecular Pentad: Nearing an Artificial Photosynthetic Reaction Center"

Dr. W. E. Webber
Texas
April 27, 1990

"Photon Harvesting Polymers"

Dr. R. Hoffman
Cornell
May 4, 1990

"Making and Breaking Bonds in the Solid State"

Dr. A. Rheingold
Univ. of Delaware
June 15, 1990

"Incorporation of Main Group Atoms in Transition Metal Clusters"

Dr. T. Akasaka
Univ. of Tsukuba
June 20, 1990

"The Chemistry of Peroxy Intermediates in Photosensitized Oxygenations"
APPENDIX D

FACULTY AND STAFF OF THE DEPARTMENT OF CHEMISTRY

PROFESSORS:

ALLEN, Fritz S., Ph.D., 1969, University of Illinois
BUSTAMANTE, Carlos J., Ph.D., 1981, University of California, Berkeley
CATON, Roy D., Ph.D., 1963, Oregon State University
HOLLSTEIN, Ulrich, Ph.D., 1956, University of Amsterdam
NIEZCZYK, Thomas M., Ph.D., 1972, Michigan State University
ONDRIAS, Mark R., Ph.D., 1979, Michigan State University
PAINE, Robert T., Ph.D., 1970, University of Michigan
PAPADOPOULOS, E. Paul, Ph.D., 1961, University of Kansas
PARK, Su-Moon, Ph.D., 1975, University of Texas, Austin
SCHAEFFER, Riley, Ph.D., 1949, University of Chicago
VANDER JAGT, David, Ph.D., 1967, Purdue University
WALTERS, Edwards A., Ph.D., 1966, University of Minnesota

ASSOCIATE PROFESSORS:

HOLDER, Richard W., Ph.D., 1970, Yale University
LITCHMAN, William M., Ph.D., 1965, University of Utah
MCLAUGHLIN, Donald R., Ph.D., 1965, University of Utah
MORROW, Cary J., Ph.D., 1970, Tulane University
OGILBY, Peter R., Ph.D., 1981, University of California, Los Angeles
ORTIZ, Joseph V., Ph.D., 1981, University of Florida
SATTERLEE, James D., Ph.D., 1975, University of California, Davis - Resigned 08/01/89

ASSISTANT PROFESSORS:

BEIN, Thomas, Ph.D., 1984, University of Hamburg
CROOKS, Richard, Ph.D., 1987, University of Texas-Austin
DECK, Lorraine, Ph.D., 1989, University of New Mexico
HAMPDEN-SMITH, Ph.D., 1984, London University
KELLER, David, Ph.D., 1984, Univ. of California-Berkeley

EMERITUS PROFESSORS:
KAHN, Milton, Ph.D., 1950, Washington University

VISITING FACULTY:
FALKENBERG, Ken
HENDERSON, Thomas
NOWAK, Andrew V., Ph.D., 1972, Massachusetts Inst. of Technology

POSTDOCTORAL and RESEARCH FELLOWS:
ARNEBERG, David L., B.A., 1980, Univ. of California-Santa Cruz
BEACH, David A., Ph.D., 1989, University of New Mexico
BUSSE, Scott C., Ph.D., 1986, Montana State University
CORIA-GARCIA, Jose, M.S., 1985, University of Arizona
COURTNEY, Scott H., Ph.D., 1987, University of Chicago
FERON, Beatrice, Ph.D., 1987, Institut de Recherches sur la Catalyse, Cedex, France
GAN, Xinmin, M.S., 1985, Lanzhou University
GARCIA, Ricardo, M.S., 1984, Universidad de Valladolid
HOUSEAL, Timothy W., Ph.D., 1987, Texas A&M University
JANIK, Jerzy, Ph.D, 1987, University of New Mexico
JUANG, Ching-Bo, M.S., 1987, University of New Mexico
KRISTIANSEN, Marianne, Ph.D., 1988, Aarhus University, Denmark
LEI, Deqing, Ph.D., 1988, Washington University
MERTENS, M, Ph.D., 1990, K.U. Leuven, Belgium
MCGUIRE, Joseph, Ph.D., 1988, Oregon State University
MOENCH, Susan J., Ph.D., 1985, Colorado State University
MOLLER, Karin, Ph.D., 1984, Universitat Bremen, West Germany
RAPKO, Brian M., Ph.D., 1986, University of Oregon
SHIM, Yoon-Bo, Ph.D., 1985, Pusan National University
SIMONS, Peter C., Ph.D., 1979, University of New Mexico
SMITH, Steve, M.S., 1989, University of Washington
SUN, Li, M.S., 1985, Northwestern University
TAYLOR, Dan, B.S., 1988, New Mexico State University
TAYLOR, Vicki, Ph.D., 1989, Oklahoma State University
WARK, Teresa, Ph.D., 1989, University of Windsor, Ontario, Canada
YAN, Yongan, B.S., 1983, Tianjin University

ADJUNCT PROFESSORS:

ALDISSII, Mahmoud, PH.D., 1981, University of Pennsylvania
BARTON, Larry L, Ph.D., 1969, University of Nebraska
BEAR, David, Ph.D., 1978, Univ. of California-Santa Cruz
BECKEL, Charles L, Ph.D, 1954, John Hopkins University
BIENIEWSKI, Thomas M., Ph.D., 1965, California Institute of Technology
BLAIS, Normand D., Ph.D., 1956, Yale University
BOUSEK, Ronald R., Ph.D., 1976, University of Arizona
BRINKER, C. Jeff, Ph.D., 1978, Rutgers University
BRUECK, S.R.J., Ph.D., 1971, Massachusetts Institute of Technology
CLOUGH, Roger L, Ph.D., 1971, University of Utah
CREMERS, David A., Ph.D., 1972, Seattle University
DATYE, Abhaya, Ph.D, 1984, University of Michigan
DAVIS, Steven J., Ph.D., 1973, University of New Hampshire
FRIEDMAN, Joel M., M.D., Ph.D., 1975, Univ. of Pennsylvania of Technology
GINLEY, DAVID S., Ph.D., 1976, Massachusetts Institute of Technology
GLADNEY, Ernest S, Ph.D., 1974, University of Maryland
GRANT, Patrick M., Ph.D., 1973, Univ. of California-Irvine
GUENTHER, Arthur H., Ph.D., 1957, Pennsylvania State University
HAALAND, David M., Ph.D., 1982, Univ. of Rochester
HADLEY, Steven G., Ph.D., 1966, Univ. of California-Davis
HADLEY, William M., Ph.D., 1972, Purdue University
HAMMOND, Robert B., Ph.D., 1975, California Institute of Technology
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HILL, Ralph H., Jr, Ph.D., 1979, Texas A&M University
HUGHES, Loris W., Ph.D., 1971, New Mexico State University
HYLARIDES, Mark D., Ph.D., 1979, University of New Mexico
JOHNSTON, Roger, Ph.D., 1983, University of Colorado
JUNGLING, Kenneth C, Ph.D., 1970 University of Illinois
KELLEY, Robert O., Ph.D., 1969, Univ. of California-Berkeley
KLEINSCHMIDT, Phillip D., Ph.D., 1977 Pennsylvania State University
KLEIN, Cornelius, Ph.D., 1965, Harvard University
KNAFF, David B., Ph.D., 1966, Yale University
LAYMAN, Lawrence R., Ph.D., 1974, Indiana University
LIGHT, Ronald W., Ph.D., 1979, University of New Mexico
MACKINNON, Ian D.R., Ph.D., 1978, James Cook University
MAESTRE, Marcos F., Ph.D., 1964, Yale University
MOODY, David C., Ill, Ph.D., 1975, Indiana University
MOROSIN, Bruno, Ph.D., 1959, University of Washington
OLIVER, Janet M., Ph.D., 1972, London University, England
O'NEILL, William M., M.S., 1937, University of Cincinnati
PALMER, Byron A., Ph.D., 1977, Purdue University
PARKER, Donald R., M.P.H., 1963 University of Michigan
PARSONS, Michael, Ph.D., 1966, University of Florida
PENNEMAN, Robert A., Ph.D., 1947, Univ. of Illinois
PETERSON, Dean E., Ph.D., 1972, University of Kansas
PETERSON, Eugene J. Ph.D., 1976, Arizona State University
PIGG, C. Joanne, Ph.D., 1965, Oregon State University
RESURE, John, Ph.D., 1985, Kansas State University
SALZMAN, Gary C., Ph.D., 1972, University of Oregon
SHELNUTT, John A., Ph.D., 1975, Georger Inst. of Technology
SINHA, Dipen N., Ph.D., 1980, Portland State University
SMITH, Brian R., Ph.D., 1972, Utah State University
SMITH, Douglas M., Ph.D., 1982, Univ. of New Mexico
SMITH, Wayne H., Ph.D., 1974, University of Texas at Austin
SORENSEN, N. Robert, ScD., 1981, Massachusetts Institute of Technology
STUMP, Robert F., Ph.D., 1984, Univ. of Connecticut
SWENSON, Frank J., Ph.D., 1980, University of New Mexico
TAPSCOTT, Robert E., Ph.D., 1968, Univ. of Illinois-Urbana
THOMAS, Kimberly W., Ph.D., 1978, University of California-Berkeley
WEISSMAN, Suzanne H., Ph.D., 1975, Univ. of Illinois-Urbana
WERNER-WASHBURNE, Margaret C., 1984, University of Wisconsin-Madison
WHALEY, Thomas W., Ph.D., 1971, University of New Mexico
WOLF, Paul J., Ph.D., 1985, Air Force Inst. of Technology
WOODRUFF, William H., Ph.D., 1972, Purdue University

STAFF

RESEARCH SCIENTIST:


CHEMICAL ANALYST:

JU, Ruby K.Y., B.S., 1956, University of Illinois Does analyses of unknowns for faculty and graduate students.

SCIENTIFIC GLASSBLOWER: (and Part-Time Lecturer III)

CAMPBELL, David R
Manufactures state of the art glassware as requested by faculty and graduate students.

INSTRUMENTATION TECHNICIAN:

HARTSWICK, Lewis, Electronics Facility Manager
SHAHVAR, HOSHANG, B.S.E.E., 1981, University of New Mexico - Manufactures state of the art electronic equipment as requested by faculty and graduate students.

OTHER STAFF:

BYRD, KINCIE A., Accounting Clerk
Assists Accounting Technician with department and grant purchases.

ELDRIDGE, Roger, Administrative Assistant
Schedules classes and instructors.

GARCIA, Robert C., Laboratory Technician III
Services the Freshman teaching laboratories.

HARGIS, Barbara J., Accounting Technician
Prepares documents relating to department and grant purchases. Maintains spending records.

HILTON, Carl, Chemical Stores Operations Manager
Supervises storerooms and services teaching laboratories.

MEYER, Lisa M., Staff Assistant
Orders chemicals and supplies for teaching and research labs. Prepares monthly billing.

NORMAN, Kelly K., Staff Assistant
Supervises secretarial staff and assists faculty in recruiting faculty and graduate students.

QUESNELL, Eva, Editorial Assistant III
Supervises Editorial Assistant II. Prepares manuscripts, proposals, course syllabi and exams using the Wang Word Processor.

RUE, Ruth A., Department Secretary
Receptionist. Secretary to Department Chair. Resigned.

STANLEY, Kriss, Laboratory Technician III
Services and analytical and some Freshman teaching laboratories.

WYMER, Erin E., Editorial Assistant II
Prepares manuscripts, proposals, course syllabi and exams using the Wang Word Processor.
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A. Significant Achievements

Faculty of the Department of Communication have numerous significant achievements during the past year. Members of the faculty have been active on departmental, college and university committees. Scholarly and professional activities of the faculty included service as officers in regional and national associations, memberships on editorial boards of scholarly journals, publication of books, chapters and articles, presentation of competitively selected and invited papers at regional, national and international meetings and conventions, and nominations of their work for various awards.

Also, graduate students in the Department of Communication presented papers at regional and national conventions, were nominated for and received awards both on and off campus, and were admitted to Ph.D. programs at other major universities. The number of undergraduate majors and minors increased significantly in number. Students receiving awards included:

Brian Christopherson  
Member, Mortar Board

Camille DeBlasi  
B.A. in Communication, Magna Cum Laude  
Campus Report Award for Best Feature, Fall, 1989

Pia Dominguez  
UNM Presidential Scholar  
Member, Golden Key National Honor Society  
Member, Blue Key National Honor Fraternity  
Undergraduate Assistant, Comm 101  
Recipient, Lyndon B. Johnson Legislative Internship, Summer 1990  
Member, Mortar Board
Sean Ford
B.A. in Communication, Summa Cum Laude
UNM Presidential Scholar
Past President, student chapter of International Association
Communicators
Lead essay in first volume of UNM's Best Student Essays
Recipient, Lyndon B. Johnson Legislative Internship, Summer 1990

Jamie Green
Honorable Mention; UNM Outstanding Teaching Assistant Award

John J. Griffin
Phi Kappa Phi initiate

Stephen King
Outstanding Teaching Assistant Award, International Communication
Association

Bertha M. Lujan
Selected, Who's Who Among Students in American Universities
and Colleges

Diana Medici
Phi Kappa Phi Initiate

Denise I. Mitchell
Member, UNM Chaparrals

Jana Mueller
Member, UNM Chaparrals

Denise Ratliff
Campus Report Award for Best Feature, Spring, 1990

Michelle Tatum
Member, UNM Ambassadors

Kristen Van Veen
Recipient, Clauve Outstanding Seniors Award
Recipient, General Motors Spirit Award
President, Panhellenic Council
Member, Trailblazers
Selected, Who's Who Among Students in American Universities
and Colleges

The number of Bachelor and Masters degrees granted in this department
during the period covered by this report was:
Several undergraduate majors were admitted to various law schools throughout the country, to the graduate program in the Department of Communication, and to graduate programs at other institutions.

In response to the increased enrollments in the department, several new courses were added to the department's curriculum:

Comm. 358: Communication Research Methods
Comm. 430: American Religious Communication
Comm. 435: Legal Communication
Comm. 441: Advanced Organizational Communication
Comm. 453: Current Developments in Organizational Communication
Comm. 473: Studies in Intercultural Communication
Comm. 480: Senior Seminar: Perspectives in Communication

Other courses were approved by departmental faculty, to be submitted as additions to the curriculum.

During the year, the department altered its requirements for majors by requiring a cumulative grade point average of 2.25 or better on all courses attempted for regular admission to the major. Students who do not meet this requirement, when they declare their intention to major in Communication, will be considered probationary majors until they have met this requirement. A core curriculum was instituted consisting of four courses: Comm. 101: Introduction to Communication, Comm. 232: Business and Professional Communication, Comm. 358: Communication Research Methods, and Comm. 480: Senior Seminar: Perspectives on Communication. Majors must earn a grade of C or better in all departmental courses and a grade point average of 2.50 or better on all departmental
courses completed to fulfill requirements in the major. Twenty-one credits must be completed at the 300-400 level. These new requirements will become effective with the beginning of Fall semester 1990. Requirements for the minor will not change.

**Special Projects and Service**

During the academic year the department and UNM Forensic Union hosted various forms of workshops and tournament competition for high school students and their coaches. The university forensics team participated in several national level championship competitions. One of the debate teams qualified for the National Debate Tournament. The details of these activities and the record of accomplishments are included in the annual report of the Director of Forensics, Thomas Jewell. His report is attached as an appendix to this report.

The department initiated a highly successful Communication Week during the Fall Semester. As a means of celebrating the 100th anniversary of the university and the 40th anniversary of the department, a number of successful graduates of the program made presentations for the current students. The programs were very well received. This excellent program, under the leadership of Kevin Lamude, will become an annual affair.

Another innovative activity initiated during this year was "Campus Report," a 30-minute news program covering events on the UNM campus. The program, produced under the direction of Diane Lamude, provides students with an opportunity of learning the skills necessary to produce a weekly news program which is then broadcast on local television stations.
The department also sponsored two student organizations, MATCH/UNM (Minority Awareness Toward Career Hiring) and IABC (International Association of Business Communicators). These programs provide students insights into careers in business and provide contacts in business and organizations in the community.

B. Significant Plans and Recommendations for the Future

The Department of Communication has significant and exciting plans for the future. During the Fall semester of 1990 the department will be moving to remodeled facilities in the west end of the Journalism Building. The new facilities will include a new television studio, a communication research laboratory, and new offices. These renovated facilities should provide more office space for an expanding department.

The department is also making plans to institute a Ph.D. program. A Ph.D. degree has been the goal of each department chair since the department was created in 1949.

Members of the department also hope to be able to add additional faculty in the coming years. With the huge increase in enrollments at both the undergraduate and graduate levels, the department has a strong need for more faculty. Additional faculty would then make it possible to offer a wider range of classes in the department's curriculum.

C. Appointments to Staff

The personnel within the department have undergone significant changes during the past year. Jean M. Civikly continued in her appointment as an Associate Dean in the College of Arts and Sciences. On November 1, 1989, Kenneth D. Frandsen was appointed as Associate Dean for Faculty Searches and Employment, College of Arts and Sciences,
so he resigned his position as chair of the department. Richard J. Jensen was named as interim chair and a search was instituted to find a permanent chair. After a nationwide search, Dr. Robert K. Tiemens of the University of Utah was chosen. He will assume the post on July 9, 1990.

During the year, the department was fortunate to have the services of three prominent Visiting Professors: Judith Martin of the University of Minnesota, Enrique Sanchez-Ruiz of the Universidad De Guadalajara, Guadalajara, Mexico, and Stuart Surlin of the University of Windsor, Windsor, Ontario, Canada.

Also during the year the department was fortunate to have several excellent part-time faculty: Cara J. Abeyta, Rick Hudson, Nancy Ellis-Hines, John J. Griffin, Jeanne Elmhorst, and Nancy J. McGahey. Also, Richard L. Hopkins continued in his appointment as a Visiting Professor (.50 FTE).

During the year two members of the faculty were on leave. John C. Condon was in Japan during the Fall Semester. Dr. Condon taught at the International Christian University and helped set up a program of International Studies. He will return to Japan in 1993 to help complete the plans for that program. During the Spring Semester W. Gill Woodall was on sabbatical leave in Hawaii.

There was one personnel decision during the year. Robert A. Barraclough was renewed for a second three-year appointment as an Assistant Professor.

Regular continuing faculty and teaching assistants for 1989-90 are listed in Appendix A.
There was one separation for the staff. Heather B. Muse resigned as Staff Secretary effective June 1, 1990. Continuing staff employees were May Polivka, Staff Assistant, and Patrick Kiska, Electronic Technician III. Work-Study employees were Julie Jackson and Mikael Saunders.

D. Sponsored Research

Four members of the faculty (35%) submitted funding requests to outside agencies. In addition, one part-time faculty member (Richard L. Hopkins) submitted two proposals for outside funding.

Four members of the faculty (35%) received outside funding:

W. Gill Woodall - $188,500, an on-going grant from the U.S. Department of Education.

Jean M. Civikly - two grants of $3,800 and $4,000 through the PNM Foundation.

Diane L. Lamude - $1,700 through the PNM Foundation.

In addition, Estelle Zannes received a Research Allocations Committee grant to produce a video production entitled "The Crossing of Many Moons."
Faculty, Department of Communication, 1989-90

Robert A. Barraclough, Assistant Professor
Jean M. Civikly, Professor
John C. Condon, Professor
Kenneth D. Frandsen, Professor
Richard L. Jensen, Professor
Thomas E. Jewell, Assistant Professor, Director of Forensics
Diane L. Lamude, Assistant Professor
Kevin G. Lamude, Assistant Professor
Janice E. Schuetz, Professor
W. Gill Woodall, Associate Professor
Estelle Zannes, Associate Professor

Teaching Assistants, 1989-90
Sheryl Coe, Semester I
Jamie Green, academic year
Susan Herrington, Semester II
Stephen King, academic year
Ruby Ann Martinez, academic year
Michael A. Millis, Semester II
Mary Ann Pauling, Semester II
Deana Richter, academic year
Tessa Simpson, academic year
Kevin J. Williams, academic year
Ruth Watry, Forensics assistant, academic year.
ANNUAL REPORT FOR FORENSICS - 1989-1990

The 1989-1990 academic year was a transition time for UNM Forensics. A young squad of excellent debaters provided the timing and incentive for a nationally prominent Cross-Examination Debate Association program to move to competition in the older and more prestigious National Debate Tournament (NDT) organization. The transition was a difficult but ultimately successful one.

During the late summer of 1989, six of the team's top debaters participated in the Arizona Debate Institute at Arizona State University in Tempe. Four of the six debaters won speaker awards in their respective divisions of the workshop tournament. At the first national invitational tournament of the academic year, hosted by the University of Wyoming, the team of senior Sean Ford and sophomore Chris Schell placed fourth. Ford and Schell also placed second at the Colorado College "Pike's Peak National Invitational Forensics Tournament." The team that emerged as the top team from UNM, however, consisted of freshman D'Andra Millsap and junior Glen Shu. After close misses to reaching the elimination rounds at important national invitational tournaments at Northwestern University, Baylor University, and the University of Utah, Millsap and Shu placed second at the District IX (Rocky Mountain Region) National Debate Tournament Qualifier. They are the second team in the history of any school in the state of New Mexico ever to qualify for the National Debate Tournament. At the National Debate Tournament, they advanced to the first elimination round—the only team from any school in New Mexico ever to accomplish this outstanding achievement. UNM emerged from the challenging task of competing in NDT as a force to be reckoned with!

The best debaters at UNM, with the exception of Sean Ford, are all returning next year. Outstanding freshman students have been recruited for next year, including the top high school debater from the state of Idaho and three of the top debaters from New Mexico. The squad appears to have an outstanding future and will continue to represent UNM in an exceptional manner.

In addition to the competitive aspects of UNM Forensics, the team continues to support New Mexico high school forensics by hosting a widely attended (21 schools) debate workshop in September. The workshop offers instruction in team debate, Lincoln-Douglas debate, and individual events. UNM also sponsored and hosted the "Lobo Invitational," which is the largest high school tournament in the state, attended by 29 schools from New Mexico and 3 from Colorado. Over 500 students competed in some 1300 competition slots at the tournament. During the spring semester the team hosted both the State and National Qualifying Debate Tournaments. These tournaments bring approximately 200 of the best students from the state to UNM and provide a service for the state and national high school forensic organizations. There is currently no other college program in New Mexico providing these services to the high schools.
### Summary of Course Offerings

#### 1989 - 1990

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*--not including SCH in cross-listing Departments*
General Information:

An unprecedented opportunity for the future of the Speech, Language and Hearing Program at the University of New Mexico has been created by the changing identity of our profession. Recent advances in science, medicine and technology and new perspectives on clinical research have invigorated the field of communicative disorders. The expanded base of clients needing services has challenged all university training programs.

The academic discipline of speech pathology was developed 50 years ago to train clinicians to serve speech-handicapped school children and war damaged veterans. A relatively stable period of teaching and related research followed. Speech pathology has now been revitalized by new areas of knowledge and by new client profiles. Our clients now include fragile pediatric, geriatric and drug abuse patients, as well as a diversity of multicultural clients. The interest in graduate education in these areas is evidenced by the recent increase in students applying to the speech-language
pathology program at UNM. The same interest in serving new types of clients can positively affect the audiology program as well.

The health and educational needs of the Southwest demand a strong, hospital-related masters degree program in the combined fields of Audiology and Speech-Language Pathology. The University of New Mexico is in a unique position to provide such a program to its students.

This year, on a nationwide basis, the American Speech-Language-Hearing Association (ASHA) has supported the need for a stronger scientific orientation to training and a broader scope of services to the handicapped. ASHA has added degree requirements to increase the academic rigor and provide greater breadth of clinical training to all accredited programs. The strong science base needed for our students is easily provided at UNM with its academic strength in the behavioral, biological and physical sciences. The clinical opportunities are rich since our department has always maintained a close teaching and clinical relationship with the UNM School of Medicine and the UNM Hospital. These facilities are centers of excellence for clinical training. Other practicum sites are provided at the Veterans Regional Medical Center and a multitude of rehabilitation, health care, early intervention and multicultural programs in Albuquerque.
A. Significant Achievements During the Academic Year

1. Renewal of Accreditation. The master's degree programs in Audiology and in Speech-Language Pathology at UNM have been accredited by the American Speech-Language-Hearing Association (ASHA) for over 20 years. Every five years our master's degree programs must undergo a rigorous re-accreditation process. The accreditation committee composed of Doctors Lin Welch (Central Missouri State University), Vincent Byers (Louisiana State University Medical School), and Sandra Terrell (North Texas State University) made their site visit in December 1989. In June 1990 we received official notice of our successful re-accreditation for another five years. Program strengths noted in the site visit report included the following:

- The quality and diversity of the clinical experiences provided, in both our department and off-campus facilities.

- The multicultural program.

- The augmentative communication program.

- The part-time teaching and research contributions of professionals of national prominence, such as Bruce Porch and Carol Westby.

- The quality of the program as indicated by student and alumni reports and performance of alumni on the NRSPA (ASHA certification) examination.
2. New Departmental Organization. The senior faculty members recognized the opportunities and complexities of our department and organized a committee to plan its future development. The committee is chaired by Professor Butt (representing language pathology) and its members include Professor Hood (audiology), Professor Riensche (speech science and pathology), and Ms. Bolton-Koppenhaver (clinical services). The responsibilities of the Planning Committee include developing a plan for a new building, rebuilding the audiology program, recruiting quality students, adding faculty and staff positions, preparing the budget and developing the curriculum and a strong undergraduate program.

3. Increase in Student Enrollment. In Spring 1990 we had 32 full-time speech-language pathology (SLP) graduate students (plus several part-time) and 5 full-time audiology graduate students. During the Spring semester, our number of strong applicants to the graduate program dramatically increased and the Planning Committee resolved to accept as many as ASHA accreditation standards would allow. Consequently, we will have 43 full-time SLP graduate students and 4 full-time audiology graduate students in Fall 1990. This represents a 34% increase in Speech-Language Pathology graduate students.
4. New Course Offerings. Professor Riensche developed a new course, Auditory Learning Disabilities in Adolescents and Adults. This course is based on Professor Riensche’s 12-year ongoing program of empirical research on the characteristics, diagnosis and treatment of auditory learning disabilities and a course she previously taught in the Soviet Union. The course has now been approved as Com Ds 407, and will be offered every spring. Enrollment was extraordinary last spring (55 undergraduate and 5 graduate students).

The department has been awarded two training grants from the US Department of Education which enabled us to add course offerings in the areas of Augmentative Communication and Multicultural Programs. Professor Wesby’s grant for Multicultural Programs began in August 1987 and was renewed for another three years to begin in August 1990. The focus of Professor Westby’s first multicultural grant (1987-90) involved the integration of information on bilingual and multicultural issues throughout the undergraduate and graduate coursework in communicative disorders. She also initiated several one-credit courses and seminars on language disorders and multicultural issues.

Professor Butt’s grant on Augmentative Communication was funded in August 1989. (Augmentative communication devices are computerized, programmable devices which can


produce artificial speech. People who cannot speak, such as those with cerebral palsy, can be taught to use these devices.) All speech-language pathology graduate students are introduced to this topic in the present course Com Ds 531 Neuromotor Speech Disorders. Professor Butt has revised the course such that more than half the content is augmentative communication and computer access for the handicapped.

As part of the grant, Professor Butt has instituted a new course, Seminar in Augmentative Communication, which is required of the five funded students and is an elective for other students. The course is taught each semester under the title of Com Ds 536, Seminar in Speech and Language Pathology, with changing topics.

5. Altered Degree Program. Because of ASHA's new course requirements for accredited programs, our curriculum and degree requirements must be changed. Students entering our program this summer were the first to be effected by the new requirements. A thorough analysis of course content and sequence is now underway. Another consideration in making curriculum and degree changes is to shorten the inordinate amount of time (sometimes as long as three full years) required for students to complete their master's program.

6. Special Projects and Services. Special projects
and services within the department evolve from the training requirements specified by ASHA for clinical certification. ASHA's new clinical requirements include more hours and emphasize diagnostic skills and adult/geriatric disorders. Ms. Lewis (audiology) and Ms. Bolton-Koppenhaver (speech and language pathology) serve as Directors of Clinical Service in their respective professional areas and are responsible for creating service projects which meet student training needs. Over the course of the year, these service projects provided the community with 5,396 hours of speech and language services and 2,128 hours of audiology services. In addition to services provided in our own facilities, graduate students under supervision, screened children for speech and language skills at numerous other facilities including the UNM Child Care Cooperative, Albuquerque Public Schools, and numerous private schools and preschools. Other special opportunities developed during this past year are briefly described.

In August of 1989, Children's Medical Service of New Mexico created a new cleft palate team to serve University of New Mexico patients (under age 21) with cranio-facial anomalies. Both Ms. Lewis and Ms. Bolton-Koppenhaver serve as members of this multidisciplinary team. Graduate students may observe the various team members and receive supervised diagnostic experience with patients.
Through a grant which began in September 1989, Professor Butt, with the help of clinical supervisors, Ms. Williams and Ms. Brown, established an augmentative communication program. This program has provided a new specialty area within the department and students participating in the program are in especially high demand by employers. The number of clients referred to this program is much greater than our program is able to serve.

During the academic year, Professor Riensche and Ms. Rodriguez Rouse initiated the supervision of graduate students providing diagnostic and clinical services to UNM students with learning disabilities. Also, Professor Westby and Ms. Rodriguez Rouse developed multicultural clinical experiences with preschool and elementary school children. Experiences included bilingual diagnosis and treatment and extensive teacher training, including team teaching within the classroom.

During the summer of 1990, graduate students and staff, in cooperation with staff from Presbyterian Ear Institute, conducted a children's aural rehabilitation program. This program provided students with experience in oral/aural habilitation of hearing impaired children, as well as training with several children who had received cochlear implants.
B. Significant Plans and Recommendations for the Near Future

In accordance with ASHA's new requirements, we plan to increase our adult diagnostic and treatment training experiences. In Fall 1990 there will be increased emphasis on treatment of adults with learning disabilities and our students, in cooperation with the UNM Testing Division, will participate in a norming project of the Detroit Test of Learning Aptitude.

Professor Westby's first grant demonstrated the need to increase recruitment and retention of students from non-dominant cultural groups. Our department has one of the highest enrollments of Hispanic and Spanish-speaking students in the country, with nearly 50% of students enrolled in our undergraduate courses being from a non-dominant cultural group and the majority reporting proficiency in Spanish or an American Indian language. Previously, because of relatively low grade point averages, only a small number of them were admitted into the graduate program. The 1990-93 grant period will emphasize support and retention of undergraduates appropriate for the program and the further development of multicultural clinical practicum experiences with adolescents and young adults.

Professor Westby has made a substantial number of presentations on language and literacy development and
multicultural aspects of speech-language pathology to state speech-language-hearing associations, schools, colleges, and ASHA-sponsored conferences throughout the United States and Canada and has also presented institutes in Europe. As a result of these presentations, several faculty in communicative disorders from other universities have asked about the possibility of spending a sabbatical at UNM to learn more about multicultural issues in communicative disorders. Inquiries have also been received regarding the possibility of an exchange program with other universities whereby students from predominantly Anglo university communities could attend UNM for a semester to gain experience working with multicultural populations. Plans for implementation of these possibilities will be addressed by Professor Westby and the Planning Committee in the near future.

Professor Riensche's research has demonstrated a high incidence of communication disorders among adolescent substance abuse patients. Consequently, she has been approached by the developers of the "Drug Free School" in Albuquerque with a request that she develop a grant proposal for the provision of speech-language services to the school. She has identified funding sources to pursue. Her research will continue with adolescent substance abuse patients and UNM students with learning disabilities. Her
most immediate efforts are focused on the publication of work completed as Master's theses under her direction. She plans to open her new course to students in other departments including sociology, special education, and psychology. Professor Riensche has also begun the search process for a faculty member to replace Professor Shirkey. It is anticipated that this individual will hold the rank of Assistant Professor or a higher rank and will specialize in stuttering, voice, articulation, or dysphagia.

Professors Lamb and Hood and Ms. Lewis will present the Planning Committee a proposal they have developed for extensive changes in the audiology program with particular emphasis on training in the areas of central auditory testing and brainstem evoked responses. Professor Lamb will teach a new course in central auditory processing during this coming year and will continue focusing his energy on his newly initiated research program and other writings in that area.

Professor Butt will reapply for the Augmentative Communication Grant. She is also preparing a grant for research with augmentative communication devices.

C. Appointments to Staff

We lack enough doctoral level, tenure-track faculty to teach essential graduate level courses; therefore, all four full-time permanent Clinical Supervisors have been teaching
courses, including pediatric audiology, language development, language disorders, voice, pre-clinic, multicultural seminar, and continuing education workshops. As a result, we have had to hire part-time temporary personnel to cover much of the supervision of clinical practicum. According to ASHA guidelines a Department with an enrollment of 30 plus graduate students should have at least four full-time Clinical Supervisors in Speech-Language Pathology and one in Audiology.

1. Clinical Supervisors
   a. Christine M. Brown, M.S., was hired full-time on the augmentative communication grant in September. Her work load includes 50% supervision.
   b. Gerri Rodriguez Rouse, M.S., was hired half-time on the multicultural grant in August.
   c. Judi Barnes, M.S., was hired as a clinical supervisor six hours a week for the spring semester.
   d. Rose Montgomery, M.S., who supervised part-time for us last year, was re-hired as a part-time clinical supervisor, for 20 hours a week in the fall and 13 hours per week in the spring.

2. Part-Time Secretarial Staff
   a. Agnes Maez, was hired as half-time staff secretary in March.
D. Sponsored Research and Other Projects

1. Number and Percent of Faculty Submitting Proposal to Outside Agencies. Four of the seven faculty members (57%) wrote one or more grant applications in 1989-1990.

2. Number and Percent of Faculty obtaining Awards from Outside Agencies. Two (29%) faculty members received outside funding.

3. Funds Awarded

a. Project Title: Augmentative Communication Training for Speech-Language Pathologists Serving Children with Low Incidence Disorders
   Principal Investigator: Dolores S. Butt
   Funding Organization: US Department of Education
   Dates: September 15, 1989 to September 15, 1992
   Amount Awarded: $240,000

b. Project Title: Cerebral Palsy Equipment Bank
   Principal Investigator: Dolores S. Butt
   Funding Organization: New Mexico Elks Cerebral Palsy
   Dates: 1989
   Amount Awarded: $10,000

c. Project Title: Interdisciplinary Graduate Training Program for Child Development Specialists in Assessment
   Principal Investigator: Sidney Rosenblum with six interdisciplinary team members including Dolores Butt
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This report provides a general discussion of some of the major achievements of the UNM Department of Economics during the 1989-1990 academic year. It also identifies the major problems that the Department faces at this time and the Department's plans for the 1990-91 academic year.

A. Significant Achievements During the Academic Year 1989-90.

The Department has achieved results that are worthy of note in the following areas.

1. Sponsored Research. As indicated in Table 1, the dollar amount of sponsored research generated by the Department remains well below levels generated during the 1979-80 and 1980-81 periods. The faculty continue to be active in seeking grant research, however, and have had reasonable success over the last decade. These funds provide support for graduate students in the Department, as well as providing support facilities for faculty research.

2. Graduate Degrees Awarded. During the 1989-90 academic year the Department of Economics awarded 2 Ph.D. degrees and 4 M.A. degrees. As summarized in Table 2, the Department has awarded some 6 to 7 graduate degrees each year over the last several years. The growing number of graduate students in the pipeline (discussed below) suggests that this number will substantively increase over future years.

3. The Evening Degree Program. Beginning with the Fall 1988 semester, the Department expanded the courses offered in the evening. With 8 to 10 different undergraduate courses and some 6 graduate courses offered in the
evening, evening students may earn any degree offered by the Department--a B.A., an M.A., or a Ph.D. Enrollment in the Department's evening courses is estimated to be 567 during the 1989-90 academic year. Based upon a survey taken during the Spring 1990 semester, the following indications of the program's impact on our community were obtained.

*59% of the students can only take courses in the evenings. Thus, the Evening Degree Program offers educational opportunities in economics to a substantial number of our community who might otherwise be denied such opportunities.

*88% of our evening students are pursuing an undergraduate degree; 10% are pursuing a graduate degree; and 2% are non-degree students. Roughly half of our evening degree students are economics majors. Thus, our evening courses provide service to students pursuing degrees in other disciplines.

4. Improving the Quality of Teacher-Student Contact. During Fall 1989, the Department initiated a program to restructure undergraduate courses to provide students with greater exposure to tenure-line faculty. For the critical introductory and intermediate courses, graduate students were no longer assigned as teachers. Tenure-line faculty were assigned to these courses, and small labs-taught by graduate students--were established to provide sections with a smaller teacher-pupil ratio. The feedback which we have had thus far suggests that the students appreciate the benefits from this restructuring.

5. The Hispanic Economics Program. During the Summer 1989, the Department completed a draft for a master plan designed to guide its efforts to (i) encourage Hispanic students to choose economics as a field of study; (ii) develop teaching and research programs which focus on issues of relevance to the Hispanic
community; and (iii) search for grant funds to support the Department's efforts to recruit and train Hispanics in economics.

Two Hispanics joined our faculty at the beginning of the Fall, 1989 semester: Professors Alberto Davila and Richard Santos. Professors Davila and Santos, along with Professors Al Parker, Alok Bohara, and Albert Church, have been instrumental in implementing parts of this master plan. The Economics Student Council was reinstated and special efforts were made to encourage Hispanic students to participate in the Council's activities. A proposal has been developed to expand and reshape the Master's Program to fields of specific interest to Hispanics: Hispanic labor force issues and economic education. Plans for implementing and expanding these efforts are being developed for the 1990-91 academic year. Professors Santos and Ganderton were successful in obtaining a research grant from the Graduate Management Admission Council (New York) for research concerning "Hispanic High School Graduates in the Higher Education Pipeline: Implications for Undergraduate and Graduate Programs in Business and Management."

B. Significant Plans and Recommendations.

As is set out in Part A above, the Department of Economics has continued efforts to improve its undergraduate and graduate offerings to better meet the needs of our students and to take advantage of the strengths of our faculty. The Department's plans for the upcoming year are primarily focused on expanded and improved activities initiated during the 1989-90 academic year. A brief sketch of planned expansions is given below, along with recommendations related to expansion in support for graduate students.

1. The faculty are committed to expanded efforts to seek grant research funds to support research in established programs, as well as for greater
research activity in issues related to Hispanic problems.

2. Plans are being made for expanded efforts to recruit Hispanics to the study of economics at both undergraduate and graduate levels.

3. Plans are under way for a program of advertising, including faculty visits to selected firms and government organizations in the city, to make Hispanics (and others) aware of the graduate education opportunities, particularly in the Department's evening degree program.

4. The Department recommends that ways be sought to increase funds available for the support of students in the graduate program, including special funds for Hispanic students. The Department expects to prepare proposals for such support which will be submitted to the university and to outside funding agencies.

C. Appointments to Staff.
The following three new faculty members joined the Department at the beginning of the 1989-90 academic year:

**Richard Santos**, Ph.D., University of Michigan, Associate Professor (with a joint appointment with the Southwest Hispanic Research Institute). Area of specialization: Hispanic labor problems.

**Albert Davila**, Ph.D., Iowa State University, Assistant Professor. Area of specialization: Hispanic labor problems.

**Phillip Ganderton**, Ph.D., University of California at Santa Barbara, Assistant Professor. Area of specialization: public finance.

During the 1989-90 academic year, we were successful in recruiting an exceptionally bright young professional who will be joining the faculty in August, 1990: Ms. Montserrat Viladrich, currently completing her Ph.D. at the University of California at San Diego. Ms. Viladrich, from Barcelona, Spain,
has major research interests in the areas of natural resources and environmental economics.

D. Separation of Staff.
Two of our faculty (a husband and wife) have resigned their positions at UNM to accept employment at the University of South Carolina: Dr. Glenn Harrison (Associate Professor) and Dr. Lisa Rutstrom (Lecturer). Both Professors Harrison and Rutstrom have had substantial, positive impacts on our Department's efforts to develop and improve teaching and research programs. Their presence will certainly be missed.

E. Economics Graduate Program -- A Status Report.
We presently have some 40 students in the Department's graduate programs. This number represents an increase of between 15% and 20% over earlier years, due primarily to the effects of our evening degree program. Beginning with the Fall, 1989 semester, Dean Wildenthal increased the number of Teaching Assistantships available to the Department from 8 to 12. This has allowed the Department to more actively recruit high quality graduate students. It is too early to assess our success in such recruitment, but the Department has high expectations for improving the quality of its graduate program over the next few years.

F. Long Term Goals for the Unit.
The Department's long term goals are essentially extensions of the plans and programs which have been initiated over the last year. They include the following.

1. The Department hopes to increase the level of sponsored research to levels of about $500,000 per year, with a substantial proportion of this sponsored research focused on Hispanic labor problems.

2. The Department has as its goal greater involvement of Hispanics in its
undergraduate and graduate programs. Our goal for undergraduates is 40 or more Hispanic majors. For our graduate program, we hope to have 10 to 15 Hispanics in the M.A. and Ph.D. programs.

3. A primary goal of the Department is to implement an outreach program designed to involve businesses and state/local government agencies in the Department’s graduate programs.

G. Affirmative Action.
The Department of Economics has made a significant effort over the past decade or more to identify and hire qualified minority and women economists to fill positions in the Department. As a direct result of these efforts, during the 1989-90 academic year our Department had on its faculty (of 18 members) three women economists--Professors Christine Sauer, Chris Nunn, and Lisa Rutstrom--and two Hispanic economists--Professors Davila and Santos. As noted above, a newly hired faculty member, Ms. Montserrat Viladrich, is a woman of Hispanic descent.

We are understandably proud of this record, and expect to continue our efforts to add high quality minority and women faculty to our staff.

Table 1 -- UNM Department of Economics
Sponsored Research Money Generated

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A. Significant Achievements

This was an animated year in our Department. In an attempt to deal with a fairly negative report by outside reviewers of both our graduate program and the general health of the Department (a report, by the way, we continue to feel was seriously flawed in both its methodology and in many of its conclusions), a new team of administrators assumed their various posts. Lee Bartlett took over as Chair, Michael Fisher as Graduate Director, Barry Gaines as Undergraduate Director, Scott Sanders as Director of our newly-created Writing Program. Following my preface, each of them, along with Lynn Beene (who continued on as our Director of Freshman English), provides a report on the past year's activities in their respective areas. Here I'll simply try to offer a quick overview.

The primary order of business this year was to begin to determine which areas of the Department needed either minor or major attention or, in some cases, reorganization. The Department of English is one of the two largest departments in A&S and, in fact, one of the two largest academic departments on campus. Our full-time tenure stream faculty hovers between 34 and 40; we've got about 80 teaching assistants and PTI; we've got 6 full time staff members and another 9 work-study students; all undergraduates (and many graduate students) enrolled at UNM
eventually have at least minimal contact with our Department. During any given semester we offer over 120 sections of FE, another 40 courses in advanced writing (technical, scientific, creative), and another 50+ undergraduate and graduate courses in literature and language. Further, each semester we provide myriad independent study sections, as is appropriate for a department offering both an undergraduate major and minor, as well as programs leading to the M.A. and Ph.D. degrees. The Department publishes four important journals, administers an ongoing Reader/Lecturer series open to the public, and administers numerous awards, including the DH Lawrence Fellowship. Given our size and central role in the intellectual life on campus, along with such issues as limited resources and hiring priorities campus-wide, much energy this year has gone into analyzing both our Department's day-to-day operation and its long-term goals.

Obviously, this is a difficult and lengthy process, one that will continue over the next few years. However, certain projects are already underway. In an attempt to get a better handle on our course offerings (especially at the upper division and graduate levels), we have worked hard at producing a two-year course rotation, a plan which will already be in place in part next fall, and by 1991-92 will be fully engaged. Such a rotation will be flexible enough to allow for faculty retirements, leaves, and exchanges, yet structured enough to allow our students a chance to plan their programs much more accurately than in
previous years. Further, the creation of such a rotation has allowed us to begin to do some long-range planning for both hiring and program emphasis, something that has been rather difficult in the past, and certainly issues that will become crucial as UNM progresses into the various reallocation measures mandated by UNM 2000.

Our Policy and Personnel Committee historically has been the committee with the most responsibility and authority in the Department. In the past, P&P was elected from the three ranks within the faculty; because Department administrators were specifically barred from participating on P&P, often the committee was forced to deliberate on crucial issues without access to information which could be provided by individuals who were best situated to advise. With the approval of the faculty, the new Chair reorganized the committee so that it now also includes the Directors of the programs (graduate, undergraduate, writing, and FE), thus giving it a deeper pool of information and insight from which to draw.

In an attempt to address the area of faculty enhancement and intellectual growth (a valid Departmental lack noted by the Graduate Review Committee), we instituted our first Faculty Colloquium. The seminar, led by Professor Michael Fischer, focused on recent advances in critical theory; it met for about two hours three Friday afternoons a month throughout fall semester, with about half our tenure-stream faculty (along with an occasional faculty member from another department) attending
regularly. This project proved a great success—both as a learning environment and as a morale-booster—and thus we will continue next fall with a second colloquium, "The Relation of Modern Mathematics and Physics to the Humanities," led by William Beyer, a theoretical mathematician from Los Alamos.

Our Department houses academic and creative journals of international significance—American Literary Realism (edited by Robert Fleming, Gary Scharnhorst, and James Barbour), American Poetry (edited by Lee Bartlett and Peter White), Shakespeare Studies (edited by Barry Gaines), and Blue Mesa Review (edited by Rudolfo Anaya, David Johnson, Gene Frumkin, Pat Smith, and Luci Tapahonso)—and under the direction of editorial assistant Uma Kukathas all continued to produce new issues this year. Additionally, Professor Scott Sanders was named editor of the IEEE journal of technical communications, for all intents and purposes bringing that prestigious journal now under the aegis of our Department and UNM.

Professor Rudolfo Anaya served as Regents Lecturer this year, and was awarded the first Elizabeth H. Wertheim Award. Professor Hugh Witemeyer represented UNM well during his year-long German exchange. Professor James Thorson addressed a major gathering of scholars and critics at a conference in Australia, while Professor Mary Power was a featured lecturer at an international critical conference held in Monte Carlo. This year we provided our first Departmental funding for various research projects (attempting especially to help both assistant professors
and advanced graduate students); further, many of our faculty members were awarded Research Allocation Committee grants, while Professor Gary Harrison received a grant from the Huntington Library for summer research. The many publications from our faculty (all enumerated in detail on the annual biographical forms) included books by Professors Anaya, Damico, Gallacher, Witemeyer, Davis, Scharnhorst, Dunaway, Fischer, Gaines, Jones, Lynn, Barbour, and Bartlett. Professor Pat Smith was one of a dozen scholars invited to be a "Visiting Distinguished Humanist" at a conference on "Cultural Diversity and the Humanities" at the University of New Hampshire.

Professor Barry Gaines served in Washington D.C. on the Public Humanities Projects panel for the NEH. Professor Rudolfo Anaya served on the Presidential Search Committee. Professor David Dunaway produced a successful series of radio programs focusing on six New Mexico writers, with the support of the NMEH.

The First Annual UNM Writers Festival was sponsored by the Department of English as part of the Centennial Celebration. The event, held in the fall and drawing an audience of about 500, featured readings by Rudolfo Anaya, Nathaniel Tarn, Janet Rodney, Leo Romero, Gene Frumkin, Nancy Gage, Keith Wilson, and others. Other readers/lecturers included W.S. Merwin, Michael McClure, Robert Creeley, Ana Castillo, Stanley Cavell, Marvin Bell, and the editors of Blue Mesa Review. The Department's graduate students held their first EGSA Annual Southwest Symposium, a day-long conference offering myriad panel
discussions on literary topics by graduate students and faculty.

Gary Scharnhorst and Paul Davis were promoted to the rank of full professor this year.

B. Significant plans and Recommendations

We plan to continue strengthening the organizational framework of the department over the next few years. Our Dean has been extremely supportive of our efforts thus far, helping as much as possible in the areas of hiring, salary adjustments, travel and research funding, and etc.; this has helped raise Departmental morale considerably.

A few particular recommendations for the coming academic year:

We need to hire (at entry level) someone in professional/technical writing, as well as someone in American Literature (with an emphasis on Chicano Literature). The student demand in these areas exceeds our ability to meet it with our current faculty.

We need to continue our efforts to strengthen our Writing Program. The new Visiting Writer position is a very positive step. Now we need ongoing financial support through the College of our decade-old Poets & Writers Reading/Lecture Series; this is one of UNM's most successful (at least in terms of audience size and publicity for the University) programs, offering six to eight events each semester which are open not only to the University community but the public at large.
We need to continue an aggressive campaign to promote research in the Department; obviously, increased financial support from the College (travel funds, material, etc.) is necessary. While our faculty continues to look for funding opportunities with outside agencies, the sad truth is that there is very little outside funding available for scholars in the Humanities. Thus, we feel that both the University and the College have a special responsibility to researchers in our discipline.

The Freshman English Program continues to be a major concern. We need to finalize our developing sense of the FE Director's status, need to continue to work on getting a budget prior to the "last minute," need to continue converting the old PTI system to more teaching assistants and annual contract lecturers. With the Dean's help we have made major inroads on these and other FE issues, but there still is much work to be done.

Our support staff does a heroic job managing the day-to-day domestic aspects of running the Department. However, given our size we certainly could use one (or better, two) more full-time staff assistants. Further, our staff salaries continue to be woefully inadequate.

C. Appointments To Staff

This year we hired two new faculty members: Minrose Gwin, a specialist in American Literature and feminist critical theory, was appointed to the rank of Full Professor, while Laurie
Alberts, a novelist, was appointed to the rank of Assistant Professor. Additionally, JoAnne Lucero was hired as our new graduate/undergraduate staff assistant; Bruce Jaffe accepted a position as our new Computer Resource Coordinator.

D. Separations From Staff

Both James Barbour, a Full Professor, and Fred Warner, an Associate Professor, took early retirement at the end of spring semester. Luci Tapahonso, an Assistant Professor, has taken another year's leave-without-pay. Jane Brill retired after a number of years as our graduate/undergraduate staff assistant.

E. Other

Sunwest Bank awarded the Department a $50,000 endowment for its "Sunwest Desktop Lab and Library," a project proposed by Professor Scott Sanders as part of our Writing Program. The grant, one of five university-wide (and the only one awarded to the College), will fund the purchase of equipment, supplies, and publications to establish the Sunwest Desktop Publishing Lab.

Following are reports from the Directors of our five major programs.

Director: LynnDianne Beene
Associate Director: Geraldine McBroom
Staff Assistant: Ovella Minssen

Freshman English Committee: Lynn Beene, Gerry McBroom, Steven Brill (TA), Chris Buchlater (UCollege), Krystan Douglas (AC), Michelle Le Beau (Branch Campus), Katherine Marsters (TA), Ivan Melada (SR Faculty), Jon Tuttle (PTI)

I. Enrollment Statistics

The Freshman English (FE) program continued to do what it is supposed to do: provide solid teaching for thousands of students in UNM's only required course for a baccalaureate degree. For this academic year, FE enrollment figures are

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<th>ENGLISH 101</th>
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<td>Fall 1989/Sections</td>
<td>Fall 1989/Sections</td>
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<td>Scheduled:</td>
<td>79</td>
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<td>Cancelled:</td>
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<td>Taught:</td>
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<td>Honors:</td>
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<td>TA:</td>
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<td>PTI:</td>
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<td>AC:</td>
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<tr>
<td>Students enrolled:</td>
<td>1800</td>
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<td>TOTAL:</td>
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Despite fewer than a dozen underenrolled late afternoon/evening classes, the FE program averaged 24 students per class for the year.

Without doubt, the most significant staffing change in FE was the addition of Dr. Geraldine McBroom as the program's Associate Director. Dr McBroom taught the two-semester practicum English 537/538. Students' evaluations, formal review (e.g., viewing classes, reviewing graded essays), and informal conversations attest to the quality teaching the new TAs provided under Dr. McBroom's guidance. Moreover, Dr. McBroom has been a source of creative ideas that have significantly improved both the curricula of the writing courses and the daily operations of the FE Office.

Due to research commitments, Lynn Beene resigned as FE
Director effective 11 May 1990. Dr. McBroom will assume the directorship starting with the Summer Session.

II. Budget

Two previous Department administrators wrote official statements that define the current budgetary crises aptly.

Recent enrollment patterns and all projections of future patterns show a boom in lower-level writing courses and a corresponding decline in literature courses. Over two-thirds of the Department's enrollment is in the Freshman program, but over two-thirds of the Departmental salaries go to teachers who do not teach in the Freshman program. We can ignore these facts and wait for a crisis, or we can begin a gradual (and graceful) reallocation to meet this future.

I should point out that earlier predictions of a thirteen-section shortfall from last Fall's offerings is not out of line with a projection of a thirty-section shortfall for the 1985-1986 academic year. Freshman English enrollments have increased. . .annually; a shortfall from last year's offerings does not take that increased demand into account. . .I would submit that the current 'extraordinary fiscal situation' is not a sufficient argument [to increase course enrollment], because that situation shows every danger of becoming a permanent fact of life at the University of New Mexico.

The budgetary situation for FE has not improved since Michael Hogan wrote the above prediction in 1977 or since Hamlin
Hill soundly rejected proposals to increase class size to remedy the course shortfall necessitated by the central administration and college's budget cuts. This year, once again, the FE program has been told the Department's budget cuts and reallocations will substantially reduce the number of FE and other undergraduate writing and literature courses (35-50 for 1990-1991) available to students in 1990-1991. The cuts meant fewer contracts offered to potential graduate students (affecting the Department's graduate program), no salary increases for TAs or PTI (affecting these teachers' morale and professional commitment), and the promise of no sections for PTI for next year (affecting the number of students who can enroll in the University's only required course, the job security for 20+ teachers, and the Director's ability to schedule necessary sessions on writing for Orientation and to hire ETs for entering TAs). This perpetual cycle of cuts and possible reinstatements of funding weaken the program's instructional quality and frustrate everyone.

III. Staffing

While many are (as previous Directors have noted) "disheartened by the enormous wave of ignorance that FE tackles every year," the FE staff continues to do a genuinely admirable job teaching writing and preparing students for further University work. They work hard to get the job done; they are inventive and effective, with precious little additional help, and maintain a cheery attitude in the face of daily upheavals. As
has been true in past years, most of the ineffective teaching is the result of young teachers struggling to find adequate means of doing what they want to do in the classroom to teach writing. Many of these problems could be remedied if more regular faculty would become involved in the FE program. Specifically, if more regular faculty would agree to be mentors for new writing teachers in the spring semester when the Department cannot afford to pay for Experienced Teachers (ETs), then they can share their knowledge, experience, and resources with these young teachers. The benefits could be healing throughout the Department for both regular faculty and new writing instructors and could relieve some of the time-consuming burdens the Director and Associate Director now shoulder building new teachers' confidence and insuring quality in the FE program. Obviously, however, many senior faculty are swamped with other duties making such a solution difficult to effect.

In addition to 263 freshman writing courses, the FE program contributed instructors to English 150, 219, 220, 221, 222, 240, 294, 296, and 320. For the fourth year in a row, the FE staff has been called upon to teach an increasing number of courses other than FE and other than the specialized courses granted to advanced graduate students. The impact on enrollment T-VI has exerted has leveled out for several reasons:

1. UNM raised enrollment standards and simultaneously increased its enrollment efforts. Hence, the overall enrollment figures for the University have increased,
and the better prepared students enroll in FE (particularly 102) here rather than at T-VI.

2. T-VI has exhausted its facilities: it literally has no place to teach any additional courses.

3. T-VI has suffered the budget restraints that plague APS. Decreased funding there means a steady--rather than increasing--number of FE courses.

The FE program was able to hire 27 new Teaching Assistants this year unlike previous years when funding permitted hiring only 13-18 new TAs. Additionally, the quality of the new graduate student/TA was significant. Two possible reasons for this fortunate outcome are more timely offers of assistantships to potential TAs and the increased salary. Giving potential TAs offers earlier or at the same time as other universities and making those offers somewhat more lucrative improved the Department's recruiting ability. Unfortunately, the budgetary cuts promised for the 1990-1991 academic year reverse these fledgling efforts.
Paul Davis concluded his long term as Director of Undergraduate Studies and was replaced by Barry Gaines. The Undergraduate Program continued with only minor adjustments. The Program also continued to grow although not quite at the rate of last year. A total of 100 English majors were graduated in 1989-90; 84 literature majors, 15 creative writing majors, and 1 professional writing major. This is an increase of 11 majors over last year. I expect the number of professional writing majors to increase while the others hold rather steady.

Perhaps a more impressive indication of the English Department Undergraduate Program's impact on the campus is the fact that we taught the equivalent of over 4,000 students in undergraduate courses beyond freshman English last year (1822 in the fall, 370 in the summer, and 1940 in the spring). Many of these students are taking courses in our writing programs, and we have added faculty in that area for the coming year. The entrance procedures for the professional writing program seem to be working, but the similar program for creative writing majors needs to be advertised more than it is.

The drop in honors graduates noted last year seems to have been a temporary one. The following eight students were graduated with honors this year:
Daniel Anderson, High Honors
Nancy Chick, Highest Honors
Deidre A. Grace, Honors
Kathryn McPherson, Highest Honors
Sheri E. Metzger, High Honors
Jennifer Pease, High Honors
Leslee T. Richards, Honors
Clifford Villa, Highest Honors

This valuable and rewarding program needs a higher profile so that we can reach a greater number of our talented and motivated majors.

The Undergraduate Committee (Lynn, Scharnhorst, Whidden, Zavadil, Gaines, chair) spent most of its time on honors proposals and suggested no curricular changes during the year.
1989-90 was a productive year for the Graduate Committee, which included professors James Barbour, Patrick Gallacher, Carolyn Woodward, Scott Sanders (ex officio), Gary Harrison, and Michael Fischer (Director), as well as graduate student representative Prudence Simon. The Committee was ably assisted by JoAnn Lucero, who in March replaced longtime staff assistant Jane Brill.

The year featured some significant changes in our graduate program, among them the first annual Graduate Student Colloquium, the first annual Southwest Symposium, and the addition of literary theory to the M.A. exam. The spring semester Colloquium featured presentations by graduate students, guest speakers, and faculty members and focused on the controversy surrounding the canon and the humanities curriculum. The day-long Southwest Symposium, April 13, 1990, also gave faculty members and graduate students the chance to share their work. Ten faculty members and fourteen graduate students took part in eight sessions. The California writer Ana Castillo also gave a reading of her work.

With the help of other faculty members, the Director of Graduate Studies initiated an aggressive effort to help our Ph.D. students find jobs. The Director revised the department's Guide to a Successful Job Search, made presentations on "How to Get a Job Teaching English," and met with job applicants. These
efforts contributed to a record number of our Ph.D.'s obtaining tenure-track assistant professor positions at such major universities as Ohio State and Miami University of Ohio.

In the spring the Graduate Committee reviewed applications to the program, admitting 78 students. Competition for teaching assistantships was especially keen, with many very well-qualified applicants vying for only 20 new assistantships. An unusually large percentage of our first choices accepted our offer, forcing us to turn away some exceptional candidates. In the future we hope to expand the number of assistantships and kinds of financial aid we can offer, especially to students from underrepresented groups.

Congratulations are in order to the following graduate students: Melica P. Buche, Martha Bedeaux, Margaret Davidson, Susan Engman, Crystal McClernon, Joy Richard, Edward Woode, David Benedetti and Greg McElwain passed the M.A. comprehensive exams; Mohamed Ali passed the Spring 1990 Ph.D. qualifying exam; Charlotte Hadella, Chapel Petty Schmidt, Stephen Mathewson and James David Harrell successfully defended their doctoral dissertations; and Steve Sullivan, Marilyn Barrios, Larry Collins, Susan Goralczyx, Evelina Lucero and Daniel P. Rask were awarded an M.A. in our Writing Program. At the department's commencement program, May 1990, M.A. student, Beth Torgerson was awarded the Buchanan-Arms Award and James David Harrell was recognized for winning the Tom L. Popejoy Dissertation Prize.
M.A. Comprehensive Exams

Summer 1989: Melica P. Buche - literature
Fall 1989 (July 89): Martha Bedeaux - literature
David Benedetti - literature
Margaret Davidson - literature
Susan Engman - Language & Rhetoric
Crystal McClernon - Language & Rhetoric
Joy Richard - literature
Edward Woode - literature

Spring 1990 (Jan 90): Greg McElwain - literature

Ph.D. Comprehensive Exam

Spring 1990: Mohamed Ali - Criticism

M.A. Writing Program

Summer 1989: Steven Sullivan - Poetry
Fall 1989: Marilyn Barrios - Poetry
Larry Collins - Fiction
Susan Goralczyx - Fiction
Evelina Lucero - Fiction

Spring 1990: Daniel Philip Rask - Fiction

Dissertation Defense

Summer 1989

Charlotte Hadella

Chair: Louis Owens
Title: "Women in Gardens in American Short Fiction"

Chapel Petty Schmidt
Chair: James Barbour
Title: "Patterns In Willa Cather's Fiction"

Stephen Mathewson

Chair: James Barbour
Title: "The Canonical Whale: Moby Dick and American Literary History"

Fall 1989

James David Harrell

Chair: James Barbour
Title: "From The Mesa Verde to The Professor's House"
In 1989-90 the Creative Writing (CW) and Professional Writing (PW) concentrations merged at the graduate level, creating "The Writing Program," an MA concentration in writing.

This very major change in our graduate program was made with an elegantly simple change in the existing curriculum of the MA creative writing concentration: students may now use sections of English 520, "Topics in Professional Writing," for all or part of their nine-hour writing workshop requirement.

Thus students who enter The Writing Program for professional writing take PW topics; students of fiction or poetry take creative writing workshops; and students who wish to broaden their preparation may mix emphases following consultation with the graduate director and The Writing Program director. As before, the MA thesis itself defines an individual student's major field of study (PW, fiction, or poetry).

Initial response from students already in the graduate program is positive. Next year a few students (none newly admitted, all will be shifting from other graduate concentrations) will move into The Writing Program for the PW emphasis. In Spring 1990, Virginia Henning did just that, graduating with an MA, concentration in writing, with a thesis on the graphic design of books produced in a desktop publishing environment.
At the undergraduate level the PW and CW curricula remain separate. But given the merger at the graduate level, individual requests to substitute between 300 and 400 level PW and CW topics classes will be considered more favorably in the future.

New Faculty hired in 1989-90 included Douglas Bauer, a novelist, who taught two courses in Spring 1990 as Writing Program Visiting Professor; and Laurie Alberts, winner of the James Michener and the Katharine Anne Porter awards in fiction, who will join us as an Assistant Professor in Fall 1990.

Bauer was the first Writing Program Visiting Professor. This program is one of the more exciting developments to follow upon our decision to create the new graduate Writing Program. Every semester we will hire a new Visiting Professor, rotating the visitors' fields of expertise through the writing areas addressed by our program: fiction, poetry, and non-fiction professional writing.

After Bauer, we have hired Don Bush, a technical writer and editor, for the fall 1990 semester; and Sandra Cisneros, a poet, for the Spring 1991 semester. We are not absolutely locked into this practice of alternating between creative and professional emphases. Should a particularly outstanding individual apply for a given semester, the opportunity to hire that person, regardless of his or her field of expertise, would take precedence.

Laurie Alberts will be a great boon to our program. Professor Alberts will teach the theory of fiction and fiction workshop classes (both graduate and undergraduate) regularly,
courses which we have been hard-pressed to offer consistently and in great enough number. Additionally, she is interested in developing new courses that will treat such topics as publication, the writer and society, and other areas of broad interest to writing students.

Publications, Honors, and Awards were garnered by every member of our writing faculty. Perhaps most notable if the creation of the Rudolfo Anaya Endowed Professorship which honors Professor Anaya's long, distinguished service to the department, the University, and the larger world of arts and letters.

Lists of individuals publications and awards are published elsewhere, so the account given here is brief. Professors Frumkin, Johnson, Lynn, Sanders, and Smith all published poetry; Frumkin and Lynn saw books of their poetry published.

Professor Anaya edited three books, saw several new essays published and older essays reprinted, and his play "Who Killed Don Jose?" was published in New Mexico Plays, edited by our colleague David Jones.

Lee Bartlett, in addition to taking over as Chair of the department, was named one of the first New Mexico Eminent Scholars by the Commission on Higher Education. A collection of his essays, The Sun Is But a Morning Star, was published by UNM Press, and his essays and reviews appeared in several journals.

David Dunaway published his biography of Aldous Huxley, Huxley in Hollywood, which was widely reviewed in the United States and Great Britain. Dunaway also published essays in
periodicals, newspapers, and in an anthology.

Scott Sanders' article, "How Can Technical Writing Be Persuasive?" won the NCTE 1988 award (given in 1989) for Best Article on Philosophy or Theory of Technical or Scientific Communication. Sanders was also named editor of the professional quarterly IEEE Transactions on Professional Communication; June 1990 was his first issue.

David Johnson was guest editor for Blue Mesa Review #2. Sandra Lynn published two articles in mass market magazines and contracted to write others. Tom Mayer reports having finished a novel and is mulling over the issue of submitting it for publication. Wanda Martin published an essay in an anthology.

Pat Smith published a short story, three interviews, and gave several poetry readings. Yale has re-issued in paperback an anthology that includes one of her essays that has received new, very favorable, reviews.

Contests Administered by the Writing Faculty include those for students (the Lena M. Todd Awards in Fiction and Poetry, The American Academy of Poets Contest, and the DH Lawrence Fiction Contest), and the DH Lawrence Fellowship, which receives entries from writers worldwide. The 1990 DHL Fellow is Bobby Byrd of El Paso, Texas; judges were Professors Anaya, Bartlett, and Smith.

In addition, the City of Albuquerque's Urban Enhancement Cultural Achievement Program agreed once again to partially fund awards that would be given in conjunction with publication in Blue Mesa Review.
From the start the association with the City was marked by confusion and uncertainty which, unfortunately, led to still more confusion in the administration of the contest. The relationship of the judging of the contest to the editorial process at Blue Mesa was not made clear at the outset nor as the contest continued. Nevertheless, a blend of judging and editorial privilege produced three winners whose works were published in May in Blue Mesa.

At this writing (in July) we find ourselves with winners announced and published in Blue Mesa but with no money received from the City, either to award to the winners or to compensate the judges of the contest. This situation is typical of the confusions that have plagued everyone involved throughout this contest. The problems should be resolved by the end of the summer, but we will not likely participate in this program again.

Courses Developed

Wanda Martin and Sandra Lynn developed much needed new courses in professional writing that were offered at the 300 and 400 levels. Martin's English 320, "Writing to Shape Public Policy," has already produced several essays chosen for UNM's Best Student Essays anthology. Her English 420, "The Rhetoric of Political Writing," is also promising. Sandra Lynn's 320, "Science Writing, is a welcome addition to the curriculum.
Internship Program

Sandra Lynn has taken over as the Director of Internships. She has contacted several new organizations and placed students with them as writing interns. Also, she is developing new evaluation forms for students and supervisors. The Los Alamos internship has become a year-around program. Lori Green delayed her graduation by a semester to work full-time at LANL in the Spring semester. Two other students will work at Los Alamos as interns in 1990, one each in the summer and the fall.

Endowment

Sunwest Bank has given the undergraduate professional writing program a $50,000 endowment to help us develop our desktop publishing laboratory and library of professional writing materials.

The terms of the endowment give the program $10,000 each October for five years beginning in October of 1990. We may spend only the interest on this money, so the first $500 of interest will be available in October 1991. The challenge that faces the program over the next year is to raise money that may be spent now to purchase equipment and library supplies that the endowment money will then maintain into the future.

One effort to raise money involves Connect (formerly Connection), the PW student newsletter, edited this year by undergraduate students Terry Reser and Tiffany Nelson. Connect will be mailed this summer to "friends of the PW program" along
with a cover letter announcing the Sunwest endowment and soliciting contributions to the program. A similar mailing last year netted $300 in contributions; perhaps the Sunwest endowment will help us increase that amount.

Conclusion

Clearly 1989-90 was a very important year for the creative and professional writing programs at UNM. The many achievements by our faculty have combined with our new programs, new curricula, new faculty, and new endowment to point us toward the future in a very positive manner. Our happy problem is to see that the future's reality is as full and positive as is, by anyone's measure, today's promise.
A. SIGNIFICANT ACHIEVEMENTS:

1. Department:

   (Strategic Planning)

   The faculty continues to implement its Strategic Plan developed during the Spring Semester, 1988. Attention has focused on two items: (a) faculty recruiting to replace lost faculty (Drs. Bennett, King, and Place); and (b) curriculum revisions to modernize course offerings and program requirements.

   After deliberating program options in terms of educational needs at UNM, and in context of economic trends in the Southwest, the faculty has agreed that its first recruitment priority is for a senior level cartographer (Associate or Full Professor), with a proven record in securing funded research, and a willingness to develop upper division and graduate level courses in computer cartography. Meetings and discussions have been held with the Dean of A&S and Vice President for Research to recruit an internationally recognized Senior Research Faculty member from an eastern university, and to possibly relocate most of that individual's existing laboratory (including some equipment and several on-going research projects) to UNM. Further discussions, and future planning and negotiations, have been delayed until VPR Risser and new UNM President Peck signal their desires about computer cartography and GIS at UNM.

   The curriculum has been further revised (since last year's report) in terms of numbers of courses, levels of instruction, and breadth of
offerings in order to better scope our dual roles of "service" department and degree granting discipline. Initial revitalization efforts consisted of revamping the undergraduate and graduate degree programs, renumbering courses, and writing new descriptions to focus on specific thrusts in the department. The new graduate program in Geography is described in the 1990-1992 Graduate Catalog. Work will continue during the Fall 1990.

(Southwest Association of American Geographers Meeting—SWAAG)

The SWAAG meeting was held in Albuquerque during the first week of October 1989. Drs. Cullen and Williams took the lead responsibility for logistical arrangements, the Call for Papers, mail-outs and keynote speakers. In addition, Drs. Snead, Williams, and Barrett conducted field trips for interested participants at the end of the paper presentations. SWAAG is a regional affiliation of Professional Geographers who are members of the national Association of American Geographers. The region stretches from Louisiana to New Mexico.

(Faculty Recognition)

Dr. Stanley Morain was elected Vice President in the American Society for Photogrammetry and Remote Sensing. He will progress to President Elect in 1991, and to President of the Society in 1992. As a result of his year of instructional leave, he has published a monograph titled AMERICA'S EARTH OBSERVING INDUSTRY: PERSPECTIVES ON COMMERCIAL REMOTE SENSING.

Dr. Stephen Thompson contributed to a multidisciplinary effort to create an Interdisciplinary Water Curriculum. In the Fall semester, Dr.
Thompson was further awarded a Faculty Scholarship by the Vice President for Academic Affairs to participate in the development of a Rio Grande Basin environmental research plan.

2. **College and University:**

(Southwest Institute)

Dr. Jerry Williams organized and planned the lecture series and field trips offered in the June 1990 Southwest Institute. The Institute has been realigned with the Southwest Center under the Dean of Libraries, so Dr. Williams has been receiving a two course Geography teaching load reduction to prepare his summer Institute. I am recommending to Dean Wildenthal that if this practice continues, Dr. Williams be completely assigned to the Dean of Libraries and a recruitment be initiated. The faculty and programs in Geography are suffering the loss of four courses each year, and need a full-time faculty commitment.

(Post-Centennial Convocation)

Along with other units of UNM, the Department participated in a special convocation ceremony honoring the University's Centennial graduating class. Geography graduated five MA degrees and eight undergraduate majors. Of the five MAs Ms. Denise Bleakly is now employed by the Weston Group in Albuquerque, employing her skills as a computer cartographer; Mr. Tim Kraner is a temporary staff member at UNM's Technology Application Center while awaiting military orders from the Air Force; and Mr. Abdulatif al Nafie is preparing for Ph.D. work in London. Anthropology, American Studies, Geography, and Linguistics combined resources to host the graduates of 1990 and their
families to a post convocation presentation of certificates and refreshments at the Maxwell Museum on May 12.

3. **Community:**

   This year was the second anniversary of a Memorandum of Understanding (MOU) between the Geography Department, the U. S. Bureau of Land Management, and UNM's Technology Application Center. Through this instrument, the three parties have collaborated in the development of their mutual capabilities in Geographic Information System (GIS) and remote sensing technologies. The department's participation focuses on: (a) providing scientific and technical inputs; (b) offering evening and weekend courses in these technologies to serve as a means for continuing education; and, (c) directing qualified students into internships, co-op training programs, other on-the-job training experiences, and thesis projects. It is the intention of the department to expand the MOU concept to include other State and Federal agencies.

   A second significant event was the creation of working relations with the Albuquerque Office of the National Weather Service. Special arrangements have been made to accommodate directed educational opportunities for weather service personnel. Discussions are in progress to recruit either part-time/temporary or tenure stream faculty to rejuvenate the climatology/meteorology curriculum in Geography.

   Aside from the department's on-going activities such as occasionally serving as lunch-time speakers at civic functions, faculty and graduate students served with the Albuquerque Public Schools as science fair judges and as judges at the National Geographic Society's
Second Annual Geography Bee for New Mexico's middle school students.

B. PLANS AND RECOMMENDATIONS

The department plans to fine tune its curriculum modernization, continue the negotiations for a senior level Computer Cartographer, promote development of the climatology/meteorology opportunities now emerging, address the question of Geography's role in the Southwest Institute and especially the question of Dr. Williams' role, and create more Memoranda of Understanding between Geography and the resource oriented agencies within New Mexico. We hope to continue our participation in the National Geography Bee to improve geographic literacy. Ultimately, we view the discipline's unique contribution to UNM as residing in Geographic Information Technologies applied to resource survey, economic development and planning. Colleagues across many academic and service units at UNM agree that Geography should be the home for basic research and technical support in spatial data analysis. We are progressing, on a rising level of commitment, toward greater involvement in interdisciplinary activities, individual and joint research efforts, and the creation of a cutting edge curriculum.

C. APPOINTMENTS TO STAFF

Dr. David McGrath, visiting assistant professor, will be working on a MacArthur Grant in Brazil during the 1990-1991 academic year and has been replaced by Dr. David Wall, as a visiting assistant professor from the University of Iowa.

D. SEPARATIONS FROM STAFF

There were no separations from staff.
E. SPONSORED RESEARCH AND OTHER PROJECTS

There is no sponsored research underway in the department. Drs. Cullen, Morain (through Technology Application Center), and Thompson have prepared major proposals to outside agencies, but all are still under review.
THE ANNUAL REPORT
OF THE
DEPARTMENT OF GEOLOGY

July 1, 1989 to June 30, 1990

RUINS OF THE PUEBLO UNA VIDA. WITH THE MÉSA FACHADA IN THE DISTANCE.
Canon of Cucharas.
Department of Geology

Annual Report

July 1, 1989 - June 30, 1990

Stephen G. Wells, Chairman
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GENERAL DEPARTMENTAL INFORMATION
FACULTY AND STAFF OF THE DEPARTMENT OF GEOLOGY

FULL PROFESSORS:

Roger A. Anderson, Ph.D., Stanford University, 1960.
Douglas G. Brookins, Ph.D., Massachusetts Institute of Technology, 1963.
Wolfgang E. Elston, Ph.D., Columbia University, 1953.
Rodney C. Ewing, Ph.D., Stanford University, 1974.
Klaus Keil, Director, Institute of Meteoritics, Ph.D., Mainz University, 1961.
Cornelis ("Kase") Klein, Ph.D., Harvard University, 1965.
Albert M. Kudo, Ph.D., University of California, San Diego, 1967.
Stephen G. Wells, Ph.D., University of Cincinnati, 1976.

ASSOCIATE PROFESSORS:

Michael E. Campana, Ph.D., University of Arizona, 1975.
John W. Geissman, Ph.D., University of Michigan, 1980.
Jeffrey A. Grambling, Ph.D., Princeton University, 1979.
Stephen P. Huestis, Ph.D., University of California, San Diego, 1976.
Barry S. Kues, Ph.D., Indiana University, 1974.
Leslie D. McFadden, Ph.D., University of Arizona, 1982.
Crayton J. Yapp, Ph.D., California Institute of Technology, 1980.

ASSISTANT PROFESSORS:

Christopher K. Mawer, Ph.D., Monash University, Australia, 1981.
PROFESSOR EMERITI:

J. Paul Fitzsimmons, Ph.D., University of Washington, 1949.
Stuart A. Northrop, Ph.D., Yale University, 1929.
Sherman A. Wengard, Ph.D., Harvard University, 1947.

ADJUNCT PROFESSORS:

Adjunct Professor Timothy H. Bell, Ph.D., Adelaide, 1973.
Adjunct Professor Rosemary Buden, Ph.D., Yale University, 1968.
Adjunct Professor Jonathan F. Callender, Ph.D., Harvard University, 1975.
Adjunct Associate Professor William F. Chambers, Ph.D., Duke University, 1967.
Adjunct Professor Ernest S. Gladney, Ph.D., University of Maryland, 1974.
Adjunct Professor Steven J. Lambert, Ph.D., California Institute of Technology, 1975.
Adjunct Professor Spencer G. Lucas, Ph.D., Yale University, 1983.
Adjunct Professor Harrison "Jack" H. Schmitt, Ph.D., Harvard University, 1964.
Adjunct Professor John Shomaker, M.S., University of New Mexico, 1965.
Adjunct Professor Carol L. Stein, Ph.D., Harvard University, 1977.

RESEARCH ASSOCIATES AND POST-DOCTORAL FELLOWS:

Adrian J. Brearley, Post-Doctoral Fellow, Institute of Meteoritics, Ph.D., University of Manchester, Great Britain, 1984.
James Connolly, Research Scientist, Institute of Meteoritics, M.S., University of New Mexico, 1981.
John Husler, Senior Staff Chemist, M.S., University of New Mexico, 1968.
Janusz Janeczek. Research Associate, Ph.D., The Wroclaw University, Poland, 1983.
Michael J. Jercinovic, Post-Doctoral Fellow, Ph.D., University of New Mexico, 1988.
Rhian H. Jones, Post-Doctoral Fellow, Institute of Meteoritics, Ph.D., University of Manchester, Great Britain, 1986.
Horton Newsom, Research Scientist, Institute of Meteoritics, Ph.D., University of Arizona, 1981.
Frank V. Perry, Research Scientist, Ph.D., University of California at Los Angeles, 1988.

Harald Poths, Research Scientist, Ph.D., Johannes Gutenberg University, 1981.


Edward R.D. Scott, Senior Research Scientist, Institute of Meteoritics, Ph.D., University of Cambridge (U.K.), 1972.

Terence V. Sowards, Assistant Scientist, Institute of Meteoritics, Ph.D., University of New Mexico, 1971.

Gary A. Smith, Curator/Staff Scientist, Ph.D., Oregon State University, 1986.

G. Jeffrey Taylor, Senior Scientist, Institute of Meteoritics, Ph.D., Rice University, 1970.


David B. Ward, Research Scientist, M.S., University of New Mexico, 1986.

STAFF:

Judith Binder, Editorial Assistant I

George Carnako, Building Systems Mechanic

Mabel T. Chavez, Editorial Assistant II

George H. Conrad, Microprobe Specialist

Sharon M. Fisher, Staff Assistant

Mohd I. Ghweir, Thin Section Preparator

Gilbert E. Griego, Harding Mine Maintenance Mechanic

Sally E. Hayes, Accounting Technician

Stacy A. Kaser, STEM Laboratory Technician

Dagoberto Lopez, Drafting Technician

Clarence "Leroy" Mason, Electronics Technician

Kenneth M. Nichols, Photograher

Deborah J. Rhue, Editorial Assistant II

Florine Rietmeijer, Lab Aide

Mary L. Sherman, Editorial Assistant II
Diane K. Sparago, Administrative Coordinator
Thomas Servilla, Expert Technician II
Anna M. Smetana, Staff Assistant, Institute of Meteoritics
Steven W. Wageman, Academic Support Aide
SIGNIFICANT ACHIEVEMENTS AND GOALS

Introduction

This report is based primarily upon the individual biographical supplements of faculty and research staff and details our accomplishments in the Department's four main areas of effort: teaching, research, public service and alumni relations. This section of the annual report summarizes the activities and accomplishments of the Department of Geology for the academic year 1989-1990. The short-term and long-term goals of the department as defined by the Chairman and the Department's Long-Range Planning Committee are also presented in this section. Additional information concerning departmental-related activities may be found in the "Annual Report of the Institute of Meteoritics" for the academic year 1989-1990.

Faculty Activities

Position Changes:

There are a number of significant changes that have taken place in the faculty and staff positions in the Department of Geology over the past academic year. We are notably pleased to have Michael E. Campana join the Department during this past academic year as an Associate Professor of hydrogeology. Mike received his Ph.D. in 1975 from the University of Arizona and has served both as an Associate Research Professor at the Water Resources Center, Desert Research Institute and Associate Professor of Hydrogeology at the Mackay School of Mines, University of Nevada-Reno since 1984. Mike's interest are quite diverse and involve the delineation of regional and local subsurface flow systems using integrated hydraulic, isotopic, and geochemical data as well as geothermal hydrogeology and hydrogeologic aspects of high-level radioactive waste disposal. For the first time in the history of our Department, Mike has established a diverse and strong curriculum in hydrogeology and is working closely with colleagues in the Civil Engineering Department on a joint degree in hydrogeology.

It is with deep regret that I report the departure of two faculty members from our department during the past academic year. In June, 1989, Robyn Wright, our clastic sedimentologist, moved to Houston, Texas where
she is teaching and conducting research in the Department of Geology and Geophysics at Rice University. Robyn has left behind several years of contribution, creativity, and enthusiasm in undergraduate and graduate education in our program. In June of 1990, Klaus Keil, Professor and Director of the Institute of Meteoritics, accepted the Chair of the Planetary Geosciences Division at the Institute of Geophysics, University of Hawaii. Klaus has provided 22 years of excellence in teaching and research as well as dedication and accomplishments that elevated the Institute of Meteoritics to international recognition. Klaus is joined by Drs. Jeffrey Taylor and Edward Scott, both who contributed significantly to the Department as research scientists and educators.

Two extensive national searches were conducted to replace the faculty positions in sedimentology/stratigraphy and in meteoritics/planetary materials as well as Director of the Institute of Meteoritics. We were fortunate to attract Dr. Maya Elrick and Dr. James J. Papike for these positions, respectively, and both will join our faculty in the fall of 1990.

Maya Elrick, Assistant Professor, received her Ph.D. in 1990 from the Department of Geosciences at Virginia Polytechnic Institute and State University, Blacksburg, Virginia. Her interests include field studies and computer modeling studies of carbonate rocks and applications toward paleoclimatic studies. She is co-leading a Geological Society of America Short Course on "Computer modeling of cyclic carbonate sequences" for the 1990 Dallas meeting.

Jim Papike will assume the position of Professor in the Department and become the third Director of the Institute of Meteoritics on July 1, 1990. Jim comes to the Department from the South Dakota School of Mines and Technology where he was Distinguished Professor in the Department of Geology and Geological Engineering and as Director of the Institute of Mineral Deposits and the Engineering and Mining Experiment Station. In addition to the tremendous administrative experience that Jim will bring to this position, he will provide years of expertise in teaching and research in the fields of crystal chemistry of magmas, volcanology, and comparative planetology.
Departmental Committees:

DEPARTMENT OF GEOLOGY
COMMITTEES
(REVISED AUGUST 1989)

GRADUATE COMMITTEE
J. Geissman
W. Elston
J. Grambling
L. McFadden
M. Campana

COLLECTIONS COMMITTEE
K. Keil
R. Ewing
B. Kues
G. Smith
B. Kudo

UNDERGRADUATE COMMITTEE
C. Klein
L. Crossey
R. Anderson
C. Mawer
B. Kues
L. Woodward

COMPUTER USE & PLANNING COMMITTEE
S. Huestis
J. Geissman

SCHOLARSHIP COMMITTEE
C. Yapp
L. Woodward
B. Kudo

FEE PROFESSORSHIP
L. Woodward
S. Wells

LONG-RANGE PLANNING COMMITTEE
K. Keil
D. Brookins
R. Ewing
C. Klein
L. McFadden
L. Crossey
W. Elston

VEHICLE COMMITTEE
C. Mawer
W. Elston
J. Geissman

SCHEDULE COMMITTEE
L. Woodward
R. Ewing
S. Wells

LECTURE & COLLOQUIUM SERIES COMMITTEE
B. Kudo
J. Grambling
L. Crossey

ALUMNI RELATIONS COMMITTEE
D. Brookins
L. Woodward

DEPARTMENTAL PUBLICATIONS
B. Kues (Editor)

10
LIBRARY LIASON/READING ROOM

S. Huestis

THIN SECTION LAB

J. Grambling
B. Kudo
C. Mawer

SEDIMENTOLOGIST SEARCH COMMITTEE

L. McFadden
B. Kues
L. Crossey
C. Klein
J. Geissman
G. Meyer

IOM DIRECTOR/PROFESSOR OF GEOLOGY SEARCH COMMITTEE

W. Elston
R. C. Ewing
C. Klein
K. Keil
A. Pun
Sabbatical Activities:

Dr. Rodney C. Ewing was on sabbatical leave from August 15, 1989 to May 15, 1990, pursuing research programs in three areas. Rod continued his research efforts on the interactions of heavy-particles with crystalline materials and on corrosion of low-silicate glasses and initiated a research program to study the low-temperature alteration of natural \( \text{UO}_2 \) under oxidizing conditions. He served as a visiting research scientist or faculty at several institutions, including Centre D'Estudes Nucleaires de Fontenay-Aux-Roses, Commissariat A. L \( \text{Energi Atomique} \); Japan Atomic Energy Research Institute, Department of Environmental Safety Research; Kernforschungszentrum Karlsruhe, Institut für Nukleare Entsorgungstechnik; and National Academy of Sciences Faculty Exchange Program to Charles University, Prague, Czechoslovakia.

Dr. Albert M. Kudo was on sabbatical leave during Spring semester of 1990 and conducted many diverse projects. During this time, Bert continued his research on Pico de Orizaba in Mexico and initiated a project with Dr. E. I. Smith of University of Nevada-Las Vegas on volcanic rocks in the Lake Mead area. Bert spent approximately one month in Italy working with Dr. Corrado Cigolini on a paper entitled "The petrology of Poas Volcano lavas: Basalt-andesite relationship and their petrogenesis within the magmatic arch of Costa Rica" and also completed a proposal to submit to the National Science Foundation to study the petrology and geochemistry of igneous rocks in the Carlin gold mine district of Nevada.

Dr. Roger Y. Anderson was on sabbatical leave during Fall semester of 1989. During his sabbatical leave, Roger served as a Visiting Scientist for NOAA at their new "think tank" facility in Monterey, California. Roger's principle task was to design a program to use NOAA's facilities and expertise to calibrate proxies for use in the Global Change program. While in Monterey, Roger participated in research to develop and test sediment trapping methods, and he assisted in deploying and recovering traps during research cruises in Monterey Bay under the auspices of the Monterey Bay Aquarium Research Institute.

Faculty Reviews:

The code four (internal) review of Dr. Laura Cressey and the code five (internal) review of Dr. Chris Mawer were completed on November 28, 1989. During the fall and spring semesters, an updated two-year review of the
Department’s associate professors was conducted. These reviews included:

- Dr. Leslie D. McFadden - November 15, 1989
- Dr. Barry S. Kues - February 19, 1990
- Dr. Jeffrey A. Grambling - March 26, 1990
- Dr. Crayton J. Yapp - April 10, 1990
- Dr. Steven P. Huestis - April 17, 1990
- Dr. John W. Geissman - May 1, 1990

Faculty Retreat:

On February 16th and 17th, 1990, our faculty met at the El Dorado/Clarion Inn in Santa Fe, New Mexico, for the first faculty retreat of the Department of Geology. The primary goal of the retreat was the building of a dialogue and a foundation for long-term planning in the Department. Detail issues from the retreat are summarized in the section on "Significant Plans and Recommendations." All but two faculty members attended the retreat which included a reception/cocktail hour and dinner on Friday evening, an informal social gathering of two-thirds of the faculty in the El Dorado lounge late Friday night, and faculty discussions led by members of the Long-Range Planning Committee on Saturday. The retreat was supported graciously by the Caswell Silver Foundation, which is most appreciated by the faculty.

Research and Administrative Staff

During the 1989 and 1990 academic year, we have filled two research staff positions and an administrative staff position. Dr. Gary A. Smith, the Caswell Silver Research Professor of Geology from 1987 to 1989, was appointed Departmental Staff Scientist/Curator in Fall of 1989. In addition to Gary's outstanding efforts in research, he supervises the Department's extensive research and teaching collections of 17,000 fossil, mineral, and rock specimens. Gary has made considerable endeavors toward establishing a computer data base to maintain the Department’s collection catalogs. Dr. Lu Min Wang from Argonne National Labs assumed the position of Senior Research Associate and Electron Microscopist in Spring of 1990. Lu-Min is responsible for the Analytical Electron Microscopy laboratory which houses the JEOL 2000FX AEM and attached Tracor-Northern TN5500 energy...
dispersive spectrometer.

Ms. Diane K. Sparago assumed the new position of Departmental Administrative Coordinator in October of 1989. Diane comes to the Department with 15 years of personnel management and administrative experience. Diane's responsibilities not only involve supervision of the lesser grade administrative, secretarial, and clerical personnel but include preparation and revision of the annual budget, assistance with long-range planning of departmental objectives, organization restructuring, and staffing policies and procedures.

Teaching Activities and Accomplishments

Student Enrollments Trends:

Student enrollments for the department, as indicated by total student credit hours (SCH), for the 1989-90 academic year were 7804 as compared to 7761 for the academic year 1988-89. The similarity in total SCH between the two academic years reflects an increase in semester student credit hours (SSCH) of 4.8% for Fall 1989 as compared to Fall 1988 and a decrease of 4.3% for Spring 1990 as compared to Spring 1989. A five-year comparison of Fall and Spring SSCH indicates a 36.3% and 21.5% increase, respectively. The dramatic long-term increases in SSCH have taken place in the lower division courses where enrollment has increased 74.9% and 35.6% for the Fall and Spring semesters, respectively. These trends measure an increase in the interest in the field of geology by the general student population as our increased lower-division course offerings illustrate the diversity and importance of geology.

All tenure-stream faculty, recognizing that we depend on attracting majors from introductory courses, take turns teaching lower division courses. The relative percent of lower division SSCH derived from nontenure stream (i.e., part-time and TA) instructors to SSCH derived from tenure-stream faculty for our department is 16.5%, measuring the involvement of full-time faculty in undergraduate education. Except for the Chemistry Department, this percentage is the lowest when compared to all other science and math departments in the College of Arts and Sciences. In addition, tenure-stream faculty in our department continue to enhance their role in both undergraduate and graduate education. The semester student credit hours (SSCH) for tenure-stream faculty during the of Fall 1989 were 3477, a 4.9% increase above the three-year average SSCH. Enrollment during the
Spring 1990 semester, at 3433 SSCH, represents a 3.6% increase above the three-year average SSCH. Our Department's SSCH per FTE compares most favorably with other science and math departments in the College of Arts and Sciences, especially given that many courses are required by the University in these departments (see Table 1).

Table 1. Comparison of average CHE-weighted SSCH/FTE for science departments in the College of Arts and Sciences.

<table>
<thead>
<tr>
<th>Department</th>
<th>Weighted SSCH/FTE</th>
<th>Courses Required by UNM</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthropology</td>
<td>17,552</td>
<td>no</td>
<td>7</td>
</tr>
<tr>
<td>Biology</td>
<td>26,440</td>
<td>yes</td>
<td>4</td>
</tr>
<tr>
<td>Chemistry</td>
<td>42,941</td>
<td>yes</td>
<td>1</td>
</tr>
<tr>
<td>Geography</td>
<td>23,092</td>
<td>no</td>
<td>5</td>
</tr>
<tr>
<td>Geology</td>
<td>28,938</td>
<td>no</td>
<td>3</td>
</tr>
<tr>
<td>Math</td>
<td>20,689</td>
<td>yes</td>
<td>6</td>
</tr>
<tr>
<td>Physics</td>
<td>32,662</td>
<td>yes</td>
<td>2</td>
</tr>
</tbody>
</table>

A significant decline in geoscience majors has occurred throughout the United States during past 7 years, with nationwide enrollments dropping from over 350,000 in 1983 to 150,000 in 1989. This decline is primarily in response to perceived negative outlook for employment of majors (A. Mirsky, 1990, Journal of Geological Education, p. 208-212). Our positive enrollment trends in the lower division courses demonstrate that the broad and continued interest in the field of geology exists. Compared with steady-to-declining SSCH in the upper division courses due to declining majors, a major goal of our department is to convert more students into geology majors.

Our department has considered several measures and has taken significant steps toward enhancing the number of majors within the department via curriculum changes and public relations. We have redesigned our B.A. degree requirements to encourage students seeking broader educational experiences in the supporting and environmental sciences (see Table 2). We have compiled a list of job opportunities for students with undergraduate degrees in geology in order to illustrate that employment opportunities are more diverse and
Table 2: Undergraduate B.A. Degree Program In Geology

**B.A. Geology Required Courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>101, 105L</td>
<td>Physical Geology and Lab</td>
<td>4 cr.</td>
</tr>
<tr>
<td>102, 102L</td>
<td>Historical Geology and Lab</td>
<td>4 cr.</td>
</tr>
<tr>
<td>255L</td>
<td>Field Geology of New Mexico</td>
<td>4 cr.</td>
</tr>
<tr>
<td>321L*</td>
<td>Introductory Mineralogy and Lab</td>
<td>3 cr.</td>
</tr>
<tr>
<td>322L*</td>
<td>Introduction to Petrology and Lab</td>
<td>3 cr.</td>
</tr>
<tr>
<td>307, 317L</td>
<td>Structural Geology and Lab</td>
<td>4 cr.</td>
</tr>
<tr>
<td>401</td>
<td>Seminar</td>
<td>1 cr.</td>
</tr>
<tr>
<td>490</td>
<td>Geologic Presentation</td>
<td>1 cr.</td>
</tr>
</tbody>
</table>

and 12 additional hours in Geology above 299 (excluding Geol. 401 and 490), with at least 6 hours at the 400 level.

Total credits for this Geology sequence = 36.

*two new courses with two lectures and one lab per week (to be given in 1990-91).

**Non-geology Required Courses:**

Chem 111L, and 12 additional hours from either Chemistry or Mathematics 162 or above, or Physics 151 or above, or Biology 121 or above. Total credits in these sciences = 16. This degree program is to the recommended route for preparation for graduate school in earth sciences.
plentiful than perceived by the public (see Table 3). Our Department is working on outreach programs with APS and other schools throughout the State as well as inreach programs to recruit students from the College of Engineering.

Interdisciplinary Program in Hydrogeology:

A tentative proposal for a graduate program in hydrogeology leading to a Master of Science degree made significant progress and will be a program administered jointly by the Department of Geology and the Civil Engineering Department. Students in the program will work toward an M.S. degree in one of these two departments with a course sequence and research emphasis in hydrogeology. This emphasis will hopefully be reflected on the student's official transcript, and upon graduation the student will receive a certificate of an academic program in hydrogeology. All thesis committees will have at least one member from the Department of Geology and one from the Civil Engineering Department. Detailed plans were considered for entrance requirements, degree requirements, and curriculum offerings. We believe that such a program will enhance graduate education in our department as well as in the College of Engineering.

Activities in the Graduate Program in Water Resources Administration:

Several faculty members participated on the UNM Interdisciplinary Water Curriculum Committee and helped established the new graduate program in Water Resources Administration. In addition, several faculty participated in teaching efforts within the three core curriculum courses now offered in the new academic program.

Commencement Activities:

The 1989-90 academic year commencement exercise took place in the Geology Department on May 12, 1990. Degrees for B.A., B.S., M.S., and Ph.D. candidates were awarded in the Geology Lecture Hall with most of the faculty present in academic robes. The commencement address was given by Dr. Harrison H. Schmitt (Apollo 17 astronaut, former U.S. Senator for New Mexico, and adjunct faculty member from our Department). There was a very good attendance at the ceremony by candidates, faculty, and their families and friends. After the ceremony, all candidates and their guest were treated to a luncheon in the Geology and Building. The lawn in front of Northrop Hall as well as the Geology Museum provided space for luncheon get-togethers. Dr. Cornelis "Kase" Klein was helpful in making the arrangements and insuring the success of the ceremonies.
Table 3: Job Opportunities With Undergraduate Degrees In Geology

You choose the B.S. or B.A. route in Geology at UNM. The B.S. degree, because of its heavy emphasis on related sciences, as well as a strong dose of geology, is the best degree for continued study in geology in graduate school (M.S. and Ph.D.). A Master's degree in Geology is commonly a basic requirement for employment in the traditional fields such as represented by oil companies and the mineral industry. A few students annually are hired nation-wide with only an undergraduate degree by the oil and mineral industries.

The two undergraduate degrees, B.S. and B.A., will provide graduates with excellent opportunities for employment in the area broadly classified as "environmental sciences." Such graduates are eligible for employment by a wide range of agencies and consulting firms. Examples are:

FEDERAL, STATE and some LOCAL Agencies — Environmental Protection Agency (EPA), Nuclear Regulatory Agency (NRC), Department of Energy (DOE), U.S. Geol. Survey (USGS), NM Environmental Improvement Division (EID), NM Surface Minerals Department (SMD) — city departments for geology and hydrology.

LARGE CONSULTING FIRMS such as Rockwell, Battelle, Dames & Moore, Bechtel, SAIC (Science Applications Inc., Co.), International Technology, Weston, Inc., Jacobs Engineering, Westinghouse, and others heavily involved in such matters as chemical and radioactive waste disposal, mill tailings, siting of waste facilities, water quality, and others.

What these companies are often looking for is someone with geology expertise, and the level of mathematics, chemistry and physics that accompany the undergraduate programs including elementary computer training.

Superfund alone will double the present 6.5 billion (period 1985-1990) to nearly 14 billion dollars for 1991-1995, and individuals with geologic training will have good chances of employment.

SMALLER CONSULTING FIRMS, including many in the New Mexico area, often contract directly with the Federal or State Government or are subcontractors for the large Consulting Firms. While many of these firms are not terribly well established yet, there is an assurance of their need and stability over the next few decades and, very simply, they need environmentally oriented geologists!

NATIONAL LABORATORIES, such as Los Alamos, Sandia, Lawrence Berkeley, Lawrence Livermore, Oak Ridge, Brookhaven, Argonne, Battelle, etc. will hire B.A. and B.S. level geologists training for numerous projects.

Furthermore, the B.A. or B.S. programs are excellent training toward Earth Science teaching.

Students majoring in Geography, Anthropology, Biology, and Archeology may commonly select a minor program in Geology.

In short, Geology programs at UNM offer ways to employment in a wide range of endeavors, of which environmental geology is a very rapidly developing and important employment category.
Research Activities

Research Funding:

The faculty, research staff, and students of the Department continued their dedication to high-quality research and publication and to incorporation of this research into instruction and education of both graduates and undergraduates. We view research as one of our most important teaching tools. Many faculty support both graduate and undergraduate students on their research grants, thus offering an excellent mentoring process.

The past year has been very successful for our research endeavors. Our faculty, research staff, and students published a total of more than 234 professional materials during 1989. In 1989 members of the Department and Institute of Meteoritics produced 2 authored books, 2 edited books, 43 articles in referred journals, 45 articles in conference and symposium proceedings, 10 book chapters, 1 geologic map, 3 book reviews, 11 additional articles, 13 technical reports, and 104 abstracts. We presented dozens of talks at scientific meetings and participated as officers, editors, members of panels and boards, etc. in many professional organizations and societies, both national and international.

Faculty and research staff continue to attract a large number of grants and contracts to the Department in support of their research and that of graduate students. During the past two years Departmental and Institute of Meteoritics research was supported by more than 90 external grants and contracts. Total contracts and grants in effect for the Department of Geology personnel in 1989 amounted to $3,680,000 and of the total value new (1989) grants and contracts obtained by faculty and research staff was $1,411,000.

Our grant and contract expenditures have increased 30% over the past three years, indicating our growing success in funded research. Our Department (excluding the Institute of Meteoritics) fairs exceptionally well in contract and grant expenditures per FTE when compared to science departments in the A&S College (see Table 4). We rank second out of all science departments in our 1989-90 expenditures, indicating a high level of productivity per full-time faculty member.
Table 4. Comparison of 1989-90 contract and grant (C&G) expenditures per FTE for science departments in the College of Arts and Science.

<table>
<thead>
<tr>
<th>Department</th>
<th>C&amp;G Expenditures/FTE</th>
<th>Rank</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthropology</td>
<td>$10,821</td>
<td>5</td>
<td>Excludes OCA</td>
</tr>
<tr>
<td>Biology</td>
<td>$46,319</td>
<td>4</td>
<td>Excludes LTER</td>
</tr>
<tr>
<td>Chemistry</td>
<td>$52,654</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Geography</td>
<td>$0</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Geology</td>
<td>$51,069</td>
<td>2</td>
<td>Excludes IOM</td>
</tr>
<tr>
<td>Math</td>
<td>$4,647</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Physics</td>
<td>$48,509</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Significance of Research Activities to Graduate Student Support:

Approximately 80 graduate students pursued Master's or Doctoral degrees in the Department in 1988 and 1989. Of this number, about 50 students per year were supported by teaching or research assistantships, or by Silver-Kelley Fellowships. The relative number of teaching and research assistantships awarded per year was 18 and 31, respectively. Thus the Department provides a ratio of 2:1 for graduate students supported on our research grants compared to those supported by UNM teaching assistantships. Without the student support furnished by our research grants and contracts, the Department would not remain competitive with other universities in attracting top-flight graduate students.

Research Initiatives:

Several initiatives were undertaken by the Department to enhance research opportunities within the university and to provide synergism with the national labs in the State of New Mexico. Such initiatives illustrate the creative forces within our department to meet new challenges and to adapt to changes in our profession. These initiatives are described below.

A. Proposal for Enhancing Opportunities for UNM in Future Space Exploration via a Center for Planetary Science, by Jeffrey Taylor and Stephen G. Wells

"I'm proposing a long-range, continuing commitment. First, for the coming decade—Space Station Freedom—our
crucial next step in all our space endeavors. And next for the new century—back to the Moon. Back to the future. And this time, back to stay."--President George Bush, July 20, 1989.

In his speech from the steps of the National Air and Space Museum, President Bush honored the 20th anniversary of the Apollo 11 lunar landing by proposing a broad, far-reaching space exploration program for the United States. He directed NASA to determine the steps and costs of realizing his grand vision. Because of our long-term record of accomplishment in planetary science, UNM is poised to play a key role in this adventure. UNM scientists are already actively involved in developing the scientific strategies for lunar exploration. The establishment of a strongly supported Center for Planetary Sciences under the auspices of the Institute of Meteoritics and Department of Geology would make the University truly competitive in this effort. This report describes the strong programs in planetary sciences and related fields, outlines future opportunities, and explains why establishment of a Center will enhance the University's capabilities.

On the threshold

Over the past three decades the Geology Department and Institute of Meteoritics have enjoyed active and cooperative roles in UNM's research effort. Since the 1960s the Department and Institute have accumulated approximately $15,000,000 in external funding and have graduated over 1200 students, many of whom have gone on to become geology professors across the country. There is both a rich history for the Department and Institute and a promising future in many directions, especially in planetary science. Over the past twenty years, under the dynamic leadership of Dr. Klaus Keil, the Institute of Meteoritics has become an internationally renowned research center for the study of planetary materials. Through Keil's efforts and UNM and NASA funding the meteorite collection has grown to one of the best in the world. The analytical facilities for planetary materials research are among the most sophisticated and competitive facilities of any university of the United States. These facilities include two electron microprobes, a scanning electron microscope, an analytical scanning transmission electron microscope, and a neutron activation laboratory. Many other modern analytical instruments are housed in the Department of Geology. For these accomplishments and many more, Klaus Keil was awarded the highest and most prestigious award of the Meteoritic Society, the Leonard Medal.

Institute research staff members have received national and international acclaim for their work. For
example, many of the Institute staff have been on or are now on national committees related to planetary research, including:

Committee on Planetary and Lunar Exploration (National Academy of Sciences). This group develops strategies for the exploration of the solar system.

Lunar and Planetary Geosciences Review Panel (NASA). This committee reviews proposals to two NASA programs involving about $18 million. One Institute scientist chaired the committee for three years.

Lunar and Planetary Sample Team (NASA). This one makes recommendations to the Lunar Sample Curator about how to allocate lunar samples for research and for resource utilization experiments. Two Institute scientists have chaired this committee.

Antarctic Meteoritic Working Group (NASA, the National Science Foundation, and the Smithsonian Institution). This one allocates meteorite samples found in Antarctica through a three-agency program called the Antarctic Search for Meteoritics.

We are on a threshold that could bring continued and probably higher distinction to UNM. Over five years ago a distinguished review panel (composed of K.B. Krauskopf, Stanford University; R. Brett, NSF/U.S. Geological Survey; and R.P. Sharp, California Institute of Technology) noted this and concluded that the potential for raising the stature and contributions of the Geology Department/Institute of Meteoritics to distinctly higher levels was "great" if not "terrific." The panel, based on its observation of "peaks of excellence" such as the Institute of Meteoritics and the emerging Quaternary Studies program, recommended that the Department adopt the "consortium approach" in future research. Through this approach, synergism blossoms and "results in more effective research that can be accomplished by a number of individuals working independently."

The promising future

Present research in planetary science in the Institute of Meteoritics and Department of Geology is aimed at understanding the myriad of processes that formed and shaped the planets, including our own. Studies range from examinations of the first bits of solid materials that formed in the solar system--the building blocks of the planets--to the most recent history of Earth's climate--the past helping us understand the present and future. Other efforts involve planning future space missions. Some of this work is done in collaboration with scientists in the Department of Physics and Astronomy, Sandia National Laboratories, Los Alamos National Laboratory, the University of Washington, the Jet Propulsion Laboratory and the Johnson Space Center. Future mission studies involve collaborations with engineers in the Departments of Mechanical Engineering and Civil Engineering, BDM
International, and the Jet Propulsion Laboratory.

This active program in planetary materials research could be greatly magnified by future events if UNM scientists can take advantage of the expected opportunities in the future (see attached chart). As Voyager passes the last planet in the solar system, Magellan is circling toward Venus. Mars Observer, a spacecraft that will orbit Mars, photographing and conducting geochemical mapping in detail, is being assembled. The comet-rendezvous/asteroid fly-by (CRAP) mission awaits congressional approval. Presidents Bush's plans call for a Lunar Observer mission, which will map the Moon geochemically, and later, a possible Mars sample-return mission. The centerpiece of the President's program is the establishment of a permanent base on the stark lunar surface, followed by human exploration of Mars. Finally, Mission to Planet Earth will be an essential part of the future U.S. space program. This program will help us solve monumental environmental problems such as ozone depletion, global warming, and acid rain.

UNM planetary scientists will certainly be able to participate in many of these programs. Some are the leading experts in their fields, so we may count on them to take part in future missions and related activities, and to receive the funding that goes with it. NASA routinely seeks their advice; for example, UNM scientists helped develop the scientific rationale for future missions to the Moon and comets are actively involved in planning the scientific payloads these missions will carry. Nevertheless, the degree of our involvement will be enhanced greatly if the University takes some bold steps now. One step is relatively simple: enhance the image-processing capabilities of the Department of Geology and Institute of Meteoritics. This will allow access to data from new missions and use of existing data. It would be wise to integrate these facilities with those of the Technology Applications Center. The other step is more dramatic: establish a Center for Planetary Science.

Benefits to the State of New Mexico

The University of the State can benefit from the coming boom in space exploration in a number of ways. The most important of these are an influx of funding to the State, fascinating educational opportunities for students at all levels, and an improved climate in which to attract and foster high technology businesses.

Funding prospects

The missions and programs the NASA will undertake in the coming decade (Chart 1) will result in a flow
of money to the scientists and engineers involved. Based on our past experience, we have made estimates of the amount of funding we can reasonably expect here at UNM (Chart 2), assuming relatively modest additional support as outlined at the end of this section. These estimates are for funding over what we now receive. During the decade 1990 to 2000, it seems certain that UNM scientists and engineers would be able to garner at least $7,000,000. If the Center of Extraterrestrial Engineering and Construction (CETEC), a joint project between UNM, Los Alamos, and private enterprises, is funded by NASA and other sources, we may reasonably expect an additional $10,000,000. Even during the next two years (1990-1992), planetary sciences at UNM could bring in an additional $640,000.

The potential for funding during the first twenty years of the next millennium are astonishing, though much more difficult to estimate. Assuming establishment of a Lunar Base in 2001 and an automated sample return mission from Mars in 2004 (present NASA plans), and ignoring the strong possibility of piloted missions to Mars, we estimate that UNM could attract about $25,000,000. If we are actively involved in construction and operation of lunar facilities (e.g., astronomical observatories on the Moon, teleoperation of robotic geologists on the Moon), UNM and its private corporate partners could be key players in projects costing hundreds of millions of dollars.

**Educational benefits**

Curricula at UNM will clearly benefit from an expansion of our space activities. New courses will be developed with departments. More importantly, innovative, interdisciplinary courses can be created. For example, Civil Engineering, Mechanical Engineering, and Geology could offer a course in extraterrestrial mining and construction. One might envision an entire program in engineering, construction, and operation on extraterrestrial bodies.

The benefits reach far beyond UNM. Programs can be developed for educating public school teachers in space sciences and engineering. Perhaps such programs could be coordinated by the School of Education. This would allow the excitement generated at UNM to diffuse to our young people throughout the State. In addition, special programs for scientifically-inclined students could be run during schools breaks, especially during the summer. UNM could play an active role in Project Uplift, as we did during Space Exploration '89, the UNM Centennial event celebrating space science and engineering at the University. The possibilities seem endless.
An active program in space science at UNM will enhance opportunities for collaboration between the University and local businesses, both large and small. Projects can include both research and equipment design and manufacture. Local corporations ought to be encouraged to be part of the UNM Center for Planetary Sciences. Student could work part-time for companies while going to school. This would enhance training and improve their employment prospects. A vigorous space program at UNM would help attract high technology enterprises to New Mexico, providing better economic opportunities for our young people.

The investment needed to reap the benefits

To put the University in a position to achieve all this, the State must supplement the University's budget. To launch a Center for Planetary Sciences, an annual budget of about $1,130,000 will be needed. These funds could be used to increase the number of faculty and research staff positions in areas of planetary science, astronomy, and engineering. If departments were enthusiastic about our future in space, more positions could be developed by combining departmental funds with center funds. Some of the money could be used to give faculty members reduced teaching loads; this investment would be especially wise if made a critical times, such as when significant proposals were due. Center funds could also be used to support an increase in the number of Research Scientists and for training efforts for postdoctoral fellows and graduate students. Some of the Center's funds would undoubtedly be used for equipment purchases, although major investments would be precluded. Finally, the Center would use some of its funds to organize symposia. At first, these would be for the benefit of UNM and potential local partners. Eventually, it could run symposia of broad national and international appeal. Once established, the Center could also focus on the more aesthetic aspects of space explortion by organizing meetings on science writing, science fiction, and space art.

The need for a Center: focus, communication, direction, and enhanced opportunities

We envisage an interdisciplinary Center for Planetary Sciences that will cut across administrative boundaries within the University. Under the auspices of the Institute of Meteoritics and Department of Geology, the Center could include programs in Physics and Astronomy as well as other programs in Arts and Sciences, Engineering, Public Administration, Education, Architecture, and the Technology Applications Center. Collaborations will be
easier to initiate and maintain, both within UNM and between UNM scientists and engineers and those at other universities and the National Laboratories. Such Centers are successful elsewhere. For example, Washington University in St. Louis has developed the McDonnell Center for the Space Sciences. Closer to home, the University of Arizona has organized the Center for the Utilization of Local Planetary Resources, which is developing techniques to mine the Moon, Mars, and asteroids. The main reasons why UNM needs a Center rather than loose alliances are as follows:

**Focus.** A Center can pull together disparate units in the University. Just as New Mexicans are also citizens of the United States, members of the Center need not think of themselves as belonging only to their own department, but to the Center as well. It can help encourage interdisciplinary research and coordinate development of expensive facilities that a single department could not afford. This is flourishing in the aforementioned institutions.

**Communication.** Collaborations usually develop when two or more scientists discover that they are working on the same problem, but from different directions. Communication is the key to initiating and maintaining strong collaborative research efforts. The existence of a Center at UNM would amplify communication at the University.

**Direction.** Collaborations involving two or three investigators do not need to be organized by a Center. However, large efforts involving many investigators from several disciplines require leadership. A Center for Planetary Sciences can facilitate the organization of large-scale projects and coordinate the writing of proposals.

**Enhanced opportunities.** If the U.S. space program booms as expected, there will be large projects for which only large organizations will be able to compete. An established Center will be able to organize the complex process of writing a large proposal. More importantly, it will enter the process with credibility, a quality that a hastily-arranged amalgamation of scientists and engineers cannot match. The UNM Center would be a viable concern, an organization with a dazzling record of accomplishment.

Impressive funding and fascinating science will be within easier reach by the establishment of a Center for Planetary Science at UNM. With an active program of planetary exploration ahead, the time to act is now. As President Bush said in his speech on July 20: "We cannot take the next giant leap for mankind tomorrow unless we take a single step today."
## UNM OPPORTUNITIES IN SPACE EXPLORATION

<table>
<thead>
<tr>
<th>Mission or Program</th>
<th>Launch or Start Date</th>
<th>Objectives</th>
<th>UNM Involvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magellan</td>
<td>1989</td>
<td>Radar mapping of the surface of Venus</td>
<td>Guest Investigator</td>
</tr>
<tr>
<td>Mars Observer</td>
<td>1994</td>
<td>Geochemical and geophysical mapping of Mars</td>
<td>Guest Investigator, Analog studies on Earth, Meteorite studies</td>
</tr>
<tr>
<td>Origins of Solar Systems</td>
<td>1990</td>
<td>Interdisciplinary research</td>
<td>Research in meteoritics and star formation</td>
</tr>
<tr>
<td>Lunar Observer</td>
<td>1996</td>
<td>Geochemical and geophysical mapping of the Moon</td>
<td>Mission planning, Instrument Team member, Interdisciplinary scientist</td>
</tr>
<tr>
<td>CRAF</td>
<td>1996</td>
<td>Rendezvous with comet; study in detail</td>
<td>Scanning electron microscope team member</td>
</tr>
<tr>
<td>Mission to Planet Earth</td>
<td>1995 on</td>
<td>Global monitoring; remote geological studies</td>
<td>Related ground investigations, Studies of past climate, Detailed remote sensing</td>
</tr>
<tr>
<td>Lunar Base</td>
<td>2001</td>
<td>Permanent human habitation, Numerous scientific studies</td>
<td>Mission planning, Lunar sample studies, Lunar geoscience investigations, Teleoperated science, Astronomical observations, Engineering design and construction, Simulation facility (CETEC)</td>
</tr>
<tr>
<td>Mars Rover Sample Return</td>
<td>1998</td>
<td>Return samples from Mars, Make in situ Investigations</td>
<td>Martian sample studies, Martian in situ studies, Analog studies on Earth</td>
</tr>
<tr>
<td>Mars Base</td>
<td>2020?</td>
<td>Permanent habitation of Mars, Numerous scientific studies</td>
<td>Many opportunities</td>
</tr>
</tbody>
</table>

**CHART 1**
## POTENTIAL UNM FUNDING IN SPACE EXPLORATION: 1990 - 2000

<table>
<thead>
<tr>
<th>Mission or Program</th>
<th>Funding per year (dollars)</th>
<th>Duration (years)</th>
<th>Total Funding (dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magellan</td>
<td>40,000</td>
<td>1</td>
<td>40,000</td>
</tr>
<tr>
<td>Mars Observer: mission</td>
<td>50,000</td>
<td>1</td>
<td>50,000</td>
</tr>
<tr>
<td>Mars Observer: analog studies</td>
<td>50,000</td>
<td>3</td>
<td>150,000</td>
</tr>
<tr>
<td>Origins of Solar Systems</td>
<td>100,000</td>
<td>10</td>
<td>1,000,000</td>
</tr>
<tr>
<td>Lunar Observer</td>
<td>150,000</td>
<td>7</td>
<td>1,050,000</td>
</tr>
<tr>
<td>CRAF</td>
<td>50,000</td>
<td>6</td>
<td>300,000</td>
</tr>
<tr>
<td>Mission to Planet Earth:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ground Studies</td>
<td>50,000</td>
<td>10</td>
<td>500,000</td>
</tr>
<tr>
<td>Remote sensing studies</td>
<td>100,000</td>
<td>10</td>
<td>1,000,000</td>
</tr>
<tr>
<td>Lunar Base:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>geoscience planning</td>
<td>50,000</td>
<td>10</td>
<td>500,000</td>
</tr>
<tr>
<td>robotics</td>
<td>100,000</td>
<td>10</td>
<td>1,000,000</td>
</tr>
<tr>
<td>astronomical observatories</td>
<td>50,000</td>
<td>10</td>
<td>500,000</td>
</tr>
<tr>
<td>engineering design</td>
<td>100,000</td>
<td>10</td>
<td>1,000,000</td>
</tr>
<tr>
<td>CETEC</td>
<td>1,000,000</td>
<td>10</td>
<td>10,000,000</td>
</tr>
</tbody>
</table>
B. Proposal for Geological Instruction and Research at the University of New Mexico's Young Ranch, by Gary Smith.

Vice-President Paul Risser established a committee of faculty and staff from the Biology, Anthropology, and Geology departments to investigate the potential use of the Young Ranch for education and research. Gary Smith representing our Department provided the following proposal to Vice-President Risser.

The Young Ranch is located along the southeastern edge of the Jemez Mountains, one of the world's most spectacular volcanic fields of its type, which developed over the last 15 million years. The culminating eruptions, about 1 million years ago, erupted large volumes of magma in the form of tuff, the orange, cliff-forming rocks that were favored sites for Pueblo occupation. Following these eruptions, the top of the volcanic field subsided leaving the large Valle Grande "caldera". The Jemez Mountains, the tuffs, and the caldera features are classic volcanic features that were purposely selected as the backdrop for an international volcanology congress that was held in Santa Fe in June 1989. The textbook qualities of the geology of the Jemez Mountains make the area an ideal outdoor learning laboratory for students. Only a small part of the geological story of the Jemez Mountains is well understood, however, and much remains to be learned from continued research endeavors, and this is clearly true in the rugged southern part of the range.

As shown on the accompanying map, the Young Ranch, although occupying only a small part of the Jemez Mountains, contains within its boundaries an essentially complete representation of the rock types that comprise the volcanic field. The property also includes a segment of the Pajarito fault zone, a major fracture along which the Rio Grande valley has subsided, relative to the mountains, by more than 100 m in the past 1 million years.

Within the boundaries of the Young Ranch, and on immediately adjacent public lands, can be found a variety of classic geological field relationships which will provide the bases for many innovative research problems covering nearly all disciplines of the geosciences in future years.

The UNM Department of Geology has historically utilized the Jemez Mountains extensively for instructional purposes and has in recent years also initiated numerous research projects. Each year, 2 or 3 field trips are undertaken to the Jemez Mountains to illustrate important aspects of volcanic geology to both undergraduate and graduate students. These groups commonly examine geological relationships in the vicinity of the Young Ranch.
and, last spring, a three-day field exercise for 20 graduate students (G584) was conducted from a primitive camp on the western part of the property.

Drs. Albert Kudo, Wolfgang Elston, and Leslie McFadden have supervised undergraduate and graduate theses that addressed geological problems in and adjacent to the Young Ranch. Beginning in 1988, Dr. Gary Smith initiated what is planned as a long-term research project on a rock unit named the Peralta Tuff, which is spectacularly exposed on the Young Ranch property (the "type locality") and on adjacent public lands. The Peralta Tuff has quickly drawn attention as a unique rock unit whose study may likely change many currently held assumptions about volcanic eruption processes. Dr. Smith has conducted field seminars on the Young Ranch, utilizing tent camps, for UNM students, students from the University of California at Santa Barbara, and a small international group of volcanologists who were among participants of a volcanological conference in Santa Fe this past summer. A large number of research problems remain to be tackled in the Peralta Tuff and associated with other rock units that crop out on, and fault zones that cross, the Young Ranch property.

Field-based geological studies and the preparation of geologic maps play an integral role in the undergraduate geology curriculum at UNM. Two field courses, required of candidates for the B.S. in geology, are taught each summer. Exercises include projects both near to and distant from Albuquerque. The many well-exposed and classic geological relationships represented at Young Ranch have prompted Drs. John Geissman and Gary Smith to tentatively plan to utilize the area as part of the Introductory Field Geology (G319L) course on the western part of the property this year. The instructors are resolving the logistical problems of camping for a number of days, with a modest number of students, under primitive conditions. We anticipate that continued research activities will elucidate further instructional opportunities for students and attract greater attention to the exciting geology of the area.

C. Activities in the Waste Management Education and Research Consortium (WERC)

The Department's participation in WERC program over the past academic year involved providing critical input on the program design, participation on the advisory board, and submitting research proposals for funding. We have worked closely with colleagues in several different UNM colleges, such as the College of Engineering, to assist in developing a viable campus-wide effort in waste management studies.
Since 1984 our Department has taken several initiatives in geologic applications to waste management research and education. Our department has graduated 34 students with advanced degrees who are practicing geology in environmental/hazardous waste studies. We have faculty who are national and international authorities on radioactive-waste disposal research, with one faculty member serving as a National Academy of Sciences panel member. Several other faculty members have conducted research related to hazardous waste disposal and worked with agencies such as Los Alamos National Labs, Sandia National Labs, and the Department of Energy. Over the past four years, we have been conducting educational programs and fieldtrips on the application of geological sciences to radioactive and hazardous waste disposal.

Summary of Public Service Activities

Faculty, staff, and students in the Department continued their dedicated public service at all levels. We continued to maintain and improve our two public museums in the Department, the Geology and Meteoritics museums, which attract thousands of visitors. In the 1989-90 academic year approximately 2655 school children and 500 adults toured the Geology Museum. A self guided tour provides the visitors with leisurely opportunities to learn more about the origin of planet Earth, gem and industrial minerals, evolution of life, and the geology of the State of New Mexico.

Many hundreds of visitors took field excursions to the Harding Pegmatite mine, an area of unusual geological interest in Taos County, which was donated to UNM by Dr. Arthur Montgomery. The Harding property is administered by our Department with the able assistance of Mr. Gilbert Griego of Dixon, New Mexico. The Harding mine is preserved as both a mineral collecting locality and a unique outdoor geological laboratory. It is an important part of the Department's teaching and research program. All visitors are welcome, but first must obtain permission from the Chairperson.

The Department participated in “Showcase UNM” on October 28, 1989 under the direction of Gary Smith with assistance from Ann Smetana, Greg Brittelle, Aurora Pun, Ed Scott, and Dan Larsen. As part of the campus-wide activities, the Geology Department opened the Geology and Meteoritics museums, and Dr. Spencer Lucas, adjunct associate professor, presented a lecture on popular aspects of dinosaur paleontology.
We also participated in many other UNM and civic activities, gave many popular talks in Albuquerque and across the state, and identified (without charge) many rocks, minerals, fossils, and suspected meteorites brought to the Department by interested citizens (see "Non-Teaching University Services" and "Public Service" sections later in this report). In addition, many of our graduate students served as ambassadors to local schools to present talks on geology.

Alumni Programs and Support

Summary of 1989-90:

Alumni support continues to be a very important aspect of our departmental programs. The Caswell Silver Foundation maintains its tremendous support of our Department. Our Kelley-Silver Fellow, Grant Meyer, continued his graduate studies and research efforts under the auspices of the Foundation. Grant initiated a research project on the geomorphic effects of wildfires of Yellowstone National Park, studying both the 1988 fires and paleofires over the past 8000 years. Steve Harlan and Maya Wheelock completed their Kelley-Silver Fellowships this past academic year, having made significant contributions toward their graduate research in paleomagnetism/geochronology and ultramafic rocks of asteroids, respectively. The Foundation continued to support faculty travel to scientific meetings for the purpose of presenting talks, chairing sessions, etc., as well as the Caswell Silver Distinguished Lecture Series, which brings outstanding scholars for short-term visits to the Department. The members of the Board of the Caswell Silver Foundation, upon recommendation of the faculty of the Department, approved several items:

- Increasing the support for Kelley-Silver Fellow for 1991-92 from $12,000 to $16,800 for the stipend, from $1600 to $5500 for tuition, and from $2000 to $3000 for research expenses;
- Increasing the faculty travel allocation from $11,000 to $12,000;
- Increasing the total stipend, fringe benefit, research/travel allocations to $49,700.

Furthermore, the annual award of two Caswell Silver Meritorious Staff Awards in the amount of $500 each to two outstanding, non-academic staff members of the Department were continued. These awards are meant to be an expression of the deep appreciation of our faculty for the dedicated and invaluable services that our staff
are providing to all of us in the Department and Institute. The awards for the 1989-90 academic year were given to Deborah Rhue (Department Editorial Assistant) and Ann Smetana (Staff Assistant for the Institute of Meteoritics).

Our Geology Department Alumni Fellowship Fund, through the generosity of many alumni, friends, and industry has grown in the report period. This fund is used to supplement stipends of outstanding graduate students, in an attempt to attract them to our Department. In view of the generally low stipends for Teaching and Research Assistants, additional stipends from our Alumni Fellowship Fund have been very instrumental in bringing outstanding students to the Department who otherwise would not have come to UNM. Donors to the fund are listed in Appendix X. Furthermore, the Vincent C. Kelley Fellowship Fund was set up in memory of our colleague and friend, Vin Kelley, the proceeds of which will also be used to support graduate students.

The Department realizes the importance of maintaining close contacts with alumni and friends. To this end, we have periodically mailed newsletters and our 1986 Research Report of the Department of Geology and Institute of Meteoritics to more than 800 individuals. Through the efforts of our alumnus, Pat Gratton, a UNM Geology Department Alumni reception was once again held at the AAPG convention. This year, the meeting was in San Francisco, California. A total of 35 alumni and friends attended the event. This year we memorialized Paul R. Kulka (B.S., 1957), who died unexpectedly on 23 September, 1989. Paul was the joint founder (with Pat Gratton) of the original UNM reception at the AAPG Convention in San Francisco (1981), having been successfully "prompted" by Sherm Wengerd! To honor Paul's memory, interested parties provided funds to UNM Geology Department for Paul Kulka Memorial Scholarship.

**Future Events for Alumni and Faculty:**

In the tradition of the 1987 Kelley/Northrop symposium, the Department of Geology is sponsoring a series of events in September of 1990 to gather friends, faculty, and students in honor of Sherman Wengerd and Paul Fitzsimmons, Professors Emeriti. This year marks Sherm's 43rd year of service to the Department and Paul's 41st year of service. The events will include a symposium (including guest speakers and panel discussion), a reception in the Geology Museum, a banquet in honor of Sherm and Paul, a Departmental open house, and geologic field trips.
The events begin on late Friday afternoon, September 28th, 1990, with a reception in the Geology Museum. This should be an ideal time to renew old friendships and see the recent changes that have occurred in the Department. In addition, the Department will host an open house featuring departmental laboratories, teaching facilities, and posters summarizing the research of students and faculty. The following morning, September 29th, a symposium entitled "The Future Evolution of Geology" will commence and include guest speakers and a panel discussion on the challenges and directions of the field over the next decade. After the symposium, there will be a barbecue on the lawn of Northrop Hall for participants of the symposium. That evening, we will meet at a banquet and recognize the contributions that Sherm and Paul have made to the department, education, and their profession. A special highlight of the banquet will be the presentation of a bound volume which will include a history of Sherm's and Paul's contributions to the Department along with personal notes and memorabilia from alumni and friends.
SIGNIFICANT PLANS AND RECOMMENDATIONS

The Department established for the first time in the 1989-90 academic year a long-range planning committee. The primary goal of this committee is to provide guidance, suggestions, and recommendations for long-range planning in the areas of (1) undergraduate and graduate curriculum, (2) public relations, (3) directions and goals of the department, and (4) faculty matters. The first major step of the Long-Range Planning Committee was the suggestions and recommendations from the 1990 Faculty Retreat. Some of these recommendations are given below:

1. Public Relations
   - Develop outreach programs with Albuquerque Public Schools and other school systems in New Mexico via development of a video on geology as a major and profession.
   - Develop an in-reach program within the University of New Mexico, such as developing geology requirements for civil engineering students, and building more visibility throughout other departments and programs.
   - Improve communications with administrative units on campus and earth science departments in the southwestern United States.

2. Directions and Goals for Department
   - Consideration of areas of strength in the department with eye toward enhancing areas of strength.
   - Continue to provide a broadly based program for undergraduate and graduate curriculum.
   - Consideration of the need for department growth in positions and space.
   - Realistic goals and role of the Long-Range Planning Committee.

3. Faculty Matters
   - Role of senior/junior faculty mentoring.
   - Review of non-tenured and tenured faculty.
   - Improvement of faculty-staff-student communications.
4. Undergraduate Curriculum and Related Matters
   - Advising undergraduates and tracking through BA and BS programs.
   - Improving G101, G105, and G102 courses to attract more students into the field.
   - Discussion of multiple sections of G101 and the role of all faculty in teaching lower division courses.
   - Faculty approval of reduced teaching load (a reduction of 1 course per academic year) for 319L and 420L instructors.
   - Consideration of instituting special summer programs in education via funding for NSF.

5. Graduate Curriculum and Related Matters
   - Consideration of graduate level curriculum, core courses, and field related experience.
   - Discussion of need for enhanced global tectonics courses.
   - Discussion of enrollment and advisement trends and improving TA funding.
   - Changes in the duties of graduate students for Reading Room monitoring.
APPOINTMENTS TO FACULTY

Associate Professor Michael E. Campana, August, 1989.

SEPARATIONS FROM FACULTY

Professor Klaus Keil, May, 1990.
Assistant Professor Robyn Wright, June, 1989.

APPOINTMENTS TO STAFF

Janusz Janeczek, Research Associate II; June 1, 1990.
Mary L. Sherman, Editorial Assistant II; June 18, 1990.
Diane K. Sparago, Administrative Coordinator; October 9, 1990.
SEPARATIONS FROM STAFF


Deborah Rhue, Editorial Assistant II; June 30, 1990.

Edward R. D. Scott, Senior Research Scientist; May 31, 1990.

Terence V. Sowards, Assistant Scientist; April 30, 1990.

G. Jeffrey Taylor, Senior Scientist; May 31, 1990.

ACTIVITIES OF THE FACULTY AND RESEARCH SCIENTISTS
TEACHING ACCOMPLISHMENTS, RECOGNITIONS,
AND CURRICULUM DEVELOPMENT

Douglas D. Brookins

Courses Taught

Spring 1989: Geol. 101 - Physical Geology
Geol. 203 - Earth Resources and Man
Geol. 410 - Introductory Geochemistry

Summer 1989: Geol. 101 - Physical Geology
Public Admin. 549 Field Studies at Isleta Pueblo**

Fall 1989: Geol. 101 - Physical Geology
Geol. 300 - Environmental Problems Facing New Mexico*
Geol. 504 - Geochronology

(*Structured topics course; involving new materials preparation, displays, coordinating some guest lecturers, etc.; 70 students).

In addition

Geol. 551, 552 - Problems, courses were offered to several graduate students and to exchange students from the Federal Republic of Germany.

Geol. 599, MS supervision for: D. Milligan, A. Sasahara, K. McKeown.

Geol. 699, Ph.D. supervision for: D. Ward, A. Albrecht, P. Longmire.


**Co-taught this course with Biology, Communications, and Law faculty as visiting professor of Public Administration.
Member of the Water Management Curriculum Committee (program approved in late 1989).

Member of the Environmental Health Curriculum Committee.

Member of UNM-Geology Undergraduate Committee (revised curriculum for A.B. in Geology approved 1989).

Michael Campana

Developed curriculum in hydrogeology, consisting of courses in hydrogeology, groundwater resources, field and laboratory techniques in hydrogeology, vadose zone hydrology, groundwater mechanics and subsurface fluids and geologic processes.

Laura J. Crossey

Spring, 1989  Geol 304/314L  Sedimentology/Stratigraphy
                Geol 548  Petroleum Geochemistry
Fall, 1989    Geol 501  Sedimentary Geochemistry
                Geol 699  Dissertation

Curriculum Development: new course; Geol 503, Petroleum Geochemistry

In addition

Student Advising/Committees

Ph.D. Committees

D. Larsen (chair)  C. White (exam)
P. Eberly (co-chair)  W. Criswell (exam)
P. Longmire  D. Erskine (exam)
D. Ward  K. Schiel (exam)
A. Thompson (exam)  J. Pedrick (exam)

M.S. Committees

F. Lauffer (chair)  T. Royck
T. Wiberg (chair)  B. Allen
R. Finch  D. Carr (biology)
D. Milligan  K. Fox (chemistry)
Wolfgang E. Elston

Spring 1989
Geology 265 - Lunar and Planetary Geology
Geology 471L - Mineral Deposits
Geology 492 - Problems
Geology 699 - Dissertation

Fall 1989
Geology 101 - Physical Geology
Geology 491 - Problems
Geology 510 - Advanced Mineral Deposits
Geology 699 - Dissertation

Rodney C. Ewing

Spring 1989
*Geology 101: Physical Geology (Spring, 1989)
Geology 492: Problems (Spring, 1989)
Geology 552: Problems (Spring, 1989)
Geology 599: Masters thesis (Spring, 1989)
Geology 699: Dissertation (Spring, 1989)

ON SABBATICAL FOR FALL, 1989 SEMESTER
Geology 599: Masters thesis (Fall, 1989)
Geology 699: Dissertation (Fall, 1989)

*Note, Geology 101 (Physical Geology, Spring, 1989) was part of the Arts and Sciences Participatory Seminars program (funded by the Ford Foundation). This was a special course in which instructors were released from one additional course in compensation for the extra preparation time required for the seminar course!

Graduate Students
Ph.D. Candidates: M.L. Miller
R. Eby

M.S. Candidates: J. Warner
R. Finch

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B.S. Honors: (graduated) C.J. Northrop Jr.
FR Germany Diploma

External examiner for the following dissertations:

"Chemical Durability of Perovskite (CaTiO3), and Thermodynamic Factors Affecting Synroc Dissolution" by D.K. Pham, Griffith University, Brisbane, Australia.


John W. Geissman

Spring, 1989  Geol: 508 Paleomagnetism and Applications in the Geological Sciences
Summer, 1989  G319L Introductory Field Geology

Assembled, for the first time, a course handbook/guide

Fall, 1989  G426L Exploration Geophysics

Jeffrey Grambling

Curriculum development

Geology 401 (Seminar): organized and supervised visits and lectures by 12 internationally-known geologists, who came from across the U.S.A.; Fall 1989

Geology 521L (Metamorphism): developed research-based term project, "Metamorphic evolution of Proterozoic rocks in the Manzano Mountains, New Mexico"; Spring 1989

Courses taught in 1989

Geology 101 (Physical Geology) Fall
Geology 302 (Mineralogy II) Spring
Geology 303 (Igneous and Metamorphic Petrology) Fall
Geology 312L (Mineralogy II Lab; 2 sections) Spring
Geology 313L (Igneous and Metamorphic Petrology Lab; 2 sections) Fall
Geology 401 (Seminar) Fall
Geology 521 (Metamorphism) Spring
Geology 521L (Metamorphism Lab) Spring

M.S. and Ph.D. students supervised


Stephen P. Huestis

Spring 1989
Geology 101 - Physical Geology (Spr. 89)
Geology 548 - Linear Algebra for Geology Students
(new course; spring 89)

Fall 1989
Geology 225 - Oceanography (Fall 89)
Geology 318 - Applications of Mathematics in Earth Science
(Fall 89)

John Husler
Completed a laboratory manual for students for analysis of rocks and minerals by atomic absorption, x-ray fluorescence and wet chemical methods.
Cornelis Klein

Spring 1989  G300 (Topics in Geology - Mineralogy)
            G302 (Mineralogy II)
Fall 1989   G301 (Mineralogy I)
            G486 (X-ray Mineralogy)

By February 1989, completed a book manuscript for a completely new laboratory and homework exercise book in mineralogy-petrology for John Wiley and Sons. As a member of the Undergraduate Committee in Geology, strongly urged that we incorporate a similar educational routing in our department as part of a revised B.A program. Subsequently developed the background for two new courses, 321L (Introductory Mineralogy) and 322L (Introduction to Petrology) for a new and highly revised B.A. in Geology. By April the new B.A. program as well as the two new courses were accepted by our faculty. All these new aspects of our new program offering have by now received almost all of the necessary A and S committee approvals.

Ph.D. dissertation in progress: A.J. Kaufman

"Stable isotopic studies of early Proterozoic banded iron-formations and late Proterozoic carbonate platform sequences": Indiana University, Bloomington, Indiana (co-advisors - C. Klein, J.M. Hayes, Indiana and A.M. Knoll, Harvard)

Barry S. Kues

Spring 1989  G-101 (Physical Geology) - 89 enrolled
            G-412 (Index Fossils) - 11 enrolled
Fall 1989   G-104 (Life on Earth) - 21 enrolled
            G-411 (InvertebratePaleontology) - 15 enrolled

Christopher K. Mawer

Spring 1989  Geol. 101 - enrollment 85
            Geol. 417 - enrollment 5
Summer 1989  Geol. 420 - enrollment 7
Fall 1989  Geol. 307 - enrollment 17

Les D. McFadden

Spring 1989  Geology 101 Introductory Physical Geology
Geology 490 Geological Presentations
Geology 516 Advanced Soil-Geomorphology Seminar
Fall 1989  Geology 101 Introductory Physical Geology
Geology 485L Soil Stratigraphy and Morphology

Gary A. Smith

Spring 1989  Geology 548 - Geology of Volcaniclastics
Fall 1989  Geology 101 - Physical Geology
   Plus undergraduate and graduate research problems courses

David B. Ward

Gave a talk for the Geology 517 class (Geochronology)

Stephen G. Wells

University of New Mexico Presidential Lecturer 1988-90.
Ad Hoc committee member and curriculum development for the newly proposed Water Resources Administration program at UNM.
Curriculum and program development for joint program in hydrogeology between the Departments of Geology and Civil Engineering at UNM
Spring 1989 - Leave of Absence
Fall 1989  - Geology 539L Quaternary Field Methods & Laboratory
Lee A. Woodward

Developed new curriculum for Geology 255L, New Mexico Field Geology, new course for B.A. degree.

Crayton Yapp

Geology 101 - Physical Geology

Geology 505 - Stable Isotope Geochemistry

Geology 517 - Instrumental Methods in Geochemistry

Geology 517 was taught as a newly organized class in the laboratory methods of stable isotope analysis. Students acquired "hands-on" experience with selected high vacuum sample preparation systems and gas-source, isotope ratio mass spectrometers. Stable isotope variations associated with particular natural systems and processes were measured and interpreted as part of the required work in this course.
PUBLICATIONS

Books Authored

Mineral and Energy Resources: Occurrence, exploitation and environmental impact
D.G. Brookins

Minerals and Rocks, exercises in crystallography, mineralogy, and hand specimen petrology
C. Klein

Books Edited

Proterozoic geology of the southern Rocky Mountains
J.A. Grambling and B.J. Tewksbury, eds.

Scientific basis for nuclear waste management XII
W. Lutze and R.C. Ewing (eds.)

Articles in Refereed Journals

Geochemical study of hydrothermally altered rocks, Cerrillos porphyry copper deposit, Santa Fe County, New Mexico
C. Amindyas and D.G. Brookins

Parabolic distribution of circumeastern Snake River Plain seismicity and latest Quaternary faulting: Migratory pattern and association with the Yellowstone hotspot

Variability of the late Pleistocene-early Holocene oxygen minimum zone off Northern California
R.Y. Anderson, J.V. Gardner, and E. Hemphill-Haley

Nature and origin of matrix in the unique chondrite, Kakangari
A.J. Brearley
Chemical, isotopic and mineralogical evidence for the origin of matrix in ordinary chondrites

Spurious Rb-Sr systematics of clay minerals from the Poison Canyon Sandstone, Grants Mineral Belt, New Mexico
D.G. Brookins
Isochron/West, no. 54, p. 13-14 (1989)

Rb-Sr ages of clay minerals associated with uranium mineralization at the Doris and Silver Spur mines, Grants Mineral Belt, New Mexico
D.G. Brookins and R.S. Della Valle
Isochron/West, no. 54, p. 17-18 (1989)

Rb-Sr dating attempts of clay minerals from the East Chaco Canyon (DOE) drilling project, San Juan Basin, New Mexico
D.G. Brookins and R.T. Hicks
Isochron/West, no. 54, p. 11-12 (1989)

Interpreting the Yellowstone Fires

Patterns of volcanism along the southern margin of the Colorado Plateau
C.C. Condit, L.S. Crumpler, J.C. Aubele, and W.C. Elston

Pyrometamorphic rocks associated with naturally burned coal beds, Powder River Basin, Wyoming
M.A. Cosca, E.J. Essene, J.W. Geissman, D.A. Coates, and W.B. Simmons

V, Cr, and Mn in the Earth, Moon, EPB, and SPB and the origin of the Moon
M.J. Drake, H.E. Newsom, and C.J. Capobianco

Cornetite: Modulated densely-packed Cu^{2+} oxysalt
R.K. Eby* and F.C. Hawthorne

Classification of six ordinary chondrites from Texas
A.J. Ehlman and K. Keil

Euchroite, a heteropolyhedral framework structure
R.K. Eby* and F.C. Hawthorne

Atmospheric circulation during Holocene lake stands in the Mojave Desert
Y. Enzel*, D.A. Cayan, R.Y. Anderson and S.G. Wells
Rb-Sr age of shoshonitic dikes in the Crandall-Sunlight region, Absaroka Volcanic Field, Wyoming
D.W. Erskine*, D.G. Brookins, A.M. Kudo, and D.B. Ward*
Isochron/West, no. 54, p. 21-24 (1989)

Isotopic evidence on the structure and origin of subcontinental lithospheric mantle in southern Nevada
G.L. Farmer, F.V. Perry, S. Semken, B. Crowe, D. Curtis, and D. J. DePaolo

Scientific corehole Valles Caldera #2B (VC-2b) New Mexico: Drilling and some initial results

Application of various XAFS techniques to the investigation of structurally damaged materials

Antlerite, Cu$_2$SO$_4$(OH)$_2$, a heteropolyhedral wallpaper structure
F.C. Hawthorne, L.A. Groat, and R.K. Eby*

Ternary feldspars: Two-feldspar assemblages at P(H$_2$O) = 5kbar
R.H. Jones

Liquidus phase relationships in the system CaAl$_2$Si$_2$O$_8$NaAlSi$_4$O$_{12}$KAlSi$_3$O$_8$NaAlSiO$_4$ at P(H$_2$O) = 5kbar
R.H. Jones and W.S. MacKenzie

Enstatite meteorites and their percent bodies
K. Keil

The Shallowater aubrite: Evidence for origin by planetesimal impact

Lithologic influences of fluvial hydrology of several small mountainous watersheds, northern New Mexico, U.S.A.
K.I. Kelson* and S.G. Wells

Geochemistry and sedimentology of a facies transition from limestone to iron-formation deposition in the early Proterozoic Transvaal Supergroup, South Africa
C. Klein and N.J. Beukes

Taxonomy and variability of three Texigravohaea (Bivalvia) species from their Lower Cretaceous (Albian) type localities in New Mexico and Oklahoma
B.S. Kues
Gryphaea pitcheri Morton, 1834 (currently Texigryphaea pitcheri; Mollusca, Bivalvia): proposed conservation
B.S. Kues and S. G. Lucas

Iron, magnesium and silicon compositions of dust from Comet Halley
M.E. Lawler, D.E. Brownlee and M.M. Wheelock*

The late-syntectonic gold-bearing quartz veins of Nova Scotia: a reply
C.K. Mawer

Use of multiparameter relative-age methods for age estimation and correlation of alluvial fan surfaces on a desert
piedmont
L.D. McFadden, J.B. Ritter*, and S.G. Wells

Phase equilibria in the system K$_2$O-FeO-Mg-Al$_2$O$_3$SiO$_2$H$_2$O-CO$_2$ and the stability limit of stilpnomelane in
metamorphosed Precambrian iron-formations
T. Miyano and C. Klein
Contributions in Mineralogy and Petrology, vol. 102, p. 478-491 (1989)

Paleomagnetism of the Dewey Lake Formation, (Late Permian), northwest Texas, USA: The end of the Kiaman
superchron
R. Molina-Garzo, J.W. Geissman, and R. Van der Voo

The single impact origin of the Moon
H.E. Newsom and S.R. Taylor

Morphology and rate of development of Late Quaternary soils, Silver Lake, California
M.C. Reheis, J.W. Harden, L.D. McFadden, and R.R. Shroba

Tin in a chondritic interplanetary dust particle
F.J.M Rietmeijer

Major element composition of stratospheric micrometeorites
L.S. Schramm, D.E. Brownlee and M.M. Wheelock*

Planetary compositions - clues from meteorites and asteroids
E.R.D. Scott and H.E. Newsom

Penrose Conference report: Volcanic influences on terrestrial sedimentation
G.A. Smith and W.J. Fritz
Geology, v. 17, p. 375-376.
Geochronology of the Ellensburg Formation: Constraints on Neogene volcanism and stratigraphic relationships in central Washington
G.A. Smith, M. Shafiquallah, N.P. Campbell, and M.W. Deacon
Isochron/West, no. 53, p. 28-32 (1989)

Organic-inorganic interactions and sandstone diagenesis
R.C. Surdam, L.J. Crossev, E.S. Hagen, and H.P. Heasler

Articles in Conference and Symposium Proceedings

Oligocene to Holocene magmatism and extensional tectonics, central Rio Grande rift and southeastern Colorado Plateau, New Mexico and Arizona
W.S. Baldridge, F.V. Perry, L.D. Nealy, A.W. Laughlin, and K.H. Wohletz

Magmatism associated with lithospheric extension: Middle to late Cenozoic magmatism of the southeastern Colorado Plateau and central Rio Grande rift, New Mexico and Arizona

Structure of Snedaker Basin quadrangle-implications for regional tectonics and hydrocarbon exploration along northern Helena salient, Montana thrust belt
B.R. Banowsky, M.R. Longden and L.A. Woodward

Ferroan anorthosites from an evolving magma ocean
M.G. Bersch*, G.J. Taylor, and K. Keil

Phyllosilicate minerals in carbonaceous chondrite matrix clasts in the Nilpena polymict ureilite: Evidence for a CI-like chondrite-ureilite connection
A.J. Brearley and M. Prinz

Revised Eh-pH diagrams (25°C, one bar) for uranium and transuranic elements: Application to radwaste studies
D.G. Brookins

The Oklo natural reactor, Gabon; Analog for high level radioactive waste disposal
D.G. Brookins
Large mineral grains in interplanetary dust
D.E. Brownlee, E.S. Schramm and M.M. Wheelock*

Mid-Tertiary volcanism in the eastern Chiracahua: The Portal caldera
C.R. Bryan*

Fresh water alteration of basaltic glass, Hanauma Bay, Oahu, Hawaii: A natural analogue for the alteration of borosilicate glass in fresh water
R. Cowan* and R.C. Ewing

Volcanic hazard studies for the Yucca Mountain Project
B. Crowe, B. Turrin, S. Wells, F. Perry, L. McFadden, C. Renault*, D. Champion, and C. Harrington

Germanium abundances in Lunar basalts: Evidence of mantle metasomatism?

Overview of the Mogollon-Datil volcanic field
W.E. Elston

Day 5: Field guide to the Emory caldera along NM-152 and in Tierra Blanca Canyon
W.E. Elston

Characterization of radiation damage at the Nb site in natural pyrochlores by x-ray absorption spectroscopy

Observations of surface layers formed on basaltic and borosilicate glass: 6 months and 1 year MIIT experiments
M.J. Jercinovic, Stacy Kaser and R.C. Ewing

Palagonitization of deep sea dredge sample glasses
M.J. Jercinovic, T. Murakami, and R.C. Ewing
Petrology and conditions of crystallization of type II FeO-rich chondrules in Semarkona (LL3.0)
R.H. Jones

Petrology and thermal history of type IA chondrules in the Semarkona (LL3.0) chondrite
R.H. Jones and E.R.D. Scott

Stratigraphy and paleontology of a San Andres Formation (Permian, Leonardian) outlier, Zuni Indian Reservation, New Mexico
B.S. Kues and Spencer G. Lucas

Hydrogeochemical interactions and evolution of acidic solutions in soil and ground water
P.A. Longmire*, D.G. Brookins and B.M. Thomson

Alpha-decay damage and annealing effects in natural pyrochlores: Analogues for long-term radiation damage effects in actinide, pyrochlore, structure-types
G.R. Lumpkin* and R.C. Ewing

Comparison of glass and crystalline nuclear waste forms
W. Lutze and R.C. Ewing

Examination of the German borosilicate nuclear waste glass SM513LW11 (six month and one year samples)
W. Lutze and R.C. Ewing

Precambrian rocks of the Zuni Uplift: A summary, with new data on ductile shearing
C.K. Mawer and P.W. Bauer

Sources of clasts in terrestrial impact melts: Clues to the origin of LKFM

Homogenization of chondrule silicates in ordinary chondrites: Constraints on asteroidal metamorphism
T.J. McCoy*, E.R.D. Scott, R.H. Jones and K.Keil

Soil-geomorphic studies in the Cima volcanic field, eastern Mojave Desert
L.D. McFadden and S.G. Wells
Formation and evolution of alteration layers of borosilicate and basaltic glasses I: Initial stage
T. Murakami, T. Banba, M.J. Jercinovic and R.C. Ewing

The nickel content of the lunar core
H.E. Newsom

Excursion 6A: Eocene-Miocene Mogollon-Datil Volcanic field, New Mexico
J.C. Ratté, S.M. Cather, C.E. Chapin, W.A. Duffield, W.E. Elston, and W.C. McIntosh

Ultrafine-grained mineralogy and matrix chemistry of olivine-rich chondritic interplanetary dust particles
F.J.M. Rietmeijer

What if chondritic porous interplanetary dust particles are not the real McCoy?
F.J.M. Rietmeijer

Preparation of Cosmic Dust analogs for shock metamorphism
F.J.M. Rietmeijer and A. Albrecht*

Grain size distribution of Magneli phases and metallic titanium in chondritic porous interplanetary dust particles
F.J.M. Rietmeijer and I.D.R. Mackinnon

Layer silicate chemistry in P/Comet Halley from PUMA-2 data
F.J.M. Rietmeijer, L.M. Mukhin, M.N. Fomenkova and E.N. Evlanov

Strata-bound gold and silver mineralization in the Jefferson dolomite (Devonian), Little Belt Mountains, Montana

Planetary compositions - clues from small bodies and the Sun
E.R.D. Scott and H.E. Newsom

Metal segregation in asteroids
G.J. Taylor

Recent volcanlastic deposits and processes at Mount St. Helens volcano, Washington: Day 5, Pumiceous Pyroclastic deposits of the Pumice Plain
International Association of Volcanology and Chemistry of the Earth's Interior, Field Excursion Guide 2A, New

Selachians from the Hosta Tongue of the Point Lookout Sandstone (Upper Cretaceous, Santonian), central New Mexico
T.E. Williamson*, S.G. Lucas and R. Pence
New Mexico Geological Society, Guidebook 40, p. 239-245 (1989)

Albuquerque to Hagan basin and return to Albuquerque

Albuquerque to San Ysidro, San Juan Basin, and return to Albuquerque

Tectonic setting and structure of the Hagan basin north-central New Mexico
L.A. Woodward and M.G. Picha

Titanium carbide and titanic phases in Antarctic ice: particles of probable extraterrestrial origin
M.E. Zolensky, Aurora Pun*, and K.L. Thomas

Book Chapters

Aqueous geochemistry of the rare earth elements
D.G. Brookins

Geochronologic study of Precambrian rocks of the Sandia Mountains, New Mexico
D.G. Brookins and A. Majumdar

Brunhes chron geomagnetic excursion recorded during the latest Pleistocene, Albuquerque volcanoes, New Mexico, U.S.A.

Paleomagnetic data bearing on Laramide and younger deformation of the Mosquito range, Central Colorado
J.W. Geissman and W.L. Oppenheimer

Metamorphic evolution of Proterozoic rocks in New Mexico
J.A. Grambling, M.L. Williams*, C.K. Mawer and R.F. Smith*
The role of crustal extension in the metamorphism of Proterozoic rocks in northern New Mexico

J.A. Grambling, M.L. Williams*, R.F. Smith*, and C.K. Mawer


Hydrogeology of the south-central Kentucky karst

J.W. Hess, S.G. Wells, J.F. Quinlan, and W.B. White


Role of asthenosphere and lithosphere in the genesis of late Cenozoic basaltic rocks from the Rio Grande rift and adjacent regions of the southwestern United States

F.V. Perry, W.S. Baldridge, and D.J. DePaolo


Chemical, thermal and impact processing of asteroids


Neogene terrestrial sedimentation on and adjacent to the Columbia Plateau; Washington, Oregon and Idaho

G.A. Smith, B.N. Bjornstad, and K.R. Fecht


Geologic Maps

Generalized tectonic map of north-central New Mexico showing field trip routes

L.A. Woodward


Book Reviews

Geologic causes of natural radionuclide anomalies, GEORAD Conference, M.A. Marikos and R.H. Hansman, eds.

D.G. Brookins


"Kleine Meteoritenkunde," by F. Heide, 3rd, totally revised edition by F. Wlotzka

K. Keil


Paleosols and weathering through geologic time: Principles and applications

G.A. Smith


Other Publications

Why WIPP is needed

D.G. Brookins

The great asbestos scam
D.G. Brookins and J. Binder

The Las Milpas Underground Gas-storage Facility
J.R. Connolly and J.L. Levine

Scientific Basis for Nuclear Waste Management XII Held in Berlin
R.C. Ewing

Formation of International Materials Research Committee Moves Closer
R.C. Ewing

Strike-slip faulting and block rotation in the Lake Mead Fault System: Research Note
J.W. Geissman, S.S. Harlan*, and T.F. Wawrzyniec*

Preface to "Laser Microanalyses" (L. Moenke-Blankenburg)
K. Keil

Element partitioning in the Earth's interior
H.K. Mao, B.O. Mysen, H.E. Newsom, D.J. Stevenson and Q. Williams

The discovery of a new kind of primitive meteorite: the unique chondrite, Allan Hills 85085
E.R.D. Scott

Stratigraphic units of the northwestern part of the Albuquerque basin, southeastern part of the San Juan Basin and the Nacimiento uplift
L.A. Woodward

Stratigraphic units of the Hagan basin and adjacent part of the Sandia uplift
L.A. Woodward and M.G. Picha

Technical Reports

Tectonics and Rock Deformation Working Group Report
Ecological consequences of the 1988 fires in the Greater Yellowstone Area
N.L. Christensen, J.K. Agee, P.F. Brussard, J. Hughes, Swanson, T.W. Thomas, S.G. Wells, J.W. Thomas, S.E. Williams, and H.A. Wright

SNL NWRT Department Technical Procedure: Procedures for Laboratory sample bulk chemical determination
J.R. Connolly and J.W. Husler

Papua New Guinea: PPL 77 - Maturation Modeling
L.J. Crossey

Stability of Water-soluble Organic Compounds in Digenetic Systems
L.J. Crossey

An impact interpretation of the Proterozoic Bushweld-Vredefort Complex, South Africa
W.E. Elston, D. Twist

Possible modes of deformation along "accommodation zones" in rifted continental crust: An example from the southern Basin and Range Province
J.E. Faulds*, C.K. Mawer, and J.W. Geissman

Volcanic Studies at Katmai

Paleomagnetism in the Basin and Range province: Applications, Examples, and limitations
J.W. Geissman, M.R. Hudson, J.E. Faulds*, J.T. Callian*, and S.S. Harlan*

Observations of surface layers formed on HMI borosilicate glass: 6 months, 1 year and 2 year MIIT experiments
M.J. Jercinovic, S. Kaser and R.C. Ewing
Hahn-Meitner Institute, 64 pages

A mixing-cell model of the Railroad Valley regional groundwater flow system, central Nevada
J.G. Roth and M.E. Campana

An isostatic model for basin formation in and adjacent to the central Oregon High Cascade Range
G.A. Smith, K.R. Vincent, L.W. Snee

Late Quaternary paleohydrology of the eastern Mojave River drainage, southern California: Quantitative assessment of the late Quaternary hydrologic cycle in large arid watersheds
435


Abstracts

Stratigraphy and depositional features of the Peralta Tuff, Jemez Mountains, New Mexico
R.J. Abitz*, and G.A. Smith

Mid-Tertiary igneous activity above cratonic and accreted basement in northern Mexico: Comparison of two localities
A. Albrecht* and D.G. Brookins

Buena Ventura magmatic complex (Chihuahua, Mexico): MASH followed by closed system fractional crystallization
A. Albrecht* and D.G. Brookins

Decadal to millennial climate variability in lacustrine deposits from central New Mexico
B.D. Allen* and R.Y. Anderson

Magmatism associated with lithospheric extension: Middle to late Cenozoic magmatism of the southeastern Colorado Plateau and central Rio Grande rift, New Mexico and Arizona

Synthesis, characterization and stability of large fluoro-phlogopite crystals
P. Barbey, A.J. Brearley, W.L. Brown, and M. Pichavant
EUG Meeting, Strasbourg (1989)

Stratigraphic problems in northeastern New Mexico - a petrographic approach
G.D. Baron*
New Mexico Geology, vol. 11, p. 65 (1989)

Carbon- rich aggregates in type 3 ordinary chondrites: Origin and implications for thermal histories
A.J. Brearley

Matrix mineralogy of the Bells CM2 carbonaceous chondrite and the in-situ observation of Ti oxides (Magneli phases)
A.J. Brearley

Transformation of Mg,SiO₄, Q to B by a shear mechanism at 900°C and 15GPa
A.J. Brearley and D.C. Rubie

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The behavior of Mg$_2$SiO$_4$ during the A to B transformation: Reaction microstructures and evidence for an order-disorder transformation in B phase
A.J. Brearley, D.C. Rubie, and E. Ito

Clay Minerals in sandstone uranium deposits: radwaste applications
D.G. Brookins

Playas for disposal of hazardous and low level wastes
D.G. Brookins
American Association for the Advancement of Science, Southwestern and Rocky Mountain Division Annual Meeting, Program and Abstracts, p. 12 (1989)

The Oklo natural reactor, Galson: Analog for high-level radwaste disposal
D.G. Brookins

Hazardous and radioactive waste mobility: Predictions from Eh-pH diagrams
D.G. Brookins

Soil radon and uranium: Correlation with high indoor radon in the Albuquerque, N.M. area
D.G. Brookins

Authigenic clay minerals in the Rustler Formation, WIPP site area, New Mexico
D.G. Brookins, S.J. Lambert, and D.B. Ward*

Large mineral grains in interplanetary dust
D.E. Brownlee, L.S. Schramon and M.M. Wheelock*

Strontium isotope and trace element geochemistry of Pico de Orizaba, Trans-Mexican volcanic belt, Mexico: Comparison of phases II and III
E.M. Calvin*, A.M. Kudo, D.G. Brookins, D.B. Ward*

Microhardness in natural zircon as a function of $\alpha$-decay dose compared with synthetic zircon damaged by Pb ion implantation

Microhardness in natural zircon as a function of $\alpha$-decay dose compared with synthetic zircon damaged by Pb ion implantation
Progress Report for period ending March 31, 1989, Solid State Division, Oak Ridge National Laboratory, ORNL,
The radius of the lunar core: Paleomagnetic and geochemical constraints.
D.W. Collinson, A. Stephenson, H.E. Newsom and S.K. Runcorn

Volumes and compositional variations of the May 18, 1980 eruption of Mount St. Helens: Implications for eruption forecasts
C.W. Criswell

Polycyclic volcanism: A common eruption mechanism of small volume basaltic centers of the southern Great Basin, USA
B. Crowe, B. Turrin, S. Wells, L. McFadden, C. Renault*, F. Perry, C. Harrington, and D. Champion

Aqueous thermal degradation of oxalate
L.J. Cressey

Clay Mineral Diagenesis in the Westwater Canyon Member of the Morrison Formation
L.J. Cressey

Oligocene to Miocene magmatic transitions in the Mogollon-Datil volcanic field, New Mexico
J.M. Davis, C.J. Hawkesworth, and W.E. Elston

Catenary soil development and slope degradation on three late Quaternary fault scarps in New Mexico
P. Drake*, P. Eberly*, C. Renault*, T. Royek*, and T. Skirvin*

Compositional variation in the clay mineral fraction of fine and course-grained units in the Westwater Canyon Member, Morrison Formation, San Juan Basin, New Mexico
Eberly, P.O.* and L.J. Crossey

Multilevel plains around Kane Patera, Io: Primary pyroclastic deposits, not mesa-like erosional remnants
W.E. Elston
EOS, vol. 70, p. 1185

Mid-Tertiary volcanism, extension, and mineralization in New Mexico: What have we learned these past 40 years?
W.E. Elston
New Mexico Geology, vol. 11, p. 59 (1989)

Regional setting and temporal evolution of the Mogollon-Datil volcanic field, southwestern New Mexico
W.E. Elston, and J.R. Abitz*
Bushveld-Vredefort enigma of South Africa and recognition of large impact structures: Mental leaps and mental obstacles
W.E. Elston and D. Twist

Increased flood frequency caused perennial Holocene lakes in Silver Lake playa, Mojave Desert, California
Y. Enzel*, R.Y. Anderson, S.G. Wells, and D.R. Cayan

The use of minerals to evaluate the long-term stability of crystalline phases in nuclear waste forms
R.C. Ewing

Radiation damage effects: Comparison of Synroc phases to borosilicate glass
R.C. Ewing and W. Lutze
91st Annual Meeting of the American Ceramic Society, Indianapolis, Indiana, p. 100 (1989)

Musings over simple-shear extension of the oceanic lithosphere
J.E. Faulds* and C.K. Mawer

Alteration of natural uraninite under oxidizing conditions from Katanga, Zaire: A natural analog for the corrosion of spent fuel
R.J. Finch* and R.C. Ewing

Scientific drilling in the Valles-Toledo caldera complex and its high temperature geothermal systems

Jurassic remagnetization of carbonate units in the Triassic Prida Formation, Humboldt Range, west-central Nevada: Preliminary Results
J.W. Geissman and S.L. Gillett

The age of the primary magnetization of the Stillwater Complex, Montana, and the coherence of Archean cratons of Laurentia
J.W. Geissman, S.S. Harlan*, and L.S. Snee

Late Paleozoic remagnetization of Lower and middle Paleozoic carbonate units in the Egan Range, central Nevada: Preliminary results
S.L. Gillett and J.W. Geissman
Internally consistent geothermometry and water barometry

J.A. Grambling


Proterozoic granulite facies metamorphism in northern New Mexico

J.A. Grambling

New Mexico Geology, vol. 11, p. 64 (1989)

Fluid infiltration during metamorphism of pelites and quartzites

J.A. Grambling and C.A. White*


XAS investigation of the Nb-site in natural pyrochlores and samarskites


Late Paleozoic remagnetization of Proterozoic crystalline rocks, Colorado Front Range, Colorado

S.S. Harlan*, and J.W. Geissman


The influence of terrace scarp degradation on soil profile development, Cajon Pass, southern California

J.B.J. Harrison*, K.J. Kendrick*, L.D. McFadden and R.J. Weldon


Stratigraphy of the Cretaceous Bisbee Group in the central Peloncillo Mountains, Hidalgo County, New Mexico

S.N. Hayden* and S.G. Lucas

New Mexico Geology, vol. 11, p. 63 (1989)

New chemical constraints on the origin of aubrites


Pennsylvanian stratigraphy and paleontology at the Kinney Brick Company Clay Pit, Manzano Mountains, Bernalillo County, New Mexico

P. Huber*, S.G. Lucas, and S.N. Hayden*

New Mexico Geology, vol. 11, p. 63 (1989)

Paleomagnetic and rock magnetic examination of the natural remanent magnetization of suevite deposits at Ries Crater, West Germany

D.A. Iseri*, J.W. Geissman, H.E. Newsom and G. Graup


Comparison of surface layers formed on synthetic basaltic glass, French R77, and HMI borosilicate nuclear waste form glasses - Materials Interface Interactions Tests

M.J. Jercinovic, S. Kaser, R.C. Ewing and W. Lutze


Experimental devitrification of chondrule mesostasis: Implications for the thermal history of chondrules

R.H. Jones and S. Ullman*

Tectonic evolution of the central Walker Lane, Western Nevada

Ductile shear zone in Layer 3 gabbroic rocks: Their deformation structures, Vp anisotropy and candidacy for the curvilinear reflection structures of the lower crust
S. Kirby, C.K. Mawer, G. Itturim and N. Christensen

Some recent developments in mineralogy
C. Klein
New Mexico Mineral Symposium, NMIMT Campus, Socorro, Abstracts, p. 5-7 (1989)

Carbonate sedimentation in the Sulu Sea linked to onset of Northern Hemisphere glaciation
B.K. Linsley* and ODP leg 124 Scientific Party

Cretaceous stratigraphy near Virden, Hidalgo County, New Mexico
S.G. Lucas, T.E. Williamson*, and A.P. Hunt*

X-ray absorption spectroscopy of metamict minerals

Two models for resetting of Rb-Sr isochron dates of Cambrian red-rock granophyres, Florida Mountain, New Mexico, a test using oxygen isotopes
R.K. Matheney and D.G. Brookins

Migmatite terrains as regional detachments
C.K. Mawer

Folding and foliation development in a low-grade transgressive ductile shear zone: The northern meguma Terrane of Canada
C.K. Mawer

Melt formation and migration in experimental and natural situations
Mawer, C.K.

Syntectonic nature of the 1.45 Ga Sandia batholith, New Mexico
C.K. Mawer and J.A. Grambling

Ingella Station, a new chondrite find from the Tenham strewnfield, Queensland, Australia
T.J. McCoy* and K. Keil
Geosols and the Fundamental Equation: The integration of pedological research and the geosciences
L.D. McFadden

Relative dating of metamorphism with anatectic migmatites
R.V. Metcalf* and C.K. Mawer

Normal and reverse geomagnetic field polarities in late Permian red beds from northwest Texas: The end of
the Kiaman superchron
R. Molina-Garza, R. Van der Voo, and J.W. Geissman
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Accretion and core formation in the Earth and Moon
H.E. Newsom

Hydrothermal activity within impact melt sheets on Mars: Possible sites for biogenic activity
H.E. Newsom

Accretion and core formation in the Earth
H.E. Newsom

W, Sb, and As depletions in the pomozdino eurcrite and angra dos reis
H.E. Newsom, K.W. Sims*, E.S. Gladney and G.J. Taylor

Major and minor element variation in beryl and apatite from the Harding pegmatite, Taos County, New Mexico
C.J. Northrop*, G.R. Lumpkin and R.C. Ewing

Two components in the Khor Temiki aubrite?
Th. Ntaflos*, K. Keil and H.E. Newsom

Tectonic and climatic influences on mountain-front landform evolution along a segmented range-front fault,
Sangre de Cristo Mountains, north-central New Mexico
F.J. Pazzaglia*

Relative role of tectonism and climatic change on the evolution of Quaternary depositional landforms along
segmented range-front fault, Rio Grande Rift
F. Pazzaglia* and S.G. Wells
Geological Society of America, Abstracts with Programs, vol. 21, p. A269

Evolution of magmas during continental extension: the Mount Taylor volcanic field, New Mexico
F.V. Perry, W.S. Baldridge, D.J. DePaolo, and M. Shafiqullah
(1989)
Extraterrestrial sulfur in the lower stratosphere contributed by chondritic interplanetary dust particles
F.J.M. Rietmeijer

Chondrules in CO₃ chondrites - keys to unlocking their nebular and asteroidal secrets
E.R.D. Scott and R.H. Jones

Paleontology of the lower shale member of the Chinle Formation (Upper Triassic), San Miguel County, New Mexico
D.L. Sealey, A.P. Hunt* and S.G. Lucas
New Mexico Geology, vol. 11, p. 40

Abundances of As, Sb, Mo and W in early archean and phanerozoic mantle-derived and continental crustal rocks
K.W. Sims*, H.E. Newsom, and E.S. Gladney

Late Cenozoic structural and geomorphic evolution of the eastern margin of the Mojave Desert block, California
T.S. Skirvin* and S.G. Wells

Eustatic signals in cyclic deltaic to shallow-marine clastics and carbonates, Pennsylvanian Madera Formation, Sandia Mountains, New Mexico
G.A. Smith

Recognition of cycle mechanisms from study of a single section: Lessons learned in the Madera Formation, Sandia Mountains, New Mexico
G.A. Smith

Cyclic clastics and carbonates of the Pennsylvanian Madera Formation, Sandia Mountains, New Mexico: In search of the eustatic signal
G.A. Smith
New Mexico Geology, vol. 11, p. 60 (1989)

Observation on the record of Cenozoic pyroclastic volcanism in nonmarine sediments, northwest and southwest United States
G.A. Smith

Extensional structures within continental-margin arcs: Their occurrence in the modern Circum-Pacific with emphasis on the central Oregon Cascade Range
G.A. Smith

Stratigraphy of the Peralta Tuff: Implications for the volcanic and structural evolution of the southeastern Jemez Volcanic Field
G.A. Smith, and R.J. Abitz*
New Mexico Geology, vol. 11, p. 65 (1989)
Determining amounts of pedogenic carbonate in desert soils derived from limestone—a petrographic approach
J.M. Sowers, L.D. McFadden and M.C. Rebels

Proterozoic tectonic assembly of southwestern North America: Evidence from ductile shear zones in the
Manzano Mountains, New Mexico
A. Thompson*, J.A. Grambling, and C.K. Mawer

The Rooiberg Felsite (Bushveld Complex): Textural evidence pertaining to emplacement mechanisms of high-
temperature siliceous flows
D. Twist and W.E. Elston
(1989)

Geomorphologic and pedologic criteria for recognizing polycyclic volcanism at small basaltic centers in the western
USA
S.G. Wells, C.E. Renault*, and L.D. McFadden
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Coarse-grained old hematite in an igneous clast in the Norton County aubrite: REE measurements
M.M. Wheelock*, C.F. Heavilon, K. Keil, G.J. Taylor and G. Crozaz

Nature of a major Proterozoic tectonic boundary in the Pecos Wilderness, northern New Mexico
C.A. White* and J.A. Grambling
New Mexico Geology, vol. 11, p. 64 (1989)

Systematics and paleobiogeography of late Paleocene-early Eocene Meniscotherium (Mammalia, "Condylarthra")
from western North America
T.E. Williamson* and S.G. Lucas

Selachians from the Upper Cretaceous (Cenomanian-Turonian) Mancos Formation, Black Mesa Basin,
northeastern Arizona
T.E. Williamson* and S.G. Lucas
Abstracts of the 42nd Annual Symposium on Southwestern Geology and Paleontology, Museum of Northern

New primate fossils from the lower Eocene Regina Member, San Juan Basin, New Mexico
T.E. Williamson*, S.G. Lucas and J.W. Froehlich

Stratigraphy and vertebrate biostratigraphy of the Lower Eocene Regina member, San Jose Formation, Sandoval
County, San Juan Basin, New Mexico
T.E. Williamson*, S.G. Lucas and L.N. Smith

Tectonic-metallogenic map of White Sulphur Springs 1° X 2° quadrangle, Montana
L.A. Woodward
Ratio of rock surfaces and surficial deposits as a control of fluvial processes and landscape evolution in semiarid and arid regions
A. Yair and S.G. Wells

Possible oxygen isotope constraints on the depositional environment of a Precambrian quartz-hematite BIF
C.J. Yapp

Carbon isotope variations in the Fe(III) carbonate component of α-FeOOH
C.J. Yapp and H. Poths

\(^{13}C/^{12}C\) ratios of the Fe(III) carbonate component in natural goethites
C.J. Yapp and H. Poths
RESEARCH PROJECTS OR CREATIVE WORK IN PROGRESS

Roger Y. Anderson

Awards Current in 1989


"Rapid Climatic Change in Central New Mexico": UNM, Research Allocation Committee - 1988 -October 1, 1989, $1,543.00.

Awards Beginning in 1989


Proposals Submitted in 1989

"Climatic Change in the ENSO and Lower Frequency Bands, Northeast Pacific Continental Margin": National Science Foundation (renewal; not accepted), Co-PI J.V. Gardner.

Douglas G. Brookins

Awards Beginning in 1989


Awards Current in 1989 Continuing from Previous Years


"Radon studies in the Albuquerque, New Mexico area: soil, indoor, air and water": The Frost Foundation -
April 15, 1988 - June 30, 1989, $18,000

Proposals Submitted


(* Pre-proposals for items B.ii, B.iii favorably ranked Nov. 89)

"Dissolved radon in Rural Water Supplies, New Mexico": The Frost Foundation - $16,000 (Oct. 89 - Sept. 90) - not funded.

Ph.D. Dissertation Defended

Albrecht "The geochemistry of the Mid-Tertiary volcanic rocks of the northern Sierra Madre Occidental (Chihuahua, Mexico) indicators of basement variations". (Defended Nov. 1980)

Ph.D. Dissertation in Progress

D.B. Ward, "Quantification of uranium behavior in a playa type environment - a natural analog study to predict actinide mobility at the WIPP site, southeastern New Mexico"

P.A. Longmire, "A study to identify and evaluate the geochemical behavior of uranium tailings leachate in the subsurface"

M.S. Thesis in Progress

D. Milligan, "Rubidium - strontium studies of clay minerals from the Salado Formation, southeastern New Mexico".

Other Cooperative Studies


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Geochronologic and stable isotope studies of the Florida Mountains, New Mexico with Dr. R.K. Mathaney, Univ. North Dakota.

Strontium isotopic studies of Cenozoic volcanism, northeastern USA, with Dr. M.T. Murphy, Battelle Pacific Northwest Laboratories.

Strontium isotopic studies of fracture filling minerals in caldera complexes, Long Valley CA., and other occurrences, with Dr. Fraser Goff, LANL, H.A. Wollenberg, LBL.

Strontium isotopic studies of Central American volcanics, with Dr. C. Cigolini, Italy, and A.M. Kudo, UNM.

Petrologic and geochronologic studies in the Sina Peninsula, with Dr. A.E. Shimron, Israel Geol. Survey.

Continued studies of Oklo, Gabon, with Dr. J.C. Petit, CEA (France), and Drs. F. Gauthier-Lafaye and F. Weber, Univ. Strasbourg.

Sr isotopic studies of conodonts and the Permian sea water curve, with Dr. Steven Jacobson, Chevron Oil.

**Michael Campana**

**Pre-proposals Written and Submitted**

An integrated environmental isotopic-hydraulic groundwater flow model for parameter estimation, New Mexico Water Resources Research Institute, $46,454.

Performance assessment of a mixing-cell contaminant transport model, DOE/NMSU Waste Management Education and Research Center, $74,808.

**Papers in Progress**

Age distributions in the Edwards aquifer, south-central Texas.

Groundwater flow in the Railroad Valley regional carbonate system, central Nevada.

**Technical Reports in Review**

A general mathematical model for tracer data interpretation and transit time calculation in hydrologic systems.

Publication No. 41122, Water Resources Center, Desert Research Institute, 61 p. - Co-PI I.E. Amin.

A new approach for simulating heat transfer and groundwater flow and its application to the Leach Hot Springs hydrothermal system, Pershing County, Nevada - Co-PI E.J. Pottorff.
Unsponsored research in progress

Refinement of mathematical and numerical models for tracer data interpretation in hydrologic systems

Application of mixing-cell models to unsaturated porous media flow

Laura J. Crossey

Awards Current in 1989 (continued from previous years)

An examination of the thermal stability of water-soluble organic compounds in diagenetic systems; American Chemical Society (Petroleum Research Fund) - July 1987 - August 1989 (extended), $18,000.

Mineralogical characterization of geological section at the WIPP site: Assessment of organic constituents in the Culebra Dolomite; Sandia National Laboratories - October 1987 - October 1989 (extended), $23,447.

Diagenetic processes in sandstones intercalated with organic-rich sediments: Piceance Creek Basin, northwestern Colorado; Sandia-University Research Program (SURP) - October 1988 - October 1989, $30,000.

Organic-inorganic interactions in sedimentary basins: Experimental studies of water-soluble organic compounds; Shell Development Basic Research Grant - October 1987 - open, $10,000.

Proposal Pending

Environments of sedimentation and controls on diagenesis of the Creede Formation, Colorado; National Science Foundation - (June 1990 - June 1992), $73,200.

Wolfgang E. Elston

Sponsored Research

Application of volcanology to lunar and planetary geology: NASA grant NGR32-004-062, Supplement 26 - April 1988-March 1989, $40,000


Pyroclastic eruptions of Mount St. Helens on May 18, 1980: NSF grant EAR 87-0744, September 1987 -

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Research Proposal Submitted

Application of volcanology to lunar and planetary geology

NASA grant NGR32-004-062, supplement 28; October 1989-September 1990, $47,000 in negotiation

Ph.D. Dissertation Research

Richard J. Abitz, "Geology and petrogenesis of the northern Emory caldera, Sierra County, New Mexico," completed, 1989

L. David Nealey, "Geology and petrology of the late Cenozoic Mount Baldy trachytic volcanic complex, White Mountains volcanic field, Apache and Navajo Counties, Arizona," completed 1989

Charles R. Bryan, "Geochemistry and petrogenesis of mid-Tertiary volcanic rocks of southwestern New Mexico and adjacent Arizona," in progress

Charles W. Criswell, "Volumes and mass flux variations of the May 18, 1980 eruption of Mount St. Helens, Washington," in progress

Jonathan Sadow, "The petrography of the lowermost Rooiberg Group felsites, Bushveld Complex, South Africa," in progress

Unsponsored Research

Volcanic and tectonic evolution of southwestern New Mexico

Association of mineral deposits and volcanic centers

Extensional tectonics of the Basin and Range province, United States and Mexico

Volcanic rocks of the Sierra Madre Occidental, Mexico

R.C. Ewing

Sponsored Research - Awards beginning in 1989

Awards Current in 1989

Radiation Effects and Annealing Kinetics in Crystalline Complex Nb-Ta-Ti Oxides, Phosphates and Silicates
Office of Basic Energy Sciences, DOE, August 1, 1987 - July 30, 1990 - $300,000.00.

Low Temperature Alteration of Natural Uraninite: Swedish Nuclear Power and Waste Company, Sept. 1, 1988 - August 30, 1990 - $80,000.00.


Travel support for collaboration with the Solid Sciences Division of Oak Ridge National Laboratory: Oak Ridge Associated Universities, extended through 1990, amount not specified in agreement.

Unsponsored Research

Pegmatite mineralogy and genesis.
Corrosion and hydration of natural and synthetic glasses.

John W. Geissman

Outside-Sponsored Research - Awards Beginning in 1989

Paleomagnetic and rock magnetic investigation of New Mexico rocks: New Mexico Bureau of Mines and Mineral Resources - May 1, 1989 to April 30, 1990, $2,800.

Construction of a low-induction space to house instrumentation for paleomagnetic and rock magnetic microanalysis
National Science Foundation - January 1, 1989 to December 30, 1990, $15,000.

Paleomagnetism and 40Ar/39Ar thermochronology of Precambrian mafic dykes and other igneous units, central and southern Rocky Mountains, USA: National Science Foundation - January 1, 1989 to December 30, 1990, $50,000.

Magnetostatigraphy and 40Ar/39Ar geochronology of volcanic rocks of late Eocene and Oligocene age, New Mexico, Texas, and Colorado: National Science Foundation - Co-PI Wm. McIntosh, June 1, 1989 to May 30, 1991, $45,000.
Basin and Range Geophysical Experiment (BARGE): National Science Foundation (subcontract through Harvard University) - Co-PI B.P. Wernicke, December 1, 1989 to November 30, 1991, $42,000.

Research Experiences for Undergraduates: National Science Foundation - December 1, 1989 to November, 30, 1990, $4,000.

Awards Current in 1989


An automated, small-access superconducting rock magnetometer for paleomagnetic and rock magnetic microanalysis: Department of Energy, University Research Instrumentation Program - August 1, 1987 to August 30, 1990, $115,000.


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)

Jeffrey A. Grambling

Research Grants Beginning in 1989

"Geologic mapping of a high-grade gneiss complex in parts of the Cimarron and Taos Ranges, New Mexico":


Awards Continuing in 1989 from Previous Years

"Infiltration pathways during the regional metamorphism of pelitic schists and quartzites": National Science Foundation - June 1, 1987 - Nov. 30, 1989, $86,900.

Unsponsored Research

"The influence of manganese on metamorphic phase relations in pelitic schists"

"A 1:24,000 scale geologic map of Proterozoic rocks in the Truchas Peak, Pecos Falls, and Gascon 7.5 minute quadrangles, Sangre de Cristo Mountains, northern New Mexico"

Stephen P. Huestis

Proposal submitted

"AFAR magnetic studies: analysis of active rift propagation through continental and transitional lithosphere," to NSF. Associate investigator; Principal investigators: Stephen P. Miller, Ken C. MacDonald, UCSB.

$70,022.

Unsponsored research in progress:

Comparison of linear programming algorithms for uniform norm minimization; with H. Eiselt, University of New Brunswick.

N-cycles of the complex logarithm function

Sampling and interpolation of band-limited functions

Properties of geophysical inverse theory

John W. Husler

Determination of Tungsten in Rocks, Ores, and Alloys by Flame Atomic Absorption Spectrophotometry, in progress.
Cornelis Klein

"Comparative geochemistry and sedimentology of several essentially unmetamorphosed Proterozoic iron-
formations": National Science Foundation Grant EAR-8617805 - September 1987 to August 1990, $100,000.

"The Proterozoic Biosphere: a multidisciplinary study": 2 volumes, Cambridge University Press, publication date

Albert M. Kudo

Analytical work and writing of manuscript on Poas Volcano, Costa Rica.
Analytical work on Volcan Pico de Orizaba, Mexico.
Began work on writing a grant proposal to NSF for further research on Volcan Pico de Orizaba, Mexico.

Barry S. Kues

Manuscripts in Preparation
Gastropods of the Red Tanks Member, Madera Formation (Permian, Wolfcampian) of central New Mexico (for
Journal of Paleontology)
New and unusual gastropods from the Middle Pennsylvanian Flechado Formation, Taos County, New Mexico
(for New Mexico Geological Society Guidebook No. 41)
New species of Middle Pennsylvanian gastropods from New Mexico and West Texas (for Journal of
Paleontology)
Geology of New Mexico (BOOK): Co-PI Spencer G. Lucas (for UNM Press)

Christopher K. Mawer

Current in 1989, Continuing
"Structural, Metamorphic and \(^{20}\text{Ar}/^{39}\text{Ar}\) Studies of Proterozoic Tectonism in New Mexico": National Science
Foundation - Co-PI J.A. Grambling, October 1988 to October 1990, $110,021.
"A Detailed Geometric and Kinematic Analysis of a Major Accommodation Zone in Highly Extended Terrane:
Central Black and Southern Eldorado Mountains, Arizona and Nevada": National Science Foundation:

New in 1989


Les D. McFadden

Sponsored Grants


Total grants and contracts in effect during this period = $52,704

Grant Proposals Submitted and Pending


Graduate Students Supported by Grants and Contracts

David Simpson, Christina Terhune, Bruce Harrison, Yehouda Enzel, Ann Sasahara

Frank V. Perry

Awards Beginning in 1989

Evolution of the continental lithosphere in extensional terrains: $^{147}$Nd/$^{144}$Nd and $^{87}$Sr/$^{86}$Sr techniques and A
tectonic-geomorphic analysis of the Colorado Plateau-Basin and Range transition zone to test the model of crustal uplift initiated by lithospheric thinning and heating of the uppermost mantle: Los Alamos National Laboratory - October 20, 1989 to September 30, 1990, $14,333.

Awards Continuing in 1989


Frans J.M. Rietmeijer

Awards Beginning in 1989

Mineralogy of fine-grained primitive extraterrestrial materials: National Aeronautics and Space Administration Planetary, Materials and Geochemistry Program - April 1, 1989 to March 31, 1990, $85,000.


Analytical Electron Microscope Analyses of Stratospheric Particles Collected at 35 km Altitude: University of California, San Diego, Dr. J. Arnold - January 1, 1989 to June 30, 1989, $5,000.

Awards Current 1989

Analytical Electron Microscopy of fine-grained phases in primitive interplanetary dust particles and carbonaceous chondrites: National Aeronautics and Space Administration Planetary Materials and Geochemistry Program. April 1, 1988 to March 31, 1989, $81,000.


Gary A. Smith

Awards Beginning in 1989

Continuing Awards


Research supported during 1989 by the Caswell Silver Foundation: Paleogeomorphological studies of extensional basin-fill sequences, Arizona and Colorado. Parasequence stratigraphy and sedimentology of the Pennsylvanian Madera Limestone, north-central New Mexico.

Stephen G. Wells

Sponsored Grants


Total grants and contracts in effect during this period = $258,362

Grant Proposals Submitted and Pending

Holocene and Modern Geomorphic Response to Wildfires and Climate Change in Northeastern Yellowstone:

Research Scientists Supported by Contracts & Grants

Frank Perry

Graduate Students Supported by Grants & Contracts

Paula Stout, Katherine Kendrick, Claire Renault, William Brown, Thomas Bullard, Paul Drake, Mark Gonzalez, S.T. McWhinnie

Lee A. Woodward

Research on tectonics of northern Rocky Mountains, Montana and Idaho. Research on New Mexico alkalic gold belt.

Crayton Yapp

Research grants (in effect)

"The stable isotope and minor element geochemistry of iron (III) oxide rocks and minerals": National Science Foundation - February 1, 1988 to July 31, 1990, $90,158.

Research grants (submitted)

"The stable isotope and minor element geochemistry of iron-rich chemical sediments": National Science Foundation - In review; requested amount $132,347.
ACTIVITIES IN LEARNED AND PROFESSIONAL SOCIETIES

Roger Y. Anderson

1. **Member:**
   - Geological Society América
   - American Association of the Advancement of Science
   - American Geophysical Union

2. **Elected:**
   - American Association for the Advancement of Science
     Electorate Nominating Committee, Section on Geology and Geography, 1990.

Douglas D. Brookins

**Talks**


Society Activities

1. Geochemical Society: Editor for Special Publications Series and Member, Executive Council.
3. Mineralogical Society of America: Member, Committee on Committees.
4. International Association of Geochemistry and Cosmochemistry: Assoc. Editor for Applied Geochemistry.
5. Americans for Rational Energy Alternatives, Board of Directors.

Michael Campana

1. Editorial Board member, Journal of Ground Water
2. Member, National Academy of Sciences-National Research Council Committee to evaluate the U.S. Geological Survey's National Water Quality Assessment Program

Laura J. Crossey

Talks

1. Diagenesis: the 'Hole' Enchilada: Soc. of Economic Paleontologists and Mineralogists (Sectional Meeting), Albuquerque, New Mexico, October 2, 1989.
3. Thermal Degradation of Oxalate: Geological Society of America (Annual Meeting), St. Louis, Missouri, November 6, 1989

Other Professional Activities

Society of Economic Paleontologists and Mineralogists attended Rocky Mountain Section Meeting (Albuquerque, October 1-4, 1989) and gave luncheon address "Diagenesis: the Hole Enchilada", October 2, 1989.

Geological Society of America: Attended annual meeting (St. Louis, Missouri, November 6-9, 1989) and co-chaired symposium "Hydrothermal Organic Geochemistry"

Association of Women Geoscientists: Lecturer, A.W.G. Speaker Series

Wolfgang E. Elston

1. Member, Steering Committee and Field Trip Coordinator, 1989 General Assembly, International Association of Volcanology and Chemistry of the Earth’s Interior, Santa Fe, N.M., June 24-July 1, 1989


5. Presented poster "Oligocene to Miocene magmatic transitions in the Mogollon-Datil volcanic field, New Mexico" (with J.M. Davis, C.J. Hawkesworth), International Association of Volcanology and chemistry of the Earth’s Interior, Santa Fe, N.M., June 27, 1989


7. Keynote speech "Mid-Tertiary volcanism, extension, and mineralization in New Mexico: What have we
learned these past 40 years?" Annual meeting, New Mexico Geological Society, Socorro, N.M., April 7, 1989


10. Member, Commission on Explosive Volcanism, International Association of Volcanology and Chemistry of the Earth's Interior

11. Member, Working Group on Petrological Data Files, International Association of Volcanology and Chemistry of the Earth's Interior

12. Member, Commission 17 (Moon and Planets), International Astronomical Union


14. Member, American Geological Institute Minorities Participation Advisory Committee

15. Member, Geological Society of America ad hoc Committee on Minorities

16. Member Panel on Volcanic Studies at Katmai, National Research Council-National Academy of Sciences

Rodney C. Ewing

Materials Research Society

1. Elected Secretary (one of four officers) of the International Materials Research Committee, 1990-1992


4. International Relations Subcommittee, 1987-1990

5. Membership Committee, 1985-1989
7. Von Hippel Award Committee, 1987-1989

New Mexico Geological Society
1. Nominating Committee

American Nuclear Society

Papers Read or Presented as Posters
2. "Corrosion products of basaltic glasses," Lawrence-Livermore National Laboratory, Livermore, California, February 8, 1989. (INVITED)
7. "Novel nuclear waste forms," seminar at Charles University, Prague, Czechoslovakia, October 17, 1989. (INVITED)

John W. Geissman

2. NSF-sponsored Continental Lithosphere meeting, Phoenix (invited participant), March 4-7.
3. International Association for Volcanology and Chemistry of the Earth's Interior, Santa Fe (3 papers presented), June-July 1.
4. Planning Meeting, Valles Caldera Drilling Workshop, Los Alamos (principal investigator), October 18, 19.
5. Annual Meeting, Geological Society of America, St. Louis (2 papers presented, interviewed applicants for Sedimentology Position), November 5-9.
6. American Geophysical Union Meeting, San Francisco (3 papers presented, one session chaired), December 6-8.
7. Associate Editor, Bulletin, Geological Society of America.
9. Nominated for Secretary, Geomagnetism and Paleomagnetism Section, American Geophysical Union.
Jeffrey A. Grambling

Meetings Attended

1. Annual Spring Meeting, New Mexico Geological Society, Socorro, New Mexico, April 7, 1989.
2. Annual Meeting, Geological Society of America, St. Louis, Missouri, Nov. 4-9, 1989.

Offices Held

1. Associate Editor, Journal of Metamorphic Geology
2. Editorial Board, Geology

Professional Papers Read

1. "Proterozoic tectonic evolution of New Mexico": to Department of Geology, New Mexico Institute of Mining and Technology, Socorro, New Mexico, January 26, 1989.
2. "Proterozoic granulite facies metamorphism in northern New Mexico": to Annual Spring Meeting, New Mexico Geological Society, Socorro, New Mexico, April 7, 1989.
3. "The Proterozoic metamorphic and tectonic evolution of New Mexico": to Department of Geology, University of Georgia, Athens, Georgia, September 28, 1989.
4. "Internally consistent geothermometry and water barometry": to Annual Meeting, Geological Society of America, St. Louis, Missouri, November 6, 1989.

John W. Husler

1. Participant, Geostandards International Working Group Member, American Chemical Society.

Cornells Klein

1. United States Representative to the International Mineralogical Commission on "History and Teaching" 1985 to present
2. Member, New Mexico Museum of Natural History Advisory Committee on Geology 1985 to present
Albert M. Kudo

1. Attended one session of General assembly of IAVCEI, Santa Fe, NM, in order to see E. Calvin's presentation of our paper.

Barry S. Kues

1. Attended New Mexico Geological Society Annual Fall Field Conference, west-central New Mexico, September 29 - October 1.
2. Editor, New Mexico Journal of Science
3. Executive Committee, New Mexico Academy of Science
4. Nominated for Vice President, Rocky Mountain Section, Paleontological Society (declined nomination)

Christopher K. Mawer

Conferences attended

5. GSA Annual Meeting, St. Louis, MO, October, 1989.

Les D. McFadden

Presentations at Professional Meetings

1. Polycyclic volcanism: A common eruption mechanism of small volume basaltic centers of the southern
Meetings Attended

1. Cordilleran and Rocky Mountain Section Meeting, Geological Society of America

2. International Association of Volcanology and Chemistry of the Earth's Interior
   Santa Fe, New Mexico, June, 1989.


Frank V. Perry

Meetings attended

1. International Association of Volcanology and Chemistry of the Earth's Interior, General Assembly, Santa
   Fe, New Mexico, June 25-July 1, 1989.

Frans J.M. Rietmeijer

Professional Papers Read

1. What if chondritic porous interplanetary dust particles are not the real McCoy? NASA Workshop Analysis
   of Returned Comet Nucleus Samples. Milpitas, California, January 16-18, 1989.

2. Grain size distributions of Magnéli phases and metallic titanium in chondritic porous interplanetary dust

3. Reflections on Mineral Loci of Elements in Interplanetary Dust Particles: Extraterrestrial Sulfur in the
   Lower Stratosphere. 52nd Annual Meeting of the Meteoritical Society, July 31 - August 4.
Professional Meetings Attended


2. 52nd Annual Meeting of the Meteoritical Society, Vienna, Austria, July 31 - August 4, 1989.

Gary A. Smith

Talks


2. Cyclic clastics and carbonates of the Pennsylvanian Madera Formation, Sandia Mountains, New Mexico. New Mexico Geological Society Spring Meeting, Socorro, New Mexico, April 7, 1989.


5. Stratigraphy and depositional features of the Peralta Tuff, Jemez Mountains, New Mexico. International Association of Volcanology and Chemistry of the Earth's Interior General Assembly, Santa Fe, New Mexico, June 30, 1989.


Meetings Attended

1. New Mexico Geological Society Annual Spring Meeting, Socorro, New Mexico
3. International Association of Volcanology and Chemistry of the Earth's Interior, International General Assembly, Santa Fe, New Mexico
4. American Association of Petroleum Geologists, Rocky Mountain Section Meeting, Albuquerque, New Mexico
5. New Mexico Mineral Symposium, Socorro, New Mexico
6. American Geophysical Union, Annual Fall Meeting

Professional Society Memberships

1. Geological Society of America (including Sedimentary Geology Division)
2. American Geophysical Union
3. Society of Economic Paleontologists and Mineralogists (including Pacific, Rocky Mountain, and Permian Basin sections)
4. International Association of Sedimentologists.
5. West Texas Geological Society
6. Albuquerque Geological Society
7. Sigma Xi, The American Research Society

Stephen G. Wells

Presentations at Professional Meetings

2. Modern arroyo processes and Holocene valley floor evolution in the semiarid southwestern USA: Role of climatic change. 2nd International Conference on Geomorphology (Invited), Gottingen, West Germany,
Meeting Attended

1. International Association of Volcanology and Chemistry of the Earth's Interior. Santa Fe, New Mexico, June 1989.

Lee A. Woodward


Crayton Yapp

Paper presented

1. "Possible oxygen isotope constraints on the depositional environment of a Precambrian quartz-hematite BIF".

American Geophysical Union Spring Meeting, Baltimore, Maryland, May 8, 1989.
OTHER PROFESSIONAL ACTIVITIES

Roger Y. Anderson

Invited Speaker

"Solar variability captured in climatic and high resolution paleoclimatic records: A geologic perspective"


"Defining decadal to millennial climatic variability from short and long climatic records"


Presentations

"Solar modulation of ENSO: A possible mechanism for climatic change"


"Validating and transforming high-resolution climatic records"


Panel Member


Invited Scientific Observer


Presentation: Comments on the USGS Paleoclimate Program.

**Participation in Joint Research Activities**


**Other Activities**

Review of scientific articles and proposals for professional journals, National Science Foundation, and American Petroleum Institute.

**Douglas D. Brookins**

**Editorial Duties**

Editor in Chief, *Uranium* (inter, journal, Elsevier Sci. Pub.)

Series Editor, Special Publications, Geochemical Society

Associate Editor, *Applied Geochemistry*

Reviewed manuscripts for


Reviewed two proposals to NSF, one for ACS-PRF.

**Off Campus Talks**


a. "WIPP"

b. "Indoor Radon"

c. "The Oklo natural reactor, Gabon"

"The ABCs of Radioactive Waste Disposal" (First United Methodist Church Sunday School, March 1989).

"Indoor Radon in Albuq." (Bear Canyon Senior Citizens Home, May 1989).

"Selenium and Arsenic geochemistry and contamination problems in New Mexico", (NMIMT Colloquium, Nov. 1989).


Other

Reviewer for selected Superfund sites in New Mexico

Interviewed for The Mountain Observer (on radon), KZIA (radon, UNM Pub. Affairs (WIPP, Radon), The Lobo (article on WIPP)

Field work in:

a. Mexico (Chihuahua)

b. Japan (Tono uranium Mine)

c. Colorado (two trips)

d. New Mexico (Florida Mountains, San Pedro Mountains, WIPP site area, Grants Mineral Belt).

e. Continued preparatory work on video on indoor radon (with Dr. Douglas Mose, George Mason Univ.).


Michael Campana

Proposal reviewer, National Science Foundation and Natural Sciences and Engineering Research Council of Canada


Report Reviewer, U.S. Geological Survey

Member of Geological Society of America, Association of Ground-Water Scientists and Engineers, American Geophysical Union, International Association for Mathematical Geology, American Institute of Hydrology,

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International Association of Hydrogeologists

Provided technical assistance to Desert Research Institute regarding groundwater flow in the vicinity of the Nevada Test Site and the proposed Yucca Mountain High-Level Waste Repository

Chairman of two M.S. thesis committees at the University of Nevada--Reno

Laura J. Crossey

Reviewed articles for the following journals:

Journal of Sedimentary Petrology
Economic Geology
Contribution to Geology

Reviewed Proposals for the following agencies:

Department of Energy (Basic Energy Sciences)
Los Alamos National Laboratories

Wolfgang E. Elston

National Committee Meetings

American Geological Institute Minorities. Participation Advisory Committee, Golden, CO, March 5-7, 1989

Professional Visits

Lovelace Inhalation Toxicology Institute, Kirtland AFB, March 2, 1990,
Western Mining Co, USA, Denver, Colorado, April 7, 1989.

Reviews

Reviewed research proposals for National Science Foundation, NASA, University of California-Los Alamos
Institute of Geophysics and Planetary Physics

Reviewed manuscripts for Geological Society of America, Journal of Geophysical Research
Evaluations

Served as Evaluator (career review, research support) for two scientists, Foundation for Research Development, Republic of South Africa

Assessor for grants and fellowships, Australian Research Council

Rodney C. Ewing

Reviewed manuscripts, texts and proposals for the following:

Journal of Materials Research
Canadian Mineralogist
American Mineralogist
Nature
Science
Earth and Planetary Sciences
Ninth International Clay Conference
Basic Energy Sciences, DOE
Australian Research Council

Served as a panel or committee member for:

National Academy of Sciences and National Council Panel on the Waste Isolation Pilot Plant (Professor Fairhurst, chairman).


John W. Geissman

Talks

Paleomagnetism in the Basin and Range province, with special emphasis on current research in the Carlin trend area, Newmont Exploration, Ltd., Carlin, Nevada, April 28.

The age of the primary magnetization of the Stillwater Complex, Montana, and the coherence of Archean cratons of Laurentia, American Geophysical Union, San Francisco, December.

Jurassic remagnetization of carbonate units in the Triassic Prida Formation, Humboldt Range, west-central Nevada: Preliminary results, American Geophysical Union, San Francisco, December.

The primary magnetization of the Stillwater Complex, Montana, and its significance for the coherence of Archean cratons of interior Laurentia, Geological Society of America Annual Meeting, St. Louis, November 9.

Paleomagnetic and rock magnetic investigations in Valles Caldera CSDP experiments: Implications for thermochemical processes attending caldera development, International Meeting, IAVCEI, Santa Fe, June.

Late Paleozoic remagnetization of Proterozoic plutons, southern Rocky Mountains, October 26, University of Michigan, Ann Arbor.

Services:

Technician, UNM Paleomagnetism and Rock Magnetism Laboratory

Jeffrey A. Grambling

Field trips led

"Proterozoic metamorphic rocks of the Picuris Mountains, New Mexico": for Geology 521 Class, UNM, Feb. 26, 1989.

"Tectonic juxtaposition of greenschist and amphibolite grade rocks, Manzano Mountains, New Mexico": for Geology 521 Class, UNM, March 17-19, 1989.

"Pegmatites, metamorphism, and manganese mineralization in Proterozoic rocks of New Mexico": for International Association of Volcanologists, June 28, 1989.

"Proterozoic rocks of the Manzano Mountains, New Mexico": for Frank Spear, Rensselaer Polytechnic Institute, Sept. 14, 1989.

"Tectonic contacts in Proterozoic rocks of the Manzano Mountains": for Geology 313L class, UNM, Nov. 19, 1989.

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Off-campus research

"Studies in $^{40}\text{Ar}/^{39}\text{Ar}$ geochronology": Department of Geology, University of Georgia, Athens GA, Sept. 27-Oct. 5, 1989.

External M.S. reader

"Estimating non-ideal thermodynamic mixing parameters by means of thermal conductivity data": F. Nimick, Department of Mechanical Engineering, UNM

Host to departmental speakers

R.C. Newton, Univ. of Chicago; Frank Spear, Rensselaer Polytechnic Institute; Jon Spencer, Arizona Bureau of Mines; John Goodge, Southern Methodist Univ.; Lawford Anderson, Univ. Southern California; Simon Peacock, Arizona State Univ.; Eric Essene, Univ. of Michigan; Brian Patrick, NM Tech.

Reviewed candidate for promotion/tenure

Dr. Simon Peacock, Arizona State University, Dept. of Geology

Reviewed manuscripts

American Mineralogist

Contributions to Mineralogy and Petrology

Geological Magazine

Geological Society of America Bulletin

Journal of Metamorphic Geology (3)

Journal of Petrology

New Mexico Geology

Precambrian Research

Reviewed proposals

National Science Foundation: Petrogenesis and Mineral Resources (2), Crustal Structure and Tectonics (2), Continental Lithosphere

Donated museum specimen

Kyanite-andalusite-sillimanite schist to R.B. Majors, South Australian Geological Survey.
Stephen P. Huestis


John W. Husler


Cornelis Klein

Associate Editor, Precambrian Research, a journal of Elsevier Science Publishers, Amsterdam

Associate Editor, The Canadian Mineralogist, a journal of the Mineralogical Association of Canada

Reviewed journal manuscripts for Precambrian Research, The American Mineralogist, and the Canadian Mineralogist

Reviewed research projects for the National Science Foundation

Reviewed book manuscript for Worth Publishers

Appointed Adjunct Curator of Mineralogy, New Mexico Museum of Natural History

Completed two permanent (but rotating) exhibits at the N.M. Museum of Natural History: "The Magic of Minerals" and "Gem minerals and gems"

Served on the nominating committee of the Coelophysis Society (New Mexico Museum of Natural History) for the Coelophysis Society Research Award

Presented "China Images" talk in VIP series to geology students, March 31, 1989


Albert M. Kudo

Reviewed proposal for NSF.

Wrote proposal for continued funding of UNM/Sandia Colloquium to Sandia National Laboratories (received funds).

Barry S. Kues

Associate Curator, New Mexico Museum of Natural History

Member, New Mexico Paleontology Advisory Committee; attended workshop on Paleontology on Federal (BLM) Lands, March 13

Selection Committee (New Mexico State Department of Education), New Mexico Presidential Awards for Excellence in Science Teaching

Reviewed 1 NSF proposal, 1 Petroleum Research Fund proposal, 3 papers for New Mexico Geological Soceity Guidebook 40

Christopher K. Mawer

Founding Member, Deformation of Earth Materials Committee, a technical committee in the Tectonophysics Section of the American Geophysical Union designed to coordinate research in tectonophysics, experimental rock deformation, and structural geology.

General Chairman, 1990 New Mexico Geological Society Field Conference. Responsible for organization and coordination of field-based conference and 3 days of field trips, road logging of field trips, editing of guidebook (which includes road logs, minipapers, and conference proceedings).

Organizer of special session "Dynamic Metamorphism and Deformation", to be held at the 1990 Spring American Geophysical Union Meeting, Baltimore, MD.
Les D. McFadden

Professional Fieldtrips/Presentations

Invited Participant in Fieldtrip to Volcanic Fields of Great Basin and Yucca Mountain, Nevada Region


Invited Participant in Fieldtrip to Volcanic Fields of Yucca Mountain, Nevada and Cima, California Region

Editorial Boards

Catena Verlag's CATENA

Other

Reviewed Proposals for the National Science Foundation

Reviewed papers submitted to GEOLOGY, THE JOURNAL OF SEDIMENTARY PETROLOGY, GEOMORPHOLOGY, QUATERNARY RESEARCH, ARCTIC AND ALPINE RESEARCH

Registration Chairman, 1989 New Mexico Geological Society Field Conference

Member, 1989, Mackin Grant Committee, Geological Society of America Quaternary Geology and Geomorphology Division

Co-Organizer and Co-Convenor of 1990 Binghamton Geomorphology Symposium

Frank V. Perry

Off-Campus talks

"Evolution of mantle reservoirs associated with the Rio Grande rift": Department of Earth Sciences, New Mexico State University, April, 1989.
Harald Poths

Collaboration with Los Alamos National Lab., group INC-7. Subject: Determination of the isotopic composition of sub-nanogram amounts of Ru extracted from very old molybdenites. Reason: possible double-beta-decay of $^{100}$Mo to $^{100}$Ru. In addition: Application of the ionization technique used in a thermal mass spectrometer to other elements besides Ru, e.g., isotope dilution measurements of picogram amounts of Tc.

Frans J. M. Rietmeijer

Co-Chairman

Cosmic Dust and Spherules session at the 52nd Annual Meeting of the Meteoritical Society, Vienna, Austria,

July 31-August 4, 1989

Peer Reviews of Scientific Papers

Proceedings 20th Lunar and Planetary Science Conference

Geochimica et Cosmochimica Acta

Meteoritics

Lithos

Panel Reviews

Chief Reviewer and Associate Reviewer for the National Aeronautics and Space Administration Origins of Solar Systems Program.

External Reviewer for the National Aeronautics and Space Administration Planetary Materials and Geochemistry Program.
Invited Contribution

European Space Agency ROSETTA Mission Planning Report

Gary A. Smith


Reviewed proposals submitted to the National Science Foundation.


Session co-convenor, 1989 General Assembly of the International Association of Volcanology and Chemistry of the Earth's Interior.

Session co-convenor, 1989 American Geophysical Union Fall Meeting.

Secretary-Treasurer, International Commission on Volcanogenic Sediments.

Presented lectures on research on volcaniclastic sedimentation to the geology departments at the University of Arizona, Portland State University and the University of Southern Illinois.

Stephen G. Wells

Invited Presentations


Professional Fieldtrips/Presentations


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Editorial Boards

Geological Society of America's GEOLOGY (1984-89)

Elsevier's Geomorphology (1988- )

Other

Reviewed proposals for National Science Foundation

Crayton Yapp

Invited Talk

"^{13}C/^12C ratios of the Fe(III) carbonate component in natural goethites". Epstein 70th Birthday Symposium, California Institute of Technology, December 2, 1989.

Proposal or Manuscript Review For

National Science Foundation

American Chemical Society-Petroleum Research Fund

Earth and Planetary Science Letters

Geochimica et Cosmochimica Acta

Water Resources Research

Contributions to Mineralogy and Petrology

Applied Geochemistry

Other

Presented talk to visiting representatives of Los Alamos National Laboratory on the stable isotope research at UNM that could be relevant to groundwater remediation at DOE facilities; August 8, 1989, UNM, Albuquerque.
NON-TEACHING UNIVERSITY SERVICE

Roger Y. Anderson
Chair, University Committee on Quaternary Studies

Douglas Brookins
Geology Department
Rb-Sr Laboratory Use Committee (Chair)
Alumni Newsletter Committee (Chair)
Radioactive Materials (Chair; licensed)
Undergraduate Committee
Long Range Planning Committee
Search Committee for Hydrogeologist Position
Candidate for Departmental Chair (unsuccessful)

UNM Service
Committee on Promotion Policy and Procedures, A&S
Water Management Curriculum and Planning Committee
Environmental Health Planning Committee
DOE-UNM Consortium
   Education Committee
   Research Planning Committee

Other
Ph.D. Comprehensive Exam Committee, Mr. S. Loftin, Biology Dept.

During 1989 hosted the following visiting lecturers and guests:
   Dr. A.R. Lappin, Sandia National Laboratories
Michael Campana

Graduate Committee, Geology Department

Served on two M.S. and Ph.D. comprehensive and qualification examination committees

Wrote Special Projects request for water resources equipment

Laura J. Crossey

Undergraduate Committee

Long-range Planning Committee

Lecturer Committee

Search Committees (hydrogeology, sedimentology/stratigraphy)

Wolfgang E. Elston

Committees

Faculty Senate Graduate Committee

A & S College Graduate Committee

Department Graduate Committee

Department Long-Range Planning Committee

Chair, Search Committee for Director, Institute of Meteoritics
Overseas Student Exchange


Visitor hosted
Professor Bernard Poty, University of Nancy, France; Distinguished Lecturer, Society of Economic Geologists

Graduate Student Committees

Principal Advisor
A.J. Abitz Ph.D., 1989
L.D. Nealey, Ph.D., 1989
C.W. Criswell, Ph.D. candidate
C.R. Bryan, Ph.D. candidate
J. Sadow, entering Ph.D. student

Committee member
Achim Albrecht, Ph.D., 1990
Dan Larsen, Ph.D. candidate
Sally-Ann Paschall, M.S. candidate

Member, Examining Committee
T. Williamson, Ph.D. Qualifying Committee
Kathryn Schiel, Ph.D. Qualifying Committee
Lon Davidek, M.S. Comprehensive Examination Committee
Aurora Pun, M.S. Comprehensive Examination Committee

Lecturer, UNM Speakers Bureau
Department

Undergraduate Advisement Committee & Advisor

Scheduling Committee

Supervision of:

Harding Pegmatite Property

X-ray Diffraction Laboratory

Analytical Electron Microscopy Laboratory

Mineralogy Collections

University

Arts and Sciences Participatory Seminary Program (sponsored by the Ford Foundation).

Guest lecturer in "Creative Imagination" 411-511 (Professors H. Richter and F. Strum).

Participation in the Center for Micro-Engineered Ceramics.

Review committee for Professor Merkx, Director of the Latin American Institute. (H. Wildenthal, Chair).

Task Force on Assessment and Development (F. Chris Garcia, chair).

Host and sponsor for Dr. Janusz Janeczek, Uniwersytet Slaski, Poland as a Fulbright Fellow.

John W. Geissman

UNM Research Policy Committee

Geology Department Graduate Committee; Chair, Fall, 89-

Geology Department Vehicle Committee

Geology Department Search Committee, Sedimentology Position

UNM undergraduate One-on-One Program
Jeffrey A. Grambling

Supervisor, thin-section laboratory (one full-time and one part-time worker)

Chair, Geology Microscope Committee

Member, Geology Graduate Committee

Oral examiner, M.S./Ph.D. exams:

- Paula Stout (M.S. Comps)
- Phil Noll (Ph.D. Qualifier)
- Dan Larsen (Ph.D. Comps)
- Ann Sasahara (M.S. Comps)
- Amy Thompson (Ph.D. Comps)
- Jane Pedrick (Ph.D. Qualifier)

Stephen P. Huestis

Departmental Committees

- Computer use
- Reading room
- Library liaison

Ph.D. Committee member

Ismail Sabbah (Physics Dept.)

John W. Husler

Occupational Safety Right to know workshop. Preparation to train geology faculty and staff, October 24, 1989.

One-on-one volunteer for incoming students.
Cornelis Klein

Member and, since August 1989, Chairman of the Undergraduate Committee in Geology

Member, search committee for faculty replacement in sedimentology

Member, long-range planning committee in Geology

Member, until fall 1989, of Geology Collections Committee

In charge of new Departmental Commencement exercises, May 1989

M.S. committee chair: Paul Melville

M.S. comprehensive and qualifying exam comm.: 5

Ph.D. qualifying and comprehensive exam comm.: 7

Ph.D. dissertations: Alan Jay Kaufman (Indiana University)

M.S. thesis: Julie Warner

Hosted Caswell Silver Distinguished Lecturer, Professor H.D. Holland from Harvard University, April 26 through 29, 1989.

Albert M. Kudo

Chair of Departmental Undergraduate Committee

Member of Departmental Scholarship Committee

Member of Departmental Collections Committee

Chair of Departmental Lecture & Colloquium Series Committee

Chair of UNM Science Colloquium Committee

Faculty representative on UNM Leisure Services Advisory Committee

Chair of Daniel Erskine's Ph.D. dissertation committee.

Chair of Ed Calvin's M.S. thesis committee

Member of Rich Abitz's Ph.D. dissertation and defense committee

Member of Achim Albrecht's Ph.D. dissertation and defense committee

Read drafts of Jim McKinley's dissertation (member of Ph.D. committee)
Member of Mike Bersch's Ph.D. dissertation and defense committee.

Member of Charles Bryan's Ph.D. dissertation committee

Chair or member of the following qualifying or comprehensive examinations:

Charles Bryan, Dan Erskine, Steve Hayden, Phil Noll, Jane Pedrick, Kathy Verhage, Amy Thompson, Jonathan Sadow, Ignacio Casanova.

Member of the following thesis committees:

Tim McCoy, Maya Wheelock, Bruce Epling, Rob Morris

Member of the following dissertation committees:

Jim Callian, Ignacio Casanova, Bill Criswell, Rodney Metcalf, Phil Noll, Jane Pedrick, Jonathan Sadow, Ken Sims, Amy Thompson

Barry S. Kues

Chairman, Geology Dept. Curator/Research Scientist search committee; hosted interview visits of Drs. Steven Forman and Gary Smith

Member, Geology Dept. Stratigrapher/Sedimentologist search committee

Member, Geology Dept. Undergraduate committee

Editor, Geology Dept. publications

Graduate Students


-Chairman (with S.G. Lucas), Ph.D. Dissertation Committees of Adrian Hunt and Thomas Williamson

-Member, 2 M.S. exam committees (Verhage, Milligan), and 5 Ph.D. exam committees (Noll, Bryan, Schiel, Thompson, Sadow)

-Adviser, Marquez (M.S. student), and Schiel (Ph.D. student)
Christopher K. Mawer

Member, Faculty of Arts and Sciences Undergraduate Committee, University of New Mexico.
Undergraduate Honours Advisor, Department of Geology, University of New Mexico.
UNM Department of Geology committees - a) Chairman, Vehicle Committee, b) Member, Undergraduate Committee, c) Member, Microscope Committee.

Les D. McFadden

Chairman, Scholarship Committee: Spring Semester, 1989
Member, Graduate Committee: Fall Semester, 1989
Chairman, Search Committee for Sedimentology-Stratigraphy Position: Fall Semester, 1989
Served on 6 Ph.D. Dissertation Committees
Served on 10 M.S. Thesis Committees
Hosted visit of candidate for Department of Geology hydrogeology position
Hosted visits of prospective Geology graduate students
Participant in class in Counseling Education taught by Dr. Vonda Long, University of New Mexico

Gary A. Smith

Member, Committee on Collections (Geology Department)
Member, Young Ranch Research Facility Development Committee
M.S. Thesis Committees - 3 (chairman of 2 - Thomas Wiberg, Lon Davidek)
Ph.D. Thesis Committees - 2
M.S. Examining Committees - 1
Ph.D. Examining Committees - 5
Department Volunteer Coordinator, Showcase UNM.
Stephen G. Wells

Chairman of Graduate Committee: Spring Semester 1989
Assistant Departmental Chairman: Jan. 1 to July 31, 1989
Chairman, Department of Geology: starting August 1, 1989
Chairman, Search Committee for Hydrogeology Position
Director and Secretary-Treasurer of the Caswell Silver Foundation/Department of Geology, UNM
Member of Advisory Board, New Mexico's Waste Education and Research Consortium
Served on 7 Ph.D. Dissertation Committees
Served on 5 M.S. Thesis Committees
Hosted the visits of several prospective geology graduate students
Assisted with open house for UNM Showcase 1989, Centennial Celebration/Homecoming

Lee A. Woodward

Chairman of 2 thesis committees. One thesis completed by B. Menne on "Structural geology of the Placitas area, N.M."
Member of Undergraduate Committee, Geology Department.
Member of Energy Exploration Education Committee, Geology Department.
Member of several M.S. and Ph.D. committees, Department of Geology.

Crayton Yapp

Assistant Chair, Department of Geology
Chair, Department of Geology Scholarship Committee
Member, Search committee for hydrogeology position
Member, Search committee for new director of the Institute of Meteoritics
Hosted departmental speakers

Dr. Edward Stolper, California Institute of Technology
Dr. L. Paul Knauth, Arizona State University

Supervisor of departmental stable isotope laboratory

Supervisor of research associate

Member of exam committees

M.S. exam (1)

Ph.D. exams (7)

Member of thesis committees (successfully defended)

M.S. theses (2)

Ph.D. theses (2)
NEW SCHOLASTIC HONORS AND FELLOWSHIPS

Douglas G. Brookins

Short Course, Rare Earth Geochemistry, sponsored by the Mineralogical Society of America). Attended the course and gave one hour presentation "Aqueous Geochemistry of the Rare Earth". San Francisco, December 1-3, 1989.

Visiting Professor of Public Administration, UNM, for summer field course as part of Water Management Program.

Visiting Scientists, Chubu Nuclear Works, Japan (Oct. 1989)

Visited VG Instruments demonstration laboratory, Harvard Univ. (Nov. 1989)

Who's Who in America, 45 Ed.

Who's Who in the World, 9th Ed.

Commission of the European Communities, committee on natural analogues for radioactive waste disposal.

Rodney C. Ewing

Selected by the National Academy of Sciences as an exchange scientist to the Department of Mineralogy, Crystallography and Geochemistry at Charles University, Prague, Czechoslovakia, September 20 - October 20, 1989.


Honoree at "Honoring Excellence at UNM", September 27, 1989.

Jeffrey A. Grambling

Learned techniques of \(^{40}\text{Ar}/^{39}\text{Ar}\) analysis: Department of Geology, University of Georgia, Athens GA, Sept. 27 - October 5, 1989

Gary A. Smith

Outstanding Paper, Honorable Mention; Journal of Sedimentary Petrology.

Stephen G. Wells

Participant of Geological Society of America Workshop on "Paleoclimatology Recorded in Ocean Basins," St. Louis, Missouri, November 1989

Lee A. Woodward

Elected to Honorary Membership in New Mexico Geological Society for research in the western U.S. and for training of geologists.
SABBATICALS, LEAVES OF ABSENCE, AND TRAVEL

Roger Y. Anderson

Sabbatical leave, Semester II, Fall, 1989


Duties: Development of NOAA Program in Paleoclimatology, Module II, Validating Paleoclimatic Records.

Preparation of the NOAA Center for Ocean Analysis and Prediction, Global and Climate Change program proposal: "The Study of Natural Climatic Variability module II, Validating Paleoclimatic Records."

Preparation of the NOAA Center for Ocean Analysis and Prediction program report: "Prospectus for a NOAA Program in Paleoclimatology."

Douglas G. Brookins

Travel to Strasbourg, France, for international conference and consultations.

Travel to Japan, for international conference and visit to Tono uranium mine, Tokii.

Travel to Carlsbad, NM area for work on WIPP site.

Michael Campana

NAS/NRC Committee Meeting, Irvine, California, September 25-26, 1989

NAS/NRC Committee Meeting, Irvine, California, November 16-18, 1989

NAS/NRC Committee business, Seattle, Washington, November 28-29, 1989

New Mexico Section, American Water Resources Association, Socorro, New Mexico, September 14-15, 1989
Wolfgang E. Elston

Travel

American Geological Institute Minorities Participation Advisory Committee, Golden, CO, March 5-7, 1989

Geological Field work in Sierra Madre Occidental, Mexico, March 12-17, 1989

Field trip for Geology 471L (Mineral Deposits), Silver City, NM, area, April 21-23, 1989


Geologic field trips to San Juan Mountains, Colorado, May 26-29, and June 9-11, 1989


General Assembly, International Association of Volcanology and Chemistry of the Earth's Interior, Santa Fe, N.M., June 24-July 1, 1989

International Geological Congress, Washington, DC, July 9-17, 1989

Geological field work, Hidalgo County, NM, September 20-24, 1989

American Geophysical Union, San Francisco, CA, December 3-8, 1989

Teaching Elsewhere

Co-advisor (w. C.J. Hawkesworth), J.M. Davis, Ph.D. candidate, The Open University, U.K.

Service as External Examiner

M.D. Buck, Ph.D. dissertation, Macquarie University, Sydney, N.S.W., Australia

J.K. Schweitzer, Ph.D. dissertation, University of Pretoria, South Africa

Rodney C. Ewing

January 14-27, Paris, France: Guest scientist, CEA-FAR

February 8-9, Livermore, CA: Invited lecturer at LLNL

April 23-25, Indianapolis, Indiana: Annual meeting of ACS

April 25-29, San Diego, CA: Spring meeting of MRS
May 4-5, Los Angeles, CA: Seminar at UCLA

May 12-18, Montreal, Canada: GAC/MAC annual meeting

May 28-June 6, Strasbourg, France: E-MRS spring meeting

June 6-9, Washington, D.C.: WIPP/NAS panel meeting

June 18-23, Hamilton, Canada: REI-5 meeting

July 1-31, Paris, France: Guest scientist, CEA-FAR

September 20 - October 20, Prague, CZ: NAS exchange scientist at Charles Un.

October 21-28, Karlsruhe, F.R. Germany: Visit to INE, Kernforschungzentrum

Nov. 1-7, Sydney, Australia: Synroc Workshop

November 27 - December 1, Boston, MA: MRS fall meeting

December 3-5, Orlando, Florida: Spent Fuel Workshop

December 12-13, Half-Moon Bay, CA: WIPP/NAS Panel

John W. Geissman

Summer teaching


Field Work

January 8-14, southern Nevada, northwestern Arizona

January 27, Los Alamos National Laboratory, collection of research core

March 29-30, Texas Bureau of Economic Geology, collection of research core

March 31-April 3, southern Nevada

April 28-April 30, east-central Nevada

July 1-July 3, northwest New Mexico and southern Colorado

July 25-August 11, northwest Wyoming, southern Montana, east-central Idaho

August 18-August 24, northwest Wyoming, southern Montana, southeast Wyoming

September 17, north-central New Mexico
September 30, northern New Mexico

November 12, central New Mexico

November 16, north-central New Mexico

November 17-19, southern Arizona

**Jeffrey A. Grambling**

**Travel**

Jan. 21, 1989: Field work in Manzano Mountains

Jan. 26, 1989: To Socorro, NM, to present talk to Department of Geology/Bureau of Mines

Feb. 26, 1989: Class field trip to Picuris Mountains

March 17-19, 1989: Class field trip to Manzano Mountains

April 7, 1989: To Socorro, NM, for Spring Meeting of New Mexico Geological Society

April 8-9, 1989: Field work in Manzano Mountains

May 23-Aug. 12: Geologic field research in the Manzano, Cimarron, Rincon, and Taos Ranges, NM

Sept. 27-Oct. 4: to Athens, GA, for \(^{40}\text{Ar}/^{39}\text{Ar}\) studies

Nov. 4-9: to St. Louis, Missouri, for Annual Meeting of Geological Society of America

**Cornelis Klein**


Feb. 8 - 12, 1989, attended Tucson Gem and Gem Mineral Show on behalf of N.M. Museum of Natural History.

May 15 - 18, 1989, attended Geological Association of Canada and Mineralogical Association of Canada Annual Meeting in Montreal, Quebec, Canada.

May 18 - 23, 1989, visit to the American Museum of Natural History in New York for selection of exhibit specimens for the N.M. Museum of Natural History exhibit "Magic of Minerals"

May 23 - 26, 1989, visit to the Harvard Mineralogical Museum, Cambridge, Mass. for selection of exhibit specimen for the N.M. Museum of Natural History exhibits "Magic of Minerals" and "Gem minerals and

July 22 - August 4, 1989, field research on banded iron-formations in the Quadrilatero Ferrifero, Brazil.


Nov. 6 - 9, 1989, attended Geology Society of America Annual Meetings in St. Louis, Mo. and participated in the interviewing for our department of candidates applying for the sedimentology position.

Albert M. Kudo


Barry S. Kues

Travel

March 25-26, Robledo Mtns-Lake Valley area (field research)

June 13-14, Lake Valley area (field research)

July 7-8, Manzano and Jemez Mtns (with Drs. Tom Yancey & Ethan Grossman, Texas A & M Univ., and Gary Smith, UNM)

Sept. 29-Oct 1 West-central N.M. (N.M. Geological Society Field Conference)

Oct. 15, Manzano Mountains (field research)

Oct. 22, Jemez Mountains (field research)

Nov. 5, Holy Ghost Springs area (field research)

Nov. 12, Manzano Mountains (field research)

Nov. 13, Sandia Mountains (field research)

Christopher K. Mawer

88 Days Field Work
Les D. McFadden

Conducted several field trips to Yucca Mountain/Nevada Test Site areas and to Mojave Desert during year.

Traveled to Transverse Ranges to conduct studies of soils and geomorphology

Traveled to sites in southern Arizona to assist graduate students involved in grant-supported research

Travel to Servilleta area, New Mexico, for overview of geomorphic problems associated with Long-Term Ecological Research project

Frank V. Perry

Travel

April 30-May 5, 1989: Volcanism field trip in southern Nevada and eastern California with the Nuclear Regulatory Commission, Department of Energy, Los Alamos National Laboratory, and the State of Nevada.


Numerous trips to conduct field studies in southern Nevada, eastern California, and western New Mexico.

Gary A. Smith

January 2 - February 3: Field research in North Island, New Zealand, with New Zealand colleagues.

March 5: Volcanology field trip, Magdalena to Quemado, New Mexico, with Dr. Philip Kyle, New Mexico Tech.

April 8: Led field trip in Jemez Mountains for graduate students from the University of Arizona.


April 21-26: Field research in San Pedro Valley, Arizona.

May 12-13: Field trip to observe Pleistocene cataclysmic flood produced features in northeastern Washington and northern Idaho; sponsored by the Geological Society of America.

June 6-9: Field research near Creede, Colorado with Daniel Larsen (UNM).

June 28: Led a field trip to Peralta Canyon, Jemez Mountains, for participants of the International Association
of Volcanology and Chemistry of the Earth's Interior General Assembly.

July 7-8: Joined Dr. Barry Kues (UNM) in guiding Drs. Ethan Grossman and Thomas Yancey (Texas A&M) in a tour of Pennsylvanian outcrops in the Manzano, Sandia, and Nacimiento Mountains.

**Stephen G. Wells**

Leave of Absence Spring 1989 Semester:

Visiting Affiliate

Earth and Space Sciences (ESS-1) and Nuclear Waste (N-5) Divisions

Los Alamos National Laboratory

Los Alamos, New Mexico

Conducted several field trips to Yucca Mountain/Nevada Test Site areas and to Mojave Desert during year

Traveled to Yellowstone National Park to assist graduate student and prepare for submitting NSF proposal

**Lee A. Woodward**

Travel to Montana, Idaho, Washington, California, Utah, Arizona, and Colorado in connection with research.

**Crawton Yapp**

Travel, etc.

American Geophysical Union Spring Meeting, Baltimore, Maryland, May 7-10, 1989.

Epstein 70th Birthday Symposium, California Institute of Technology, Pasadena, California, November 30 - December 3, 1989.
PUBLIC SERVICE

Roger Y. Anderson
Member, Scientists Review Panel (WIPP).
Identifying fossils for the public.

Douglas Brookins
Past President, Congregation Albert (550 members), Board Member through June 1989, (Chair of Youth Room and Plaque Committees).
Free information on radon problems: testing, consumer protection, and dwelling mitigation to the public.
Free information on asbestos problems.

Michael Campana
Active in Amnesty International and Volunteers in Technical Assistance
Provided water resources information to the general public

Laura J. Crossey
Judge, Regional Science Fair

Wolfgang E. Elston
General
Responded to numerous requests for information on mineral resources, geology, geological hazards, etc.;
identified rocks, minerals, and fossils for the public
 Talks to Civic Organizations, Sponsored by UNM Speakers Bureau
Old Town Optimist Club, "The 1980 Eruption of Mount St. Helens" April 26, 1989

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Breakfast Exchange Club "Exploration of Space," May 12, 1989

Other Talks

First Presbyterian Church, "Geology of New Mexico," October 10, 1989

Daniel Fernandez Elementary School, Los Lunas, "Earthquakes and volcanoes of New Mexico" December 12, 1989

Press Interviews

Radio and TV interviews on San Francisco earthquake, earthquake hazards in New Mexico

Interviews with Steve Brewer and staff photographers, Albuquerque Journal; subject of feature story "Exposing New Mexico's past - geological history is a violent one," Albuquerque Journal, Sunday, November 26, 1989

Civic Activities

Active in Neighborhood Association

Rodney C. Ewing

Rotary International

Amnesty International

John W. Geissman

Lion's Club, June 13, Geologic History of the Basin and Range Province, western United States.

Monte Vista Elementary School classes, tour guide, Geology Department Museums.

Jeffrey A. Grambling

Identified rocks and minerals for the public

Donated rock samples to Serendipity Day School and Bandelier Elementary School

Stephen P. Huestis


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Active in Sangre de Cristo Animal Protection, Inc.
Active in New Mexico Folk Music and Dance Society.

John W. Husler

Northwest Regional Science Fair Judge, La Mesa Neighborhood Community in Action/La Mesa Presbyterian Church Central Avenue beautification project.

Trip to La Petaca, Mexico for dedication of water well which La Mesa church helped to build.

Helped four Science Fair students with their projects.

Played in La Mesa bell choir for retirement homes and Santa Fe Festival.

Played in Albuquerque Concert Band for City park dedications, retirement homes, Colorado Club, Kimo Theater, Kirtland Base Fourth of July Concert, First Presbyterian and Central Methodist churches and at Civic Plaza.

Played in cornerstone Brass group: Kistler-Collister Square, Hoffmantown Baptist Church and First Presbyterian Church.

Member Session, La Mesa Presbyterian Church.

Spoke at Albuquerque Public School hearing concerning asbestos and APS budget.

Cornelis Klein

As adjunct curator of mineralogy at the N.M. Museum of Natural History I prepared two new exhibits "Magic of Minerals" and "Gem Minerals and Gems" both of which opened November 10, 1989.

Albert M. Kudo

Provided slides and rock samples to NM Museum of Natural History.

Identified rocks and minerals.

Master Chair of Physical Sciences, NW Regional Science Fair.
Barry S. Kues

April 20 - Talks to 2 Monte Vista Elementary School classes on dinosaurs.
Identification of rocks and fossils for public, throughout the year.

Christopher K. Mawer
Adjunct Curator of Geology, New Mexico Museum of Natural History

Les D. McFadden
Provided information to local residents on soils of the Albuquerque area.

Frank V. Perry
Talk on volcanoes to Bandelier Elementary School class, October, 1989.

Stephen G. Wells
Provided information to local residents on groundwater quality and quantity of Albuquerque area
Provided information to State of New Mexico Environmental Improvement Board Scientists

Crayton Yapp
Identification of rocks and minerals for the public.
Hoffmantown Neighborhood Association.
GRADUATE PROGRAM
The Department of Geology regards the education and training of graduate students, as modern geoscientists, as important and critical 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 addition, individualized teaching opportunities in a wide range of undergraduate courses further enhance interpersonal skills and abilities of graduate students to discuss their knowledge of geoscience in a range of settings and situations.

During the Fall 1989 term, a total of 67 students were working toward M.S. and Ph.D. degrees in the Department of Geology, with nine students entering the program in the Fall 1989 term. Of the entire group, 31 were M.S. students and 36 were Ph.D. students. The number of full-time students was 41; the number of part-time (less than 6 hours/term with course work completed and in final stages of completing M.S. theses or Ph.D. dissertations) students was 26. The male/female ratio of M.S. students was 30/13 and 36/4 for Ph.D. students, with a total ratio of 67/17. With three (two men, one woman) students entering the program during the Spring, 1990, term, there were no significant changes in the total graduate enrollment during this time period. A total of 12 M.S. degrees and 6 Ph.D. degrees were awarded by the Department in the 1989-1990 academic year. During the Fall term, 1 Ph.D. and 7 M.S. degrees were awarded, while during the spring term 4 M.S. and 5 Ph.D. degrees were awarded.

Approximately two thirds of the Ph.D. students in residence during the Spring term were supported financially through the Department. Eight were supported by either full-time (20 hours/week) or half time (10 hours/week) teaching assistantships, 12 were supported by research assistantships, one was supported by a Kelley-Silver Fellowship, and two were supported as part-time staff members. Approximately 60 percent of the M.S. students in residence during the Spring term were supported financially. Six were supported by full- and half-time teaching assistantships, eleven by research assistantships. Grant Meyer was supported by a Kelley-Silver Fellowship during the 1989-1990 academic year. A list of all graduate students supported by assistantships or major fellowships is presented in Appendix VIII. In addition to major support provided through teaching or research assistantships or fellowships, many graduate students also obtained scholarships and minor fellowships.
through (1) donations by alumni and other friends of the Department; (2) professional organizations such as the New Mexico Geological Society, the Albuquerque Gem and Mineral Club, and the American Geological Institute; and (3) from industrial sources such as AMOCO. Travel support for some graduate students presenting research papers at scientific meetings, such as the annual and regional meetings of the Geological Society of America and the American Geophysical Union, was also provided by the Department as well as through research grants to faculty and graduate students and awards from the UNM Graduate Students Association.

Both M.S. and Ph.D. students continue to receive special recognition and/or research grants from professional organizations and major funding institutions. Several students obtained external funding for their graduate research endeavors exceeding several thousands of dollars. These accomplishments during the past year speak for the professional growth of and national recognition given to graduate students and their respective programs in the Department. Some highlights of graduate student funding accomplishments include the awarding to Grant Meyer of the Geological Society of America's J. Hoover Mackin Award, the funding of a proposal written by Grant Meyer to the National Science Foundation to support his dissertation research on geomorphic effects of paleowildfires, and State of New Mexico Graduate Fellowships to Aurora Pun and Paula Stout. In addition, Bill Criswell, Mark Gonzalez, and Ken Sims obtained fellowship support as summer Graduate Research Scientists, at Los Alamos National Laboratory. Several graduate students received University of New Mexico Student Research Allocation Committee funds to support their research and/or help defray the cost of attending professional meetings. The above accomplishments attest to the strong and growing level of professional activity within our graduate program.

Several graduate students were active in presenting papers, as part of their research efforts, at professional meetings during the 1989-1990 year. As well, research efforts of several students were published in professional, peer-reviewed journals and society guidebooks. A total of 57 professional presentations were made by M.S. and Ph.D. students during the past academic year. Graduate students authored or co-authored over 40 papers published during the 1989-1990 year. These observations, in combination with the nationally competitive student awards discussed above, further indicate the very high level of professional activity by the graduate students in
our program. These activities are stimulated by individualized support and training provided by faculty members and/or research scientists supervising the students and their research efforts. The Department maintains that such interactions, including visibility at national and/or international geoscience meetings, are necessary components of well-rounded, modern graduate education. All students receiving degrees during the 1989-1990 year either successfully obtained employment with consulting firms, state and federal geoscience agencies, or companies in the oil industry. Some students continued their graduate careers, at UNM or elsewhere.

Admissions

A summary of the applicants and admission statistics for the Fall 1989 and Spring 1990, terms is provided in Tables 1 and 2, respectively. The total number of completed applications to the graduate program increased from the 1988-1989 academic year (total of 65) to the past 1989-1990 year (total of 83, 70 for the Fall and 13 for the Spring). In the long term, the Department is witnessing a general decline in the number of applications to the graduate program: a total of 98 applications in the 1986-1987 academic year and 91 in the 1987-1988 time period. The trend is not at all unique to our Department and New Mexico in general and reflects the general, long-term economic slump in the mineral and petroleum industries, which have historically employed the largest number of professional geoscientists. As might be imagined, the decline in student enrollment in the geosciences is even more significantly affecting undergraduate populations across the country. Compounding the problem of dwindling number of students who would potentially apply to the graduate program are the relatively low salaries, often by several thousands of dollars per academic year, which we are able to offer potential teaching assistants at UNM, in comparison with numerous competing, peer institutions. In response, the Department maintains an aggressive recruitment program involving (1) offers of one-time $1,000 scholarships to supplement UNM financial assistantships and (2) travel support for top applicants to visit the Department during the Spring term. In general, the program of a more aggressive approach to graduate applications appears to be paying off and we hope that it will become even more aggressive. The total number of new students enrolling in our program has fluctuated over the past few years—14 in 1986-1987, 20 in 1987-1988, 19 in 1988-1989, and 12 in 1989-1990. Although the total number of students applying to the program has decreased somewhat over this same period, the Department has actually increased its enrollment and maintained a graduate population of
approximately 65-70 for the past four years. Overall, we have been able to attract a greater population of top applicants over this time period.

The high admission standards for applicants to our graduate program continues despite the reduction in completed applications and our ability to offer nationally competitive financial aid packages. Applicants for the 1989-1990 academic year had an average undergraduate grade-point average (GPA) of 3.40 and average M.S. GPA of 3.66. The average undergraduate GPA is approximately constant for the past several years. The graduate GPA for students applying to the Ph.D. program has increased considerably over the past few years. The average GPA for students not accepted into the graduate program was 3.19. Average scores for the Graduate Record Exam, in both general tests as well as the geoscience subject test, remain as high as in previous years. During the summer 1989 the Department sent out a questionnaire to all students who had applied for admission into the graduate program for the Fall 1989 term, yet for one reason or another did not attend UNM. The applicants were requested to provide a minimum of generic information, including whether they enrolled in a graduate geoscience program for the 1989-1990 academic year, whether they received some form of financial aid, and when they made a decision to enroll in the particular program of their choice. It is interesting to note that over 95% of the respondents received some form of financial aid from a graduate program; over 75 percent received minimally a two-year financial aid package!

During the past four academic years, the percentage of completed applications by underrepresented groups in the geological sciences, particularly women, has fluctuated but remains quite high: 18 percent in 1986-1987, 24 percent in 1987-1988, 31 percent in 1988-1989, and 21 percent in 1989-1990. The percentage of women applicants may reflect the potential for mentoring and guidance by women faculty members in the Department. The number of financial aid offers to women applicants has varied from four to six over the past four years, and the financial aid acceptance ratio for women has increased during this period. Averaged over the past four years, the percentage of men and women accepting financial aid offers has remained roughly constant, at approximately 50 percent. The total number of members of underrepresented groups who accepted our admission offer into the graduate program has increased from one in the 1986-1987 academic year to four in the 1989-1990 academic year.
Table 1: Department of Geology-Summary of Graduate Applicant Data, Fall, 1989

A. Applicants to Graduate Program (70 Completed Applications)

<table>
<thead>
<tr>
<th>Men</th>
<th>Women</th>
<th>Total</th>
<th>Minority</th>
<th>Foreign</th>
<th>GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admitted</td>
<td>29</td>
<td>7</td>
<td>39</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Not Admitted</td>
<td>23</td>
<td>7</td>
<td>31</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Accepted Admission</td>
<td>6</td>
<td>3</td>
<td>9</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Did Not Accept Admission</td>
<td>23</td>
<td>4</td>
<td>27</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

TOTALS 70

Additional Incomplete Applications 3 2 0 14

B. Financial Aid Data (Teaching Assistantships and Fellowships)

| Aid Offered | 15 | 4 | 1 | 0 |
| Aid Accepted | 3 | 1 | 0 | 0 |
| Percent Accepting Offer | 20 | 25 | 0 | - |

Table 2: Department Of Geology-Summary Of Graduate Applicant Data For: Spring, 1990

A. Applicants to Graduate Program (out of 15 completed applications)

<table>
<thead>
<tr>
<th>Men</th>
<th>Women</th>
<th>TOTAL</th>
<th>Minority</th>
<th>Foreign</th>
<th>GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admitted</td>
<td>6</td>
<td>1</td>
<td>7</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Not Admitted</td>
<td>5</td>
<td>0</td>
<td>5</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Accepted</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Not Accepted</td>
<td>4</td>
<td>-</td>
<td>4</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

TOTALS 15

Additional Incomplete Applications 1 0 2

B. Financial Aid Data (Assistantships and Fellowships)

| Aid Offered | 1 | 1 | 0 | 0 |
| Aid Accepted | 1 | 1 | 0 | 0 |
| Percent Accepting Offer | 100 | 100 | - | - |
PUBLICATIONS AND PRESENTED TALKS

Achim Albrecht (Ph.D. Student)


Bruce D. Allen (M.S. Student)

1. Decadal to millennial climate variability in lacustrine deposits from central New Mexico, 18,000 to 9,000 yrs. B.P., AGU Fall Meeting, San Francisco, with R.Y. Anderson, 1989.

Michael G. Bersch (Ph.D. Student)


Charles R. Bryan (Ph.D. Student)


Ignacio Casanova (Ph.D. Student)

3. Analisis por microsonda y DRX..." I Workshop Aplicacione Reocas Volcanicas, Canarias, with Martinez, Queralt, Chinchon, 1989.

Charles W. Criswell (Ph.D. Student)


Raymond K. Eby (Ph.D. Student)

2. Structure of Encharonite CuAsO$_4$(OH)$_3$H$_2$O, accepted in Acta Cryst.
3. Structure of Cornetite Cu$_3$(PO$_4$(OH)$_2$, accepted in TMP.

Yehouda Enzel (Ph.D. Student)

1. Tropical and subtropical moisture and southerly displaced... , with R.Y. Anderson, Brown, Cayon, S.G. Wells, Proceedings of the Sixth Annual PACLIM workshop, in press.
4. Invited to participate in PACLIM (Pacific Climate) workshop.
8. Invited to participate in workshop (as panel member) at the University of Texas.

Daniel W. Erskine (Ph.D. Student)


James E. Faulds (Ph.D. Student)


Robert J. Finch (M.S. Student)


Stephen S. Harlan (Ph.D. Student)

1. Paleomagnetism and \(^{40}Ar/^{39}Ar\) geochronology of Proterozoic mafic dikes, southern Wind River Range, Wyoming.
2. The age and primary magnetization of the Stillwater Complex, and the coherence of Archean cratons of Laurentia, with J.W. Geissman, L.W. Snee, Fall AGU meeting, San Francisco.
James B. Harrison (Ph.D. Student)

Steven N. Hayden (Ph.D. Student)
1. Stratigraphy of the Cretaceous Bisbee Group, Central Peloncellno Mountains, Hidalgo, Colorado, New Mexico, at NMGS Spring Meeting, NMMT.

Qing Huang (M.S. Student)

Adrian P. Hunt (Ph.D. Student)
1. Dawn of the Age of Dinosaurs in the American Southwest (edited, with S.G. Lucas).
6. Vertebrate biochronology of Late Triassic red beds in NM-AAPG (Rocky Mountain Section), Albuquerque.
7. Correlations and taphonomy of Late Cretaceous vertebrate localities in Fruitland and Kirkland formations, San Juan Basin, New Mexico, AAPG (Rocky Mountain Section), Albuquerque.
8. Trimerorachid amphibian from the Late Pennsylvania of central New Mexico, with S.G. Lucas and P. Huber, Society of Vertebrate Paleontology.
9. Vertebrate biochronology of Late Triassic red beds in New Mexico, AAPG Bulletin, v. 73, p. 1161-1162.
10. Correlations and taphonomy of Late Cretaceous vertebrate localities in Fruitland and Kirkland formations, San Juan Basin, New Mexico, AAPG Bulletin, vol. 23, p. 1161/
11. Trimerorachid amphibian from the Late Pennsylvania of central New Mexico, with S.G. Lucas and P. Huber, vol. 9 (suppl.), p. 26A.

Danny Katzman (M.S. Student)
Antarctica, with D.H. Elliot, International Associate of Volcanology and Chemistry of the Earth's Interior, General Assembly, Santa Fe, New Mexico, 1989.

Richard F. Livaccari (Ph.D. Student)


Bradley K. Linsley (Ph.D. Student)

3. Carbonate sedimentation in the Sulu Sea linked to the onset of Northern Hemisphere glaciation, with ODP Leg 124 Scientific Party, Geophysical Res. Letters, Special Issue, ODP Leg 124 Preliminary Results.
4. Carbonate sedimentation in the Sulu Sea linked to the onset of Northern Hemisphere glaciation, with ODP Leg 124 Scientific Party, EOS abstract, 70, no. 43, p. 1135.

Timothy J. McCoy (M.S. Student)

1. Lake Machattie, a weathered H5 chondrite from Queensland, Australia, with K. Keil, Meteoritics, 1989.

Patrick A. Longmire (Ph.D. Student)


Eric V. McDonald (Ph.D. Student)


Rodney V. Metcalf (Ph.D. Student)


Kenneth W. Simms (M.S. Student)

2. Abundances of As, Sb, W and Mo in the Earth's crust and mantle: Implications for Terrestrial Accretion and Core Formation through time, with H. Newsom and E.S. Gladney, submitted to Origin of the Earth.

Amy G. Thompson (Ph.D. Student)


David B. Ward (Ph.D. Student)

2. Rb determination by isotope dilution: inductively coupled plasma mass spectrometry as an alternative to thermal ionization mass spectrometry, with M. Bell, Analytica Chimica Acta, in press.

Maya M. Wheelock (M.S. Student)

4. New chemical constraints on the origin of aubrites, with Heavilon, Keil, Strait, Crozaz, Meteoritics 24:3, abstract, in press.

Christine A. White (Ph.D. Student)

1. Fluid infiltration during metamorphism of pelites and quartzites, with J.A. Grambling, GSA National Meeting, St. Louis, Missouri, November 6, 1989.
UNDERGRADUATE PROGRAMS IN GEOLOGY
UNDERGRADUATE PROGRAMS IN GEOLOGY

Over the last fifteen years the majority of undergraduate majors in Geology at UNM have chosen the Bachelor of Science in Geology program. This well-established program has prepared students especially well for graduate degree programs in Earth Science. It has also served as excellent preparation for employment in the mining and petroleum industries. However, because of the very small number of job opportunities available in the conventional mining and petroleum industries, and with an increasing demand for undergraduates with interests and background in the broad field of "environmental geology and hydrogeology", the department decided last year to develop a new Bachelor of Arts (BA) in Geology program as well. It is our expectation that this new program will be especially suitable and attractive to those who wish to major in Geology but who do not have, as their primary goal, further study at the graduate level. Furthermore, it has been especially tailored for those who may major in Anthropology, Archaeology, and Science Education but wish to minor in Geology. It is our hope that the new B.A. program, which will be in effect as of the fall of 1990, will over the next few years considerably increase our enrollment of majors and minors in Geology in 300- and 400-level offerings. The new B.A. program, to which the minor requirements are directly tied, is as follows:

B.A. Geology Required Courses:

101, 105L - Physical Geology and Lab (4 cr.)
102, 102L - Historical Geology and Lab (4 cr.)
255L - Field Geology of New Mexico (4 cr.)
321L* - Introductory Mineralogy and Lab (3 cr.)
322L* - Introduction to Petrology and Lab (3 cr.)
307, 317L - Structural Geology and Lab (4 cr.)
401 - Seminar (1 cr.)
490 - Geologic Presentation (1 cr.)

and 12 additional hours in Geology above 299 (excluding Geol. 401 and 490), with at least 6 hours at the 400 level. Total credits for this Geology sequence = 36.

*two new courses with two lectures and one lab per week (to be given in 1990-91).

Non-geology Required Courses:

Chem 111L, and 12 additional hours from either Chemistry or Mathematics 162 or above, or Physics 151 or above, or Biology 121 or above. Total credits in these sciences = 16. This degree program is not the recommended route for preparation for graduate school in earth sciences.

Minor Study Requirements:

The minor in Geology consists of 20 credit hours, of which 12 must be above the 299 level.

The total number of undergraduates who have declared Geology as a major is 60. In 1990 we graduated 9 students with undergraduate degrees in Geology.
I. RESEARCH GRANTS AND CONTRACTS

High-resolution Stratigraphy: Application to Hydrologic-Climatic Reconstruction in Southwestern U.S.
R. Y. Anderson
National Science Foundation, NSF EAR-8903840
$13,842, June 1, 1989 to Nov. 30, 1990

Geochemical studies at the WIPP site (two awards)
D. G. Brookins
Sandia National Laboratories
$95,000; Oct. 1, 1989 - Dec. 31, 1990

National analogs and uranium series disequilibrium studies, southeastern New Mexico
D. G. Brookins
Sandia National Laboratories
$40,000; Oct. 1, 1989 - Sept. 30, 1990

Study of Shear Zones and Associated Intrusions, Coastal Orogen, British Columbia and Alaska
M.L. Crawford, W.A. Crawford, and C.K. Mawer
National Science Foundation
$100,000; July 1989 to July 1991

Application of volcanology to lunar and planetary geology
W.E. Elston
NASA, Grant NGR 32-004-062, Supplement 27
$43,260, April 1, 1989 to September 30, 1989, no-cost extension to December 31, 1989

Applications of volcanology to lunar and planetary geology
W.E. Elston, D. Twist and C.K. Mawer
NASA
$52,000; Oct. 1989 to Oct. 1990

Hydration of High-Silica Glasses
R.C. Ewing
Battelle Pacific Northwest Laboratories
$20,000; March 1, 1989 - Sept. 30, 1989

Construction of a low-induction space to house instrumentation for paleomagnetic and rock magnetic microanalysis
J.W. Geissman
National Science Foundation
$15,000, Jan. 1, 1989 to Dec. 30, 1990

Paleomagnetism and $\Delta$Ar/$\Delta$Ar thermochronology of Precambrian mafic dykes and other igneous units, central and southern Rocky Mountains, USA
J.W. Geissman
Paleomagnetic and rock magnetic investigation of New Mexico rocks
J.W. Geissman
New Mexico Bureau of Mines and Mineral Resources
$2,800; May 1, 1989 to April 30, 1990

Magnetostratigraphy and \textsuperscript{40}Ar/\textsuperscript{39}Ar geochronology of volcanic rocks of late Eocene and Oligocene age, New Mexico, Texas, and Colorado
J.W. Geissman and Wm. McIntosh
National Science Foundation
$45,000, June 1, 1989 to May 30, 1991

Research Experiences for Undergraduates
J.W. Geissman
National Science Foundation
$4,000, Dec. 1, 1989 to Nov. 30, 1990

Geologic mapping of a high-grade gneiss complex in parts of the Cimarron and Taos Ranges, New Mexico
J.A. Grambling
New Mexico Bureau of Mines and Mineral Resources
$4,278; May 26, 1989 - Sept. 1, 1989

Structural, metamorphic, and \textsuperscript{40}Ar/\textsuperscript{39}Ar studies of Proterozoic tectonism in New Mexico
J.A. Grambling and C.K. Mawer
National Science Foundation
$110,021; Feb. 1, 1989 - Aug. 1, 1991

Origin of meteorite parent bodies and the Moon
K. Keil
NASA
$217,135; Feb. 15 to Dec. 1, 1989

Origin of meteorite parent bodies and the Moon
K. Keil
NASA
$100,000; Dec. 1, 1989 to June 30, 1990

Mineralogic characterization of the geologic section at the WIPP site
K. Keil
Sandia Labs
$57,000; Oct. 1, 1989 to Sept. 30, 1990

Petrologic and geologic investigations in support of engineering and design studies, Nevada Test Site
K. Keil
Sandia Labs
$75,000; Oct. 1, 1989 to Sept. 30, 1989

The late Pleistocene History of Oceanographic Variability Recorded in the Sulu Sea
B. K. Linsley
USSAC grant (United States Science Support Program)
Regional patterns of soil formation and paleoclimatic inferences from remotely sensed images
L. D. McFadden
NASA Land Processes Branch
$40,600; July, 1989 to May, 1991

Characterization of Quaternary soils of the western Ajo Mountains piedmont, southern Arizona
L.D. McFadden
United States Geological Survey
$10,104; August 7, 1989 to Sept. 30, 1990

Field studies of the impact ejecta at the Ries Meteorite Crater, West Germany
H.E. Newsom and K. Keil
Barringer Crater Company
$1,800; June 1, 1989 to Oct. 1, 1989

Evolution of the continental lithosphere in extension terrains: $^{144}$Nd/$^{142}$Nd and $^{87}$Sr/$^{86}$Sr technique and A tectonic-geomorphic analysis of the Colorado Plateau-Basin and Range transition zone to the model of crustal uplift initiated by lithospheric thinning and heating of the uppermost mantle
F.V. Perry
Los Alamos National Laboratory

Analytical Electron Microscope analyses of stratospheric particles collected at 5 km altitude
F.J.M. Rietmeijer
University of California, San Diego, Dr. J. Arnold
$5,000; Jan. 1, 1989 to June 30, 1989

Mineralogy of fine-grained primitive extraterrestrial materials
F.J.M. Rietmeijer
National Aeronautics and Space Administration Planetary Materials and Geochemistry Program
$85,000; April 1, 1989 to March 31, 1990

Shock metamorphism of cosmic dust analogs
F.J.M. Rietmeijer
National Aeronautics and Space Administration, Planetary Instrument Development Program
$15,000; April 1, 1989 to March 31, 1990

Compositional characterization of volcanism in a portion of the Ortiz porphyr belt
G.A. Smith
$1,859; Sept. 1, 1989 - Sept. 1, 1990

Geological and other scientific requirements in future lunar exploration
G.J. Taylor
NASA
$25,000; May 1, 1989 to April 30, 1989

Soil-geomorphic relations of alluvial fans and fluvial terraces of the Harquahala Valley, Sonoran Desert, Arizona
C. Terhune
Geological Society of America
$800; April 1989 to April 1990

Volcanic Hazard Studies for the Nuclear Waste Repository at Yucca Mountain
S.G. Wells and F. Perry
Los Alamos National Lab
$74,842; Oct. 1, 1989 to May 31, 1990

Quaternary evolution of fluvial systems in the northern Rio Grande Rift: Implications for vertical crustal uplift and rift tectonics
S.G. Wells
IGPP/Los Alamos National Lab
$11,000; Nov. 21, 1989 to Nov. 20, 1990

Basin and Range Geophysical Experiment (BARGE)
B.P. Wernicke and J.W. Geissman
National Science Foundation (subcontract through Harvard University)
$42,000; Dec. 1, 1989 to Nov. 30, 1991

Travel to St. Louis to perform ion microprobe measurements of REE in Meteorites
Maya M. Wheelock
UNM Student Research Allocations Committee
$549; March and Dec. 1989

The beginning of the age of mammals in the San Juan Basin: Biostatigraphy and evolution of paleocene mammals of the Nacimiento Formation
T.E. Williamson
New Mexico Geological Society
$300; June-August, 1989

Awards Continuing from Previous Years

Climatic Change in the ENSO (El Nino-Southern Oscillation) and Lower Frequency Bands, Northeast Pacific Continental Margin
R.Y. Anderson and J.V. Gardner
National Science Foundation, SF ATM8707462
$76,426; 1988 to Nov. 1989
Rapid Climatic Change in Central New Mexico
R.Y. Anderson
UNM, Research Allocation Committee
$1543; 1988 - Oct. 1, 1989

Radon studies in the Albuquerque, New Mexico area: Soil, indoor, air and water
D.G. Brookins
The Frost Foundation
$18,000; April 15, 1988 - June 30, 1989

Geochemical studies at the WIPP site
D. G. Brookins
Sandia National Laboratories
$65,000; Oct. 1, 1988 - Sept. 30, 1989

Processes of crustal extension in east-central Idaho
R.L. Bruhn and J.W. Geissman
National Science Foundation
$81,000; January 1, 1988 to July 1, 1990

An examination of the thermal stability of water-soluble organic compounds in digenetics systems
American Chemical Society (Petroleum Research Fund)
$18,000; July, 1987 to August, 1989

Organic-inorganic interactions in sedimentary basins: Experimental studies of water-soluble organic compounds
L.J. Crossey
Shell Development Basic Research Grant
$10,000; Oct., 1987 - open

Mineralogical characterization of geological section at the WIPP site: Assessment of organic constituents in the
Culebra Dolomite
L.J. Crossey
Sandia National Laboratories

Digenetic processes in sandstones intercalated with organic-rich sediments: Piceance Creek Basin, northwestern Colorado
L.J. Crosey
Sandia-University Research Program (SURP)
$30,000; Oct., 1988 to Oct., 1989

Pyroclastic eruptions of Mount St. Helens on May 18, 1980
W.E. Elston
NSF grant EAR 87-0744
$30,000; September 1987 - February 1990

Application of volcanology to lunar and planetary geology
W.E. Elston
NASA grant NGR32-004-062, supplement 26
$40,000; April 1988-March 1989
Radiation Effects and Annealing Kinetics in Crystalline Complex Nb-Ta-Ti Oxides, Phosphates and Silicates
R.C. Ewing
Office of Basic Energy Sciences, DOE
$300,000; August 1, 1987 - July 30, 1990

Low Temperature Alteration of Natural Uraninite
R.C. Ewing
Swedish Nuclear Power and Waste Company
$80,000; Sept. 1, 1988 - August 30, 1990

Characterization of Alteration Layers in Nuclear Glasses in the MIIT/WIPP Tests
R.C. Ewing
Hahn-Meitner Institute, Berlin, Germany
$35,000; Sept. 1, 1988 to Aug. 30, 1989

Travel support for collaboration with the Solid State Sciences Division of Oak Ridge National Laboratory
R.C. Ewing
Oak Ridge Associated Universities, extended through 1990, amount not specified in agreement

An automated, small-access superconducting rock magnetometer for paleomagnetic and rock magnetic microanalysis
J.W. Geissman
Department of Energy, University Research Instrumentation Program
$115,000; August 1, 1987 to August 30, 1990

Infiltration pathways during the regional metamorphism of pelitic schists and quartzites
J.A. Grambling
National Science Foundation
$86,900; June 1, 1987 - Nov. 30, 1989

Mineralogic characterization of the geologic section at the WIPP site
K. Keil
Sandia Labs
$80,053; Oct. 1, 1988 to Sept. 31, 1989

Petrologic and geological investigations in support of engineering and design studies, Nevada test site
K. Keil
Sandia Labs
$93,934; Dec. 10, 1987 to Sept. 30, 1989

Origin and evolution of meteorite parent bodies and the Moon
K. Keil
NASA
$250,000; Feb. 1, 1988 to Jan. 31, 1989

Partial funding of the acquisition of the La Pas collection of meteorites
K. Keil
NASA
$100,000; Feb. 1, 1989 to Jan. 31, 1989

Mineralogy, petrology and chemistry of Spanish meteorites: origin and evolution of meteorite parent bodies
K. Keil
Comparative geochemistry and sedimentology of several essentially unmetamorphosed Proterozoic iron-
formations
C. Klein
National Science Foundation Grant EAR-8617805
$100,000; September 1987 to August 1990

UNM/Sandia Colloquium Series
A.M. Kudo
Sandia National Labs
$11,000; Aug. 1988 to May, 1989

Ocean Drilling Program, JOIDES Resolution leg 124, drilling in the Sulu and Celebes Seas, western equatorial
Pacific Ocean
B.K. Linsley
Texas A & M Research Fund
$6,800, Nov. 1988 to Jan. 1989

A detailed Geometric and Kinematic Analysis of a major Accomodation Zone in Highly exended Terrane:
Central Black and Southern Eldorado Mountains, Arizona and Nevada
C.K. Mawer and J.W. Geissman
National Science Foundation
$46,458; June 1988 to June 1990

Accretion and core formation in the Earth; evidence from siderophile and chalcophile trace elements
H.E. Newsom and K. Keil
National Science Foundation
$88,400; June 1, 1988 - Nov. 30, 1990

Distribution of light element isotopes in Bencubbin and Weatherford Meteorites: An indicator of heterogeneity
in the primitive solar nebula
H.E. Newsom, co-principal investigator
Institute of Geophysics and Planetary Physics

Analytical Electron Microscopy of fine-grained phases in primitive interplanetary dust particles and carbonaceous
chondrites
F.J.M. Rietmeijer
National Aeronautics and Space Administration Planetary Materials and Geochemistry
Program
$81,000; Apr 1, 1988 to March 31, 1989

Shock Metamorphism of Cosmic Dust Analogs
F.J.M. Rietmeijer
National Aeronautics and Space Administration Planetary Instrument Development Program
$20,000; April 1, 1988 to March 31, 1989

Volcaniclastic sedimentation related to intracontinental volcanic fields and rift basins
G.A. Smith
Petroleum Research Fund, American Chemical Society
Collaborative research on seismic ridge subduction in Costa Rica: Mechanisms and geomorphic evidence for crustal uplift
S.G. Wells
National Science Foundation
$57,620; Jan. 1, 1987 to Dec. 31, 1989

Catalog of Hydrologic Information for the Middle Rio Grande
S.G. Wells
U.S. Fish and Wildlife
$8900; Aug. 3, 1988 to Sept. 30, 1989

Volcanic Hazard Studies for the Nuclear Waste Repository at Yucca Mountain
S.G. Wells and F. Perry
Los Alamos National Lab
$95,000; Oct. 1, 1988 to Sept. 30, 1989

Quaternary evolution of fluvial systems in the northern Rio Grande Rift: Implications for vertical crustal uplift and rift tectonics
S.G. Wells
IGPP/Los Alamos National Lab
$11,000; Nov. 21, 1988 to Nov. 20, 1989

Paleogene geology of the Pisco Basin, Peru
R.Wright
Texaco
$35,000; May 1, 1988 to May 1, 1990

The stable isotope and minor element geochemistry of iron (III) oxide rocks and minerals
C.J. Yapp
National Science Foundation
$90,158; February 1, 1988 to July 31, 1990
II. PROFESSIONAL LECTURES TO THE DEPARTMENT OF GEOLOGY AND INSTITUTE OF METEORITICS, FALL, 1988 - SPRING, 1989

Dr. Robert C. Newton, Department of Geophysical Sciences, University of Chicago: "Fluids and Melting in the Deep Crust": Sandia Colloquium Series (August 30, 1989)

Dr. Larry Lattman, President, New Mexico Institute of Mining and Technology:
"History and Evolution of Western Scientific Thought": Sandia Colloquium Series (September 6, 1989)

Dr. Frank S. Spear, Department of Geology, Rensselaer Polytechnic Institute: "Metamorphic Evolution of Mountain Belts": Sandia Colloquium Series (September 13, 1989)

Dr. Jon Spencer, Arizona Bureau of Mines: "Cenozoic Extensional Tectonics in the Mojave-Sonora Region" (September 20, 1989)

Dr. Dietmar Schumacher, Senior Explorationist, Pennzoil: "Applications of Geochemistry to Basin Analysis and Basin Modelling" (September 25, 1989)

Dr. Bruce Marsh, Department of Earth and Planetary Sciences, John Hopkins University: "Magmatic processes in sills and their impact on the development of igneous rocks" (September 27, 1989)

Dr. Paul Knauth, Department of Geology, Arizona State University: "Climatic temperature history of the earth: 3.5 Ga to the present" (October 4, 1989)

Dr. John Goodge, Department of Geological Sciences, Southern Methodist University: "Crustal Evolution along the Antarctic margin of Gondwana" (October 11, 1989)

Dr. John Goodge, Department of Geological Sciences, Southern Methodist University: "Petrologic and stable-isotopic studies of Proterozoic metamorphism in the Picuris Mountains, New Mexico" (October 12, 1989)

Dr. J. Lawford Anderson, Department of Geological Sciences, University of Southern California: "Cordilleran Middle Crust: Core Complexes and Suspect Terranes" (October 18, 1989)

Dr. Simon Peacock, Department of Geology, Arizona State University: "Thermal and Fluid Evolution of Subduction Zones" (October 25, 1989)

Dr. Eric J. Essene, Department of Geological Sciences, University of Michigan: "Geologic History of the
Grenville Terrane

Dr. Eric J. Essene, Department of Geological Sciences, University of Michigan: "Ultra-High Temperature Glasses: Ephemeral but Interesting" (November 2, 1989)

Dr. Steve Reneau, Los Alamos National Laboratories: "Erosion Rates and Landscape Evolution in the Oregon Coast Range" (November 15, 1989)

Dr. David W. Houseknecht, Associate Professor, Department of Geology, University of Missouri, Columbia: "Role of Compaction in Determining Sandstone Porosity" (November 28, 1989)

Dr. T. Mark Harrison, Department of Earth and Space Sciences, University of California-Los Angeles: "Recurring Tectonothermal Consequences of Continental Collision: The Himalayas" (November 29, 1989)

Dr. Brian Patrick, Geoscience Department, New Mexico Institute of Mining and Technology: "Blueschist to Barrovian: Overprinting of an Early High-P, Low-T Metamorphic Event, Seward Peninsula, Alaska" (December 6, 1989)

Dr. R. L. Schuster, U.S.G.S., Landslide dams - a worldwide geologic hazard (January 24, 1990)

Dr. Richard Erdlac, U.T. Austin, Formation of push-up blocks and associated stress fields; Laramide example from Texas (January 25, 1990)

Dr. Tim Kelly, Geohydrology Associates, Water Resources of Albuquerque Basin (January 31, 1990)

Dr. D.L. Giles, Cimarron Gold Corp., Finding Epithermal lode gold deposits - the explorationist's bag of tricks (February 7, 1990)

Dr. J.A. Grambling, UNM, Middle Proterozoic (1350 Ma) tectonism in central N.M. (February 14, 1990)

Dr. Leslie Smith, Department of Geological Sciences, University of British Columbia: "Solute Transport in Fracture Networks" (February 20, 1990)

Dr. Leslie Smith, Desert Research Institute, Reno, Groundwater and tectonic processes (February 20, 1990)

Dr. Crayton J. Yapp, LAC Mienrals, Carache Canyon Gold Deposit, N.M. (February 21, 1990)

Dr. S.F. Singer, Global environmental issues: Science vs. Politics. Sandia National Labs Colloquium Speaker (February 22, 1990)

Dr. Roger H. Hewins, Department of Geological Sciences, Rutgers University: "Crystallization Experiments,
Chondrule Origins and the Solar Accretion Disk* (February 27, 1990)

Dr. M.S. Fulp, Consultant, "Milagros Gold Deposit, N.M." (February 28, 1990)

Dr. Gerhard von Gruenewald, Institute for Geological Research on the Bushveld Complex, University of Pretoria South Africa: "The Platinum Group Element-Chromitite Association in the Layered Rocks of the Bushveld Complex" (March 2, 1990); "MAGmas of the Bushveld Complex-Implications for its Tectonics Setting" (March 2, 1990)

Dr. Judith Parrish, Univ. of Arizona: "Late Cretaceous Climates in North America" (March 7, 1990)

Dr. Mike Holdaway, Southern Methodist University, "Simplicity and Predictability in Pelitic Metamorphic Rocks" (March 21, 1990)

Dr. Dion Stewart, Adams State, Colorado: "Chemical signatures of vapor alteration of volcanic glass and igneous rocks" (March 28, 1990)


Dr. Bob Smith, University of Utah, Snake River Plain - Yellowstone Hot Spot (April 4, 1990)


Dr. Wendell Duffield, USGS, Flagstaff, Taylor Creek Rhyolite of N.M.: A rapid succession of leaks from top of large reservoir of highly evolved granitic magma (April 11, 1990)

Dr. Leroy Schutz, Pegasus Gold Corporation: "Ortiz Gold Project" (April 18, 1990)

Dr. C. Zimmerman, Newmont Gold, Geology and ore deposits of Carlin trend (April 25, 1990)

Dr. William Chavez, Department of Mining, Environmental, and Geological Engineering: "Economic Geology of China" (May 2, 1990)

Dr. Alexandra Navrotsky, Department of Geological and Geophysical Sciences, Princeton University: "Thermodynamic Studies of Order-Disorder in Minerals and Ceramics" (May 3, 1990)
III. UNDERGRADUATE DEGREES AWARD

The following students completed degrees during the report period:

B.A.

HOVDA, Betsy R. - Summer, 1989

B.S.

BATTUELLO, Peter A. - Fall, 1989
HUTCHINSON, Jimmi L. - Summer, 1989
MASON, Ralph E. - Fall, 1989
MOORE, Audrey J. - Fall, 1989
ROMERO, David J. - Spring, 1990
WAWRZYNIEC, Timothy F. - Spring, 1990
### IV. MASTERS STUDENTS

| Shirley J. Adams | Milligan, Darin J. |
| Bruce D. Allen | Morris, Robert W. |
| William J. Brown | Neville, Paul |
| Edward Calvin | Paschal, Sally Ann |
| Daniel, Christopher | Pazzaglia, Frank J. |
| Davidek, Lon A. | Pun, Aurora |
| Drake, Paul G. | Royek, Teresa M. |
| Epling, Bruce A. | Sasahara, Ann |
| Finch, Robert J. | Simpson, David T. |
| Groffman, Armando R. | Sims, Kenneth W. |
| Harms, Katherine | Skirvin, Thomas M. |
| Huang, Qing | Stout, Paula J. |
| Iseri, David A. | Terhune, Christine L. |
| Katzman, Danny | Verhage, Kathleen M. |
| Lauffer, Franz | Warner, Julie K. |
| McKeown, Kevin | Wheelock, Maya M. |
| McCoy, Timothy J. | Wiberg, Thomas L. |
| Murret, Suzanne | Williams, Cecilia V. |
### V. Doctoral Students

<table>
<thead>
<tr>
<th>Name</th>
<th>Advisor</th>
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<tbody>
<tr>
<td>Albrecht, Achim</td>
<td>Larsen, Daniel</td>
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<tr>
<td>Bersch, Michael G.</td>
<td>Linsley, Braddock K.</td>
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<tr>
<td>Bryan, Charles R.</td>
<td>Livaccari, Richard F.</td>
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<td>Bullard, Thomas F.</td>
<td>Longmire, Patrick A.</td>
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<td>Callan, James T.</td>
<td>McDonald, Eric</td>
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<td>Casanova, Ignacio</td>
<td>McKinley, James P.</td>
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<tr>
<td>Criswell, Charles W.</td>
<td>Metcalf, Rodney V.</td>
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<td>Eberly, Paul O.</td>
<td>Meyer, Grant</td>
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<td>Eby, Raymond K.</td>
<td>Miller, Mark L.</td>
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<td>Enzel, Yehouda</td>
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<td>Erskine, Daniel W.</td>
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<td>Faulds, James F.</td>
<td>Sadow, Jonathan</td>
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<tr>
<td>Gonzalez, Mark A.</td>
<td>Schiel, Kathryn A.</td>
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<td>Harlan, Stephen S.</td>
<td>Sowards, Terrence V.</td>
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<td>Harrison, James B.</td>
<td>Thompson, Amy G.</td>
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<td>Hayden, Steven M.</td>
<td>Ward, David B.</td>
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<td>Hunt, Adrian P.</td>
<td>White, Christine A.</td>
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<td></td>
<td>Williamson, Thomas E.</td>
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</table>

### VI. Post-Doctoral Fellows

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Brearley, Adrian</td>
<td>Jercinovic, Michael</td>
</tr>
<tr>
<td>Janeczek, Janusz</td>
<td>Jones, Rhian</td>
</tr>
</tbody>
</table>
VII. GRADUATE DEGREES AWARD

The following students listed below received M.S. or Ph.D. degrees in Geology in 89-90.

Master's Degrees

ADAMS, Shirley J., Fall, 1989 - Dispersal and Sedimentation of Pollen Rain; Pollen as a Tracer of Lacustrine Sedimentation, Gold Water Lake, Mount St. Helens, Washington, Dr. R. Y. Anderson, Advisor

BROWN, William J., Summer, 1989 - The Late Quaternary Stratigraphy, Paleohydrology, and Geomorphology of Pluvial Lake Mojave, Silver Lake and Soda Lake Basins, Southern California, Dr. S.G. Wells - Advisor

CALVIN, Edward M., Fall, 1989 - Geology, Petrology and Geochemistry of Pico de Orizaba, Mexico, Dr. A.M. Kudo, Advisor

DRAKE, Paul G., Summer, 1989 - Quaternary Geology and Tectonic Geomorphology of the Coastal Piedmont and Range, Puerto Quepos Area, Costa Rica, Dr. S.G. Wells, Advisor

ISERI, David A., Fall, 1989 - A Paleomagnetic, Rock Magnetic, and Micromagnetic Study of the Suevite Deposits at Ries Crater, Southern West Germany, Dr. J.W. Geissman, Advisor

McCoy, Timothy J., Spring, 1990 - Metamorphism, Brecciation and Parent Body Structures of LL-Group Chondrites, Dr. K. Keil, Advisor

MENNE, Barbara, Summer, 1989 - Structure of the Placitas Area, Northern Sandia Uplift, Sandoval County, New Mexico, Dr. L.A. Woodward, Advisor

PAZZAGLIA, Frank J., Fall, 1989 - Tectonic and Climatic Influences on the Evolution of Quaternary Depositional Land Forms Along a Segmented Range Front Fault, Sangre de Cristo Mountains, North Central New Mexico, Dr. S.G. Wells, Advisor

RENAULT, Claire E., Summer 1989 - Hillslope Processes on Late Quaternary Cinder Cones of the Cima Volcanic Field, Eastern Mojave Desert, California, Dr. S.G. Wells, Advisor

SKIRVIN, Thomas M., Spring, 1990 - Late Cenozoic Geomorphic and Structural Evolution of the Old Dad Mountain and Cima Volcanic Field Areas, California, Dr. S.G. Wells, Advisor

WILLIAMS, Cecelia V.K., Spring, 1990 - Cooling Rates of Clasts in Ordinary Chondrite Regolith Breccias: Implications for Parent Body History, Dr. K. Keil, Advisor
ALBRECHT, Achim, Spring, 1990 - The Geochemistry of the Mid-Tertiary Volcanic Rocks of the Northern Sierra Madre Occidental, Chihuahua, Mexico: Indications of Basement Variations, Dr. D.G. Brookins, Advisor

BERSCH, Michael G., Spring, 1990 - Minor Elements in Olivine and Pyroxenes in Lunar Pristine Highland Rocks: Implications for the Formation of the Lunar Crust, Dr. K. Keil, Advisor

FAULDS, James E., Fall, 1989 - Structural Development of a Major Accommodation Zone in the Basin and Range Province, Northwestern Arizona and Southern Nevada: Implications for Kinematic Models of Continental Extension, Dr. C.K. Mawer, Advisor
<table>
<thead>
<tr>
<th>Name</th>
<th>TA/RA</th>
<th>Project Director</th>
<th>Funding</th>
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<tbody>
<tr>
<td>Albrecht, A.</td>
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<tr>
<td>Allen, B.</td>
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<td>Bersch, M.</td>
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<td>Casanova, I.</td>
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<td>Daniel, C.</td>
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<td>Geissman</td>
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### IX. STUDENT SCHOLARSHIP AND RESEARCH AWARDS

1989 - 1990

#### GEOLOGY ALUMNI FELLOWSHIP FUND

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<td>Ward, David</td>
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<td>Wiberg, Thomas</td>
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#### JEAN-LUC MIOSSEC MEMORIAL SCHOLARSHIP

Harrison, James Bruce $1,000.00

#### HARRY AND MABEL LEONARD AWARD

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<td>Horton, Brian</td>
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<td>Inoue, Christopher</td>
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<td>Krause, Birgit</td>
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<td>Savarese, Gabriella</td>
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<td>Shain, Matthew</td>
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<td>Tagliaferri, Thomas</td>
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<td>Weissbarth, Rochelle</td>
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<td>Wright, Cheryl</td>
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<td>Van Nievelt, Alex</td>
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#### GENERAL THOMAS CAMPBELL AWARD

Gabaldon, Henry $900.00

Doubrava, Matthew 900.00

#### JAMES PFIEFFER MEMORIAL AWARD

Wawrzyniec, Tim $176.00
RODNEY RHODES MEMORIAL AWARD

Larsen, Daniel $ 148.00

RICHARD P. VANN MEMORIAL SCHOLARSHIP

Williamson, Thomas $ 500.00

VINCENT C. KELLEY TESTWING OUTSTANDING FIELD GEOLOGIST AWARD

Mason, Ralph

J. PAUL FITZSIMMONS OUTSTANDING SOPHOMORE AWARD

Horton, Brian

SHERMAN A. WENGERD OUTSTANDING JUNIOR AWARD

Inoue, Christopher

STUART A. NORTHROP OUTSTANDING SENIOR AWARD

Wawrzyniec, Timothy

NEW MEXICO GEOLOGICAL SOCIETY OUTSTANDING SENIOR AWARD

Wawrzyniec, Timothy
X. FUND CONTRIBUTORS: 1989-1990

A. Geology Alumni Fellowship: 1989-1990

Corporate Matching Contributions

Chevron Corporation - Matching Gift
AT&T Corporation - Matching Gift

Mr. Mark R. Cameron
Mr. William C. Carrigan
Mr. James W. Caylor
Mr. Georges & Mrs. Susan Fullas
Mr. David B. Givens
Mr. DeWayne A. Miller, Jr.
Mr. William Colson Schaab
Mrs. Constance Sears
Mr. Alexander A. Wanek

B. Vincent C. Kelley Fellowship Fund

American Home Products Corp.
Mr. & Mrs. Eugene Caprio
Mr. William L. Cheronweth
Conoco, Inc.
Mr. Clarence Westbrook Cook
Professor Rodney C. Ewing
Mr. & Mrs. Richard Haines
Mr. William Harrison
Mr. John Husler
Professor & Mrs. Klaus Keil
Mr. & Mrs. Peter Maggiore
Mr. & Mrs. Edwin Noble
Santa Fe Pacific Foundation
Mr. Otto Schumacher
Dr. Shiela Seaman
Dr. & Mrs. Samuel D. Stearns
Mr. Martin Steinpress
Mr. Sam Thompson II
Professor Sherman A. Wengerd
Mr. & Mrs. John White
Dr. Michael Williams
Professor Lee A. Woodward
Mr. & Mrs. Robert Zilinski
C. Jean-Luc Mysic Memorial Scholarship Fund 1989-1990

Mr. Edward M. Calvin

D. Geology - EE Fund 1989-1990

Mr. Harry C. Bergquist

E. Paul Kulka Memorial Scholarship Fund

Mr. & Mrs. R. J. Burgess
Dr. Jock A. Campbell
Dr. & Mrs. Paul A. Catacosinos
Mr. Thomas A. Fitzgerald
Mr. & Mrs. Patrick J. Gratton
Mrs. Marguerite Kulka
Mr. Curtis L. Lundy
Mr. Sam Thompson II
Professor Sherman A. Wengerd
Mr. & Mrs. Wayne Woodworth

F. Chair Discretionary Account

Ms. Julia S. Berger
Dr. Saleh M. Bilbo
Mr. William L. Chenoweth
Mr. James Stewart Jameson
Daniel B. Stephens & Associates, Inc.
Mr. David R. Swenson
Mr. George Carroll Taylor, Jr.
Mr. & Mrs. Wesling
The Annual Report of the Institute of Meteoritics
July 1, 1989 to June 30, 1990
Klaus Keil, Director
G.J. Taylor, Assistant Director

Institute of Meteoritics
Department of Geology
University of New Mexico
Albuquerque, NM 87131, USA
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2. **Institute Staff**

   Dr. Klaus Keil, Director and Presidential Professor of Geology  
   Dr. G.J. Taylor, Senior Research Scientist and Assistant Director  
   Dr. E.R.D. Scott, Senior Research Scientist  
   Dr. H.E. Newsom, Research Scientist  
   Mr. J.R. Connolly, Research Scientist  
   Dr. T. Sowards, Assistant Scientist  
   Ms. Ann Smetana, Staff Assistant  
   Ms. Sally Hayes, Accountant  
   Mr. G.H. Conrad, Microprobe Specialist  
   Mr. T. Servilla, Supervisor, Thin Section Laboratory  
   Mr. K. Nichols, Photographer  
   Dr. A.J. Brarley, Postdoctorate Fellow  
   Dr. Rhian Jones, Postdoctorate Fellow  
   Dr. M.R. Jercinovic, Postdoctorate Fellow  
   Dr. Carle Pieters, Visiting Scholar  
   Dr. R. Bild, Visiting Scholar

**Students**

   Mr. M.G. Bersch, Graduate Research Assistant  
   Mr. I. Casanova, Graduate Research Assistant  
   Mr. B. Epling, Graduate Student  
   Mr. T. McCoy, Graduate Research Assistant  
   Mr. R. Morris, Graduate Research Assistant  
   Mr. P. Noll, Graduate Research Assistant  
   Ms. Aurora Pun, Graduate Research Assistant  
   Mr. K. Sims, Graduate Research Assistant  
   Ms. Maya Wheelock, Graduate Student  
   Ms. Cecilia Williams, Graduate Student  
   Mr. T. Beserra, Undergraduate Research Assistant  
   Mr. G. Britelle, Undergraduate Research Assistant
3. General Department Information

The Institute of Meteoritics, founded in 1944 (one of the oldest institutions of its kind in the world), continued its role as a leading center in research and teaching of meteoritics, cosmochemistry, and planetary sciences. Our research, which continues to be at the forefront of planetary science, is aided by collaborations with investigators at other universities and at national laboratories. Staff members were asked to serve on influential national committees, an indication of the scientific community's regard for them. Summaries of the major research, teaching, and public service activities in the Institute during the report period follow.

3.1 Research

Research activities of staff and students of the Institute of Meteoritics cover a wide range of topics, mostly aimed at understanding of the origin and early history of our solar system and the evolution of the planets. Our research during the report period has resulted in the publication of 16 scientific articles in major national and international journals (see 4.2.1, #s 1-16 of this Report), as well as in the publication of 26 abstracts of papers presented at national and international conferences (see 4.2.2, #s 17-42). During the report period, 19 papers were in press or were submitted for publication to major reviewed journals (see 4.2.3, #s 43-63). In addition, staff and students presented the results of their research in the form of 24 professional papers at national and international meetings. The extensive involvement of students in original research projects in the Institute of Meteoritics is particularly important for their education and advanced training. Specifically, students were 3 times senior authors and 1 times co-authors of major scientific articles; 5 times senior authors and 3 times co-author of major scientific articles that are submitted or in press; presented 5 professional talks and co-authored 4 professional talk(s) before national and international meetings. Staff members of the Institute were on professional travel assignments in this country and abroad (see 4.8) and students were on numerous such assignments.
All these trips were paid for by funds provided by outside funding agencies through grants and contracts.

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. During the report period, grants and contracts totaling $1.17 million were in effect. Funding came from the National Aeronautics and Space Administration, The National Science Foundation, the Gesellschaft für Strahlen-und Umweltforschung, Munich, West Germany, and Sandia National Laboratories.

Our research activities attracted many foreign and domestic researchers to the Institute of Meteoritics for the purpose of short-term study, research and lecture. These were:

- Arthur Ehlmann, Texas Christian University, Fort Worth, Texas.
- Dieter Stoffler, Institut für Planetologie, Westfälische Wilhelms-Universität Munster, Munster, West Germany.
- Gerhard von Gruenwaldt, University of Pretoria, South Africa.
- Lilo Moenke, Martin Luther University, Halle, DDR.
- Floyd Herbert, Planetary Science Institute, Tucson, Arizona.
- S.K. Runcorn, Department of Physics, University of Newcastle, England.
- Thomas Geiger, Institut für Planetologie, Westfälische Wilhelms-Universität Munster, Munster, West Germany.

Research of staff and students of the Institute of Meteoritics as well as of visiting scholars was also presented in a series of Brown Bag Seminars of the Institute of Meteoritics, as follows (names of student speakers are underlined):


Lilo Moenke (Chemistry Department, Martin Luther University, Halle, DDR): Laser micro inductively coupled plasma atomic emission spectrometry. January 15, 1990.


The outstanding electron microprobe and scanning electron microscope facilities in the Institute of Meteoritics and Department of Geology were made available for use to the following individuals and institutions outside our own department and our personnel instructed these users in the operation of the equipment.

1. Dr. A.J. Ehlmann, Dept. of Geology, Texas Christian University, Fort Worth, Texas.
2. Dr. Dieter Stoffler, Institut fur Planetologie, Munster, West Germany.
3. Institute for Explosive Research, New Mexico Institute of Mining and Technology, Socorro, New Mexico.
5. Signetics Corporation, Albuquerque, New Mexico.
6. Dr. Charles Stein, Air Force Weapons Laboratory, Albuquerque, New Mexico.
7. Dr. A.Y. Wu, Center for High Technology Materials, UNM.
8. P. Enzel, Department of Chemistry, UNM.
9. K. Brown, Department of Chemistry, UNM.
3.1.1 Research on Extraterrestrial materials

This is an extremely exciting period in planetary science. New ideas about the origin and evolution of the solar system abound, and our research in the Institute is playing an important role. This is especially true of our work on the formation of asteroids and planets, which is showing that planetary accretion, heating, and impact must have overlapped. We are developing a picture of the earliest history of the solar system that is more complicated than previously thought, yet explains many properties of meteorites and asteroids. The following paragraphs briefly summarize our progress in our studies of extraterrestrial materials.

Research on the primitive components in chondrites occupied much of our time during the past year. Our work on matrix materials in chondrites has been making extensive use of ATEM, using our JEOL scanning electron microscope. This research continues to reveal that these are complex assemblages. Much more work is needed before we can begin to unravel the array of processes that produced them. We have been analyzing zoning profiles in chondrules in Semarkona, one of the most unequilibrated chondrites, to try to understand chondrule crystallization histories and how they formed. Finally, we have made a thorough petrologic study of the unique, primitive chondrite ALH 85085.

The existence of this meteorite, along with the unusual chondrite Kakangari, indicates that the nine chondrite groups represent a poor sample of the primitive chondritic materials from which the asteroids formed.

We have continued our studies of brecciated chondrites. This work has revealed that brecciation both precedes and postdates the metamorphism of chondrite parent asteroids. To try to obtain a more quantitative understanding of chondrite metamorphism we have initiated an experimental study of the kinetics of the clinopyroxene-orthopyroxene transition.
Using chondrites as recorders of asteroid accretion processes is beginning to occupy more of our interest. This work is beginning to shed light on chemical variations across the asteroid belt and on the extent of mixing in it. There are potentially important implications for the accretion of the terrestrial planets as well.

Almost all of our work on achondrites has revolved around the aubrites. Our results demonstrate that the lithologies composing aubrites, although affected by impact processes, formed by igneous activity on their parent body. Shallowater is probably from a different parent body and appears to have formed by impact of a solid object into a substantially molten one. We also continued work on ureilites and reviewed the nature of igneous meteorites. Finally, we have begun to investigate magmatic processes on asteroid-sized bodies, starting with an examination of the role impact plays in asteroid differentiation.

We have made substantial progress in our lunar studies. We have made assessments of the Moon's bulk composition and the composition of the suspected large impactor that hit the Earth to form the Moon. We completed the first stage of a large program to study the sources of clasts in impact melts and developed evidence for mantle metasomatism on the Moon based on Ge abundances in lunar basalts. Finally, we completed the first phase of our work on the relation of spectral properties of lunar rocks to petrology.

Our research on impact processes has concentrated on glass alteration during hydrothermal activity associated with impacts, and we have applied the results to understanding Mars.

Institute personnel have also been involved in planning future missions to the Moon, both piloted and automated. We are, for example, involved in an interdisciplinary study of possible lunar astronomical observatories with Dr. Jack Burns of the Physics and Astronomy Department and Dr. Stewart Johnson of the BDM Corporation.
Our research on extraterrestrial materials has been enhanced by our purchase of the LaPaz Meteorite Collection. Funding for this valuable material was provided by the UNM Foundation and by NASA. We are in the process of cataloging the collection and the best specimens will soon be on display in the Meteorite Museum.

3.2 Radioactive waste disposal

The Institute has been involved for several years in the mineralogical and geochemical characterization of samples from the area of the WIPP (Waste Isolation Pilot Plant) repository near Carlsbad N.M. The results of these studies are being used by scientists at Sandia National Laboratories in geochemical studies of radionuclide retardation and the determination of the spatial variability of parameters that will affect radionuclide sorption at the WIPP site.

During the 1989-1990 report year, four specific projects were pursued. 1) A study of drill core samples from the Culebra Dolomite Member of the Rustler Formation in the vicinity of the WIPP site in which there was direct evidence of fluid transport on the fracture surfaces, in order to compare and contrast the mineralogy and chemical composition of the altered surfaces with those of the bulk rock. 2) The characterization of dolomite crystallinity (in terms of order-disorder phenomena) and the calculation of the free energy of formation of dolomite samples from the Culebra Dolomite. The degree of disorder was determined by X-ray diffraction methods; based on these results, the Gibbs Free Energy of Formation was calculated. 3) A study of rock samples from the Culebra Dolomite Member exposed in the vertical shafts (air-intake, exhaust and waste) which access the WIPP repository, in support of radionuclide sorption studies being conducted at Sandia National Laboratories. 4) The characterization of the clay mineralogy of samples from the Culebra Dolomite Member. This study includes the quantitative and qualitative determination of the clay mineral species present in the samples by X-ray diffraction methods, textural and compositional analyses by transmission electron microscope, and the determination of the compositions of the mineral species present by various methods.
3.3 Teaching

Teaching activities of the staff of the Institute of Meteoritics involve both formal courses and informal, almost daily, meetings with graduate students. Formal courses include Planetary Geology (265), Mineralogy I (311L), Petrography of Opaque Ores (512L), Meteoritics and Cosmochemistry (513L), and Electron Microprobe Analysis and Scanning electron Microscopy (518L). Ed Scott, Horton Newsom and Jeff Taylor co-taught a problems seminar. In addition, many arranged courses were given to certify faculty, staff, students and visiting scholars on the Neutron Activation Laboratory in the Department of Geology. Finally, we give a great deal of emphasis to the direction and supervision of graduate student research projects, problem courses, theses, dissertations, and publication of the results of this research.

During the report period, the following graduate and undergraduate students carried out research in the Institute of Meteoritics and were supported at least in part by our grants.

**Graduate Students**
1. M.G. Bersch
2. T. McCoy
3. R. Morris
4. M. Wheelock
5. I. Casanova
6. K. Sims
7. A. Pun
8. P. Noll

**Undergraduate Students**
1. T. Beserra
2. S. Young
3. G. Brittelle
Mr. Michael Bersch completed all requirement for the Ph.D. degree. His dissertation research which involved high precision electron microprobe analyses of "pristine" lunar highland rocks, was entitled "Origin of the Ancient Lunar Crust". Mr. Bersch is now running the electron microprobe laboratory at the University of Alabama, Department of Geology, Tuscaloosa, Alabama.

Mr. James McKinley completed all requirements for the Ph.D. degree. His dissertation research was entitled "Alteration of Columbia River Basalts and the Chemical Evolution of Columbia Plateau Groundwaters". Mr. McKinley is now working at the Batelle Pacific Northwest Laboratories, Richland, Washington.

Mr. Thomas McCoy completed his master's degree in the Department of Geology, doing research in the Institute of Meteoritics. His thesis topic was "Metamorphism, Brecciation and Parent body Structures of LL-group chondrites. Mr. McCoy will work on his Ph.D. at the Planetary Geosciences Division, University of Hawaii, Honolulu, Hawaii.

Ms. Cecilia Williams completed her master's degree in the Department of Geology, doing research in the Institute of Meteoritics. Her thesis topic was "Cooling rates of clasts in ordinary chondrite regolith breccias: Implications for parent body history".

Mr. Kenneth Sims completed his master's degree in the Department of Geology, doing research in the Institute of Meteoritics. His thesis topic was "Chemical fractionation during formation of the Earth's core and continental crust: clues from As, Sb, W and Mo". He is presently working at Los Alamos National Laboratories and will start Ph.D. work with Don De Paolo at the University of California, Berkeley, California.

Ms. Sharissa Young completed her Bachelor of Science in the Department of Geology and is now employed at Sandia National Laboratories as a microprobe technician.

Also, during the report period, Drs. Adrian Brearley and Rhian Jones, from Great Britain, were in residence in the Institute as post-doctoral fellows, supported by our NASA grant. Mr. Ignacio Casanova, from Barcelona, Spain, continued work towards his Ph.D. in
the Department of Geology with research in the Institute of Meteoritics on the origin of metal in aubrites.

3.4 Public Service

Public service activities of members of the staff of the Institute of Meteoritics as well as students are devoted to maintenance and enlargement of the Institute's outstanding collection of meteorites and to making research specimens available to Institute members as well as colleagues in the USA and abroad. Many special, private showings of the Collection, the Museum, as well as lunar samples were given, frequently on weekends and after-duty hours. Furthermore, many public lectures on meteorites, lunar geology and high-level nuclear waste disposal were given in the State of New Mexico, the USA and abroad. Finally, many rocks suspected to be of meteoritic origin and brought to the Institute by the public were analyzed without charge, and major efforts were made to educate the interested public in the recognition and recovery of meteorites.

3.5 Significant Plans and Recommendations

The four main functions of the Institute of Meteoritics are: research in planetary science, training of students, maintenance of research equipment, and public education.

1. Institute of Meteoritics research is recognized internationally for its excellence. We will continue to do research of fundamental importance in our studies of extraterrestrial materials (meteorites and lunar samples). The Institute is developing strong ties with scientists at Los Alamos and we expect to collaborate with them. These potential collaborations include research on planetary formation and on measurements of trace elements with techniques developed at the Los Alamos particle beam facility.

2. Although the Institute is a research organization, we focus much of our attention on training graduate students. Besides learning geology (all are students in the Department of Geology) and planetary science, they learn state-of-the-art analytical techniques. In fact, because students are main users of our instruments, one can argue that the facilities are used primarily for teaching, although, of course, the students are doing their thesis or
dissertation research at the same time. This training allows them to find jobs in fields besides planetary science if they choose to do so. One recent student, for example, works for Intel Corp., running an electron microscope and a recent Ph.D. is in charge of the electron microscope facilities at the University of Alabama. This emphasis on analytical techniques will continue along with emphasis on the use of computers for data-base management and mathematical modelling of geologic processes.

3. One of the greatest concerns of the Institute is maintaining the analytical facilities used in teaching and research. Outside agencies such as NASA and NSF have tight budgets and seem to chronically underfund us in this area, in spite of continued efforts on our part. The equipment under the auspicious of the Institute requires annual maintenance budget of about $25,000. Clearly, some of the funding for this maintenance must come from UNM as well as outside sources, otherwise, student training will suffer. In addition, the instruments must be updated in order for us to continue to be leaders in the field (hence to continue to train students properly). Our JEOL electron microprobe, for example, ought to be outfitted with an image-processing system, which will allow quantitative mapping of rock samples. We are in the process of developing detailed plans for instrument upgrading in the Institute and the Department of Geology. We also need additional support for the purchase of microcomputers. Our present systems were purchased almost entirely by NASA funds.

4. The Meteorite Museum is visited by thousands of people each year, including elementary school children from Albuquerque and surrounding communities. This educational resource could use some revamping. It was opened in 1974 and has not been changed much since, though some displays have been modified and carefully-worded informational signs placed in the cases. We would like to systematically revise each case during the next five years, including adding some lovely specimens acquired as part of the LaPaz collection, but will need modest financing from the University for this purpose. We will develop more detailed plans during the next year and then assess the cost.
3.6 Affirmative Action

The Institute of Meteoritics follows the University’s affirmative action policy with great enthusiasm. Although all of our senior researchers are white males, one out of two of our postdoctoral fellows is a woman and typically one-third to one-half of our graduate students are women. We have been less successful in attracting minorities, due entirely to a lack of minority applicants, which, in turn, is due to too few minorities (and women) majoring in science. However, we make special efforts to recruit promising students in lower-level courses (principally Geology 265, taught by Professor K. Keil) into careers in planetary science. We are presently helping an undergraduate hispanic man, recruited in this way, to secure an NSF undergraduate scholarship. Also, Dr. Keil was a member of a NASA committee chartered to increase the number of minorities and women entering careers in space science and technology. This committee organized the NASA Minority Graduate Researchers Program.

4. Composite of Individual Biographical Supplements

4.1 Teaching

Klaus Keil

2. Served as guest lecturer in all Geology 101 classes to advertise his Spring, 1990 Geology 265.
3. Together with other members of the Institute of Meteoritics organized and hosted the Institute of Meteoritics Brown Bag Seminar.

G. Jeffrey Taylor


E.R.D. Scott

James R. Connolly
1. Taught Scanning Microscopy (SEM) Laboratory portion of Geology 518, Fall, 1989.

Horton E. Newsom
2. Trained graduate students in the use of the Neutron Activation Analysis Laboratory.
3. Directed thesis research activities of four graduate students.
4. Directed research activities of two undergraduate students.

Adrian Brearley

Ignacio Casanova
2. Graded exams and assisted with lab portion of Geology 265.

George Conrad
1. Special training of Sandia National Laboratories employee in microprobe techniques, August-December, 1989.
2. Special training of professors and students from NM School of Mining and Technology, November 1989.

4.2 Publications

We list only publications that have appeared in print, are in press, or have been submitted. Others papers are in preparation, but are not listed. Because most publications resulting from Institute research are co-authored by several members of the Institute, we give only one list of publications, rather than duplicating titles on several individual lists.
To draw attention to the active participation of students in Institute research projects, names of student authors and speakers have been underlined.

4.2.1 Scientific Articles Published in Major National and International Reviewed Journals:

Scientific Publications of the Institute of Meteoritics and Books


4.2.2 Abstracts Published in Proceedings of Meetings and in Journals


4.2.3 Papers Submitted or in Press


4.3 Other Research Projects or Creative Work in Progress or Completed During Period

James Connolly

Adrian Brearley

1. Experimental and TEM studies of the kinetics of metamorphic reactions- with Prof. D.C. Rubie, Bayerisches Geoinstitut, Bayreuth.

2. Experimental studies of the disequilibrium melting behaviour of micas- with Dr Michel Pichavant and Dr W.L. Brown, CRPG-CNRS, Nancy, France.

3. Transmission electron microscope studies of clay minerals from the WIPP site Carlsbad, New Mexico with Terry Sewards.

4. Metamorphic petrology of low grade slates from North Wales, United Kingdom.
The following grants were in effect during the report period:

Duration: October 1, 1988 - September 30, 1989. $80,053.00

Duration: October 1, 1988 - September 30, 1989. $91,311.00

"Origin of meteorite parent bodies and the Moon". National Aeronautics and Space Administration.
Duration: February 15 - December 1, 1989. $250,000.00

"Accretion and core formation in the Earth: evidence from siderophile and chalcophile trace elements". National Science Foundation (with H. Newsom).
Duration: June 1, 1988 - November 30, 1990. $88,400.00

"Origin of meteorite parent bodies and the Moon". National Aeronautics and Space Administration.
Duration: February 15 - December 1, 1989. $217,135.00

"Mineralogic characterization of the geologic section at WIPP site".
Sandia National Laboratories.
Duration: October 1, 1988 - September 30, 1989. $80,053.00

"Petrologic and geological investigations in support of engineering and design studies, Nevada Test Site.
Sandia National Laboratories.
Duration: October 1, 1988 - September 30, 1989. $93,934.00

"Field studies of the Ries Crater, West-Germany". Barringer Crater Company, Princeton, New Jersey.
Duration: July 1 - December 1, 1989 $1,800.00

"Origin and evolution of meteorite parent bodies and the Moon:
National Aeronautics and Space Administration.
February 1, 1989 - January 31, 1990 $275,053.00

Total research grants and contracts in effect during report period $1,177,739.00
4.4 Composite of Individual Biographical Supplements

4.4.1 Offices Held

Klaus Keil

1. Associate Editor, Journal "Chemie der Erde".
2. Associate Editor, Journal "Meteoritics".
4. Member, Lunar and Planetary Sample Team (LAPST), Lunar and Planetary Institute, Houston, Texas.
7. Member, Committee on Collections, Department of Geology.

E.R.D. Scott

1. Member, Nomenclature Committee of Meteoritical Society.

4.4.2 Meetings Attended

Klaus Keil


G. Jeffrey Taylor


E.R.D. Scott
1. 52nd Annual Meeting of the Meteoritical Society, Vienna, Austria. July 31-August 4, 1989.

Horton Newsom
3. Attended American Geophysical Union Fall Meeting San Francisco, CA. December 4-8, 1989.

Rhian Jones
Rhian Jones (Cont.)


Adrian Brearley

1. Attended 52nd Meteoritical Society Meeting, Vienna, Austria, July 31-August 4, 1990.

James Connolly


Kenneth Sims

1. Presented research on Inclusions in the Tschicoma Formation during the IAVCEI field trip Excursion 17B: Volcanic and Hydrothermal Evolution of Pleistocene Valles Caldera and Jemez Volcanic Field.

Maya Wheelock

1. Attended 52nd Meteoritical Society Meeting, Vienna, Austria, July 31-August 4, 1990.

Ignacio Casanova

Ignacio Casanova (Cont.)


Aurora Pun


Tim McCoy


4.4.3 Presentations at Professional Society Meetings

G.J. Taylor


E.R.D. Scott


Horton Newsom


Horton Newsom

3. Attended American Geophysical Union Fall Meeting and presented 3 talks, San Francisco, CA. December 4-8, 1989.

Rhian Jones


Rhian Jones (cont.)


Adrian Brearley


3. Attended 3rd International Symposium of Experimental Mineralogy, Petrology and Geochemistry, Edinburgh, United Kingdom, April 5-7, 1990. Presented 2 posters entitled: "Microstructures in low-Ca pyroxene: effect of cooling rate and the kinetics of the clino-ortho inversion" (with Rhian Jones) and "Mechanisms of the transformations between the $\alpha$, $\beta$ and $\gamma$ polymorphs of $\text{Mg}_2\text{SiO}_4$ at 900$^\circ$C and 15GPa (with D.C. Rubie and E. Ito). Coauthored 1 talk entitled "Effect of pressure on the mechanism and kinetics of the olivine-spinel transformation" (with D.C. Rubie and S.L. Webb).

Kenneth Sims


Maya Wheelock


Ignacio Casanova


Aurora Pun


Tim McCoy


4.5 Other Professional Activities

Klaus Keil


G.J. Taylor

1. Organized a consortium to study the Zagami achondrite.
E.R.D. Scott
2. Reviewed 5 grant proposals for NASA.

Horton Newsom
2. Reviewed grant proposals submitted to the National Science Foundation and NASA.

James Connolly

Rhian Jones
1. Abstractor for Mineralogical Abstracts.
Rhian Jones (Cont.)


Kenneth Sims

1. Reviewed paper submitted to Applied Geochemistry.

Adrian Brearley


3. Fellow of the Geological Society of Great Britain, member of the Mineralogical Societies of Great Britain and America, the Meteoritical Society and the American Geophysical Union.

Timothy McCoy

1. Organized, with G.J. Taylor, a consortium to study the Zagami achondrite, a meteorite thought to be from Mars.

2. Reviewed one paper each for Meteoritics and Proceeding of the 21st Lunar Planetary Conference.

4.6 Non-teaching University, College and Department Service

G.J. Taylor


E.R.D. Scott

1. Organized semi-weekly research seminars for the Institute of Meteoritics.

Horton Newsom
2. Directed operation and development of the Neutron Activation Analysis Laboratory, Institute of Meteoritics.
3. Conducted guided tours of the Neutron Activation Analysis Laboratory for numerous university and other professional visitors.
4. Hosted the visit to the Department of Geology and the Institute of Meteoritics of Professor S.K. Runcorn, F.R.S., University of Newcastle upon Tyne, August 31, 1989.

George Conrad

James Connolly
1. Entertainment Chairman for the Geological Society of America combined Rocky Mountain and South Central section meeting to be held in May, 1991, in Albuquerque.
2. Assisted in setup and training Geology Department main office personnel in the use of personal computers used for word processing and list management.
3. Setup a personal computer database for managing Geology Department mailing lists. Designed, developed and documented a personal computer-based database for tracking expenditures in the Geology Department. Assisted in setup of various personal computers in the Institute of Meteoritics and Department of Geology.

Rhian Jones
Adrian Brearley

Ignacio Casanova

Aurora Pun

Tim McCoy
2. Served on committee to present slide presentation to interest students in the study of geology (with emphasis on local geology).
3. Gave numerous tours of the Meteorite Museum to interested students.

4.7 Advanced Study and New Scholastic Honors, Fellowships, etc.

Klaus Keil
1. Selected New Mexico Eminent Scholar, Commission on Higher Education, State of New Mexico.

E.R.D. Scott

Horton Newsom

James Connolly
Ignacio Casanova

1. Continued progress towards Ph.D. degree in the Department of Geology with work in the Institute of Meteoritics on the "Origin of Metal in Aubrites and Its Bearing on Core Formation Processes in Asteroids".

Aurora Pun

1. Continued progress towards M.S. degree in the Department of Geology with work in the Institute of Meteoritics.

Tim McCoy

1. Completed M.S. degree in the Department of Geology with work in the Institute of Meteoritics.

Maya Wheelock

1. Continued progress towards M.S. degree in the Department of Geology with work in the Institute of Meteoritics.

4.8 Sabbaticals, Leaves of Absence, Summer Teaching Elsewhere, Travel, etc.

Klaus Keil


G.J. Taylor


G.J. Taylor (Cont.)


E.R.D. Scott

1. Attended 52nd Annual Meeting of the Meteoritical Society, Vienna, Austria; presented one talk and attended meeting of Meteoritical Society Nomenclature Committee. July 31-August 4, 1989.


Horton Newsom


James Connolly


2. Travel to Los Alamos, New Mexico. Meet with Dave Bish about implementation of quantitative X-ray diffraction capabilities at UNM. July 19, 1990.
Rhian Jones


Adrian Brearley

5. Manchester University, Department of Geology, Manchester, England, to discuss collaborative research with Professor Grenville Turner and Dr. Ian Lyons. March 28, 1990.
6. 3rd International Symposium of Experimental Mineralogy, Petrology and Geochemistry, Edinburgh, United Kingdom. April 5-6, 1990.
7. Attend 52nd Meteoritical Society meeting and gave a paper and poster presentation, Vienna, Austria, July 31-August 4, 1989.
Ignacio Casanova


Maya Wheelock


Michael Bersch


Aurora Pun


Tim McCoy


4.9 Public Service

Klaus Keil

1. Many private showings of Moon rocks to interested citizens, school classes, civic groups, many of which were after working hours and on weekends.
2. Investigated, without charge, numerous specimens of suspected meteorites brought to Institute by citizens.
G. Jeffrey Taylor

1. Many private showings of Moon rocks to interested citizens, school classes, civic groups, many of which were after working hours and on weekends.

E.R.D. Scott

1. Investigated numerous suspected meteorites submitted by members of public; gave tours of Meteorite Museum to several school parties.
2. Interview with Steve Brewer published in Albuquerque Journal with photographs. October 17, 1989 (B1, B8).

Horton Newsom

1. Many private showings of Moon rocks to interested citizens, school classes, civic groups, many of which were after working hours and on weekends.

James Connolly

1. Regular Judge and Special Award Judge for Albuquerque Geological Society at the Northern New Mexico Regional Science and Engineering Fair, University of New Mexico. March, 1990.

Rhian Jones


Adrian Brearley

1. Gave interview and guided tour of Meteorite Museum for two French student journalists visiting from Paris, France.

Ignacio Casanova

1. Gave tours of Meteoritics and Geology museums to interested groups of students.

Tim McCoy

1. Examined numerous suspect meteorites brought in by the public.
GENERAL DEPARTMENTAL INFORMATION

A. Significant Achievements

1. Graduates

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<th>Summer 1989</th>
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Cutter, Charles (Adv. Bakewell) Fall 1989
Draper, Lincoln (Adv. Bakewell) Fall 1989
Buler, Catherine (Adv. Roebuck) Spring 1990

2. Course Offerings

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**Fall 1989**

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**Spring 1990**

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3. Personnel & Administration

a. Employees

Permanent:

Berthold, Richard M.  Associate Professor:
Ancient History

Connell-Szasz, Margaret  Associate Professor:
American Indian History

Conniff, Michael  Professor: Latin America,
Brazil

Devejian, Patsy E.  Clerical Specialist V:
Center for the American West

Etulain, Richard W.  Professor: Western America,
Literature of the American West
Director: Center for the American West

Feller, Daniel M.  Assistant Professor:
Jacksonian Era, Civil War,
Reconstruction
Gonzales, Valerie
Clerical Specialist V:
Receptionist, Secretary,
Typist (appointment 12/89)

Hall, Linda B.

Hutton, Paul A.

Jameson, Elizabeth
Associate Professor:
Western America, U.S. Social

Kern, Robert W.
Professor: Iberian History,
Modern Europe

Kessell, John L.
Associate Professor:
Spanish Southwest,
Borderlands

Kramer, Steven P.
Associate Professor:
Contemporary Europe, France

Maciel, David
Professor: Chicano History,
Modern Southwest and Mexico

Martinez, Yolanda
Administrative Assistant:
Department Executive
Secretary and Manager

McClelland, Charles E.
Professor: Modern Germany,
European Intellectual
History
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<td>Nash, Gerald D.</td>
<td>Professor: 20th Century U.S., U.S. Economic History</td>
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<td>Porter, Jonathan</td>
<td>Professor and Chairman: Modern China, East Asia</td>
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<td>Pugach, Noel H.</td>
<td>Associate Professor: U.S. Diplomatic History</td>
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<td>Rabinowitz, Howard N.</td>
<td>Professor: American Urban History, The South</td>
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<td>Risso, Patricia</td>
<td>Assistant Professor: Middle East Islam, South Asia</td>
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<td>Roebuck, Janet</td>
<td>Professor: English History, Urban History</td>
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<td>Scharff, Virginia</td>
<td>Assistant Professor: U.S. Social, Women's History</td>
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<td>Silva, Liz</td>
<td>Clerical Specialist V: Staff Secretary and Typist</td>
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<td>Skabelund, Donald E.</td>
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<td>Slaughter, M. Jane</td>
<td>Associate Professor: Women's History, Sexuality, Modern Europe</td>
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<td>Spidle, Jake W.</td>
<td>Associate Professor: German History, Africa, History of Medicine</td>
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Steen, Charlie R.  
Associate Professor: Early Modern Europe, France

Sullivan, Donald D.  
Associate Professor: Medieval and Renaissance Europe

Szasz, Ferenc M.  
Professor: American Social and Intellectual History

Yazawa, Melvin  
Associate Professor and Assistant Chair: Colonial and Revolutionary America

Temporary:
Andrews, Stephen  
Reader (Spring)

Barbour, Bart  
Graduate Assistant

Beninato, Stefanie  
Graduate Assistant

Bryan, Terri  
Graduate Assistant

Cocron, Fritz  
Visiting Professor

Dabney, William  
Professor

Dodge, Meredith  
Assistant Professor

Draper, Lincoln  
Visiting Lecturer

Emerson, Mark  
Reader (Fall & Spring)

Euler, Catherine  
Graduate Assistant

Evans, Daniel  
Reader (Fall & Spring)

Fernlund, Kevin  
Teaching Associate

Formes, Malia  
Reader (Fall)

Graduate Assistant (Spring)
Garrity, Barbara  
Graduate Assistant

Ghattas, Monika  
Visiting Lecturer

Hendricks, Rick  
Assistant Professor

Himmerich y Valencia, Robert  
Adjunct Lecturer: Latin America & Military History

Huggard, Christopher  
Graduate Assistant

Hunter, Carol  
Reader (Spring)

Jacobson, Mark  
Graduate Assistant

Kemp, John  
Reader (Spring)

Lokke, Rolf  
Visiting Lecturer

Lopez, Alfred  
Graduate Assistant

Lovato, Carol  
Visiting Lecturer

Mahr, Aaron  
Graduate Assistant

Mares, Ernest  
Visiting Assistant Professor

Martinez, Fred  
Graduate Assistant

Mihalic, Katherine  
Reader (Fall)

Morcillo, Aurora  
Graduate Assistant

Norwood, Kyle  
Reader (Fall)

Parker, Dorothy  
Visiting Lecturer

Pasztor, Suzanne  
Graduate Assistant

Phillips, Richard  
Visiting Lecturer

Rector, William  
Reader (Fall & Spring)

Rose, Jeffrey  
Reader (Spring)

Schwehn, Karen  
Reader (Fall)

Sinclair, Shelley  
Teaching Associate

Stanfield, Michael  
Teaching Associate
b. Administration

The History Department administration is directed by the Chair and the Administrative Assistant. The Chair is assisted by the Assistant Chair, and the Administrative Assistant is assisted by two full time secretaries. The graduate program is supervised by the Graduate Coordinator, who advises the Chair, and the Administrative Assistant. The undergraduate program is administered by the Undergraduate Advisor. The Chair, Administrative Assistant, Assistant Chair, Graduate Coordinator, and Undergraduate Advisor constitute the Executive Committee, which advises the Chair on the formulation of policy and major administrative matters.

Administration and formulation of policy in specific areas is delegated to six standing committees and five individual
assignments. Two of the committees (Graduate Entrance Committee and Undergraduate Program Committee) are elected by the faculty: the other committees and the individual assignments are appointed by the Chair. A Salary Committee is appointed annually by the Chair, with an additional member elected. The faculty are divided into five Sections reflecting geographical divisions specializations: America, American West, Europe, Latin America, and Asia. The senior faculty member of each section is usually designated by the Chair as Section Head, and advises the Chair on matters concerning the Section. The Sections meet to decide matters of curriculum planning, scheduling, and staffing priorities.

Persons serving in responsible administrative positions in the department in 1989-90 were:

Chair: Jonathan Porter
Administrative Assistant: Yolanda Martinez
Assistant Chair: Melvin Yazawa
Graduate Coordinator: Jane Slaughter
Undergraduate Advisor: Charlie Steen
Affirmative Action Coordinor Linda Hall
American Section: Gerald Nash
America West: Richard Etulain
Europe: Janet Roebuck
Latin America: Linda Hall
Asia: Patricia Risso
4. Activities Beyond the Formal Curriculum

a. The Department held its semi-annual Open House for all students on August 17 (Fall) and January 11 (Spring), all day in the Common Room. Most of the faculty attended to advise, offer guidance or simply to socialize.

b. The Fifth Annual Calvin Horn Lecture Series was held in November. This year’s guest lecturer was Dr. William Goetzman from the Department of History, University of Texas, Austin.

c. Dr. Donald Worster, University of Kansas gave an informal talk on the theme "New Direction in Western History".

d. Dr. Howard Lamar, Sterling Professor of History gave an informal talk on "Western History".

e. Dr. Friedbert Plueger, former Press Secretary to the President of West Germany delivered a lecture on "The Two Germanies and the Future of the Alliance Systems in Europe".

f. Dr. Miguel Antonio Bernal, University of Panama lectured on "What Happened to Democracy in Panama?"

g. Dr. Marc Raeff, Professor Emeritus, Columbia University, delivered a lecture on "The First Russian Emigration, 1917-1939."

h. Dr. Roger Dingman, University of Southern California lectured on "America’s Asian Wars Reconsidered".

i. Judge Pamela B. Minzner, lectured on "The First Women Lawyers in America: Who They Were and What They Accomplished."

j. Dr. Robert Kern delivered a lecture on "A Short History of Spain’s Transition from Dictatorship to Democracy" as part of the History Department’s Democracy Project.
k. Dr. Claudia Koonz, Duke University, lectured on "Mothers and Daughters in the Fatherland: German Women and the Nazi Revolt Against Democracy."

l. Dr. Paul Fees, Asst. Director, Buffalo Bill Historical Center lectured on "True West: Nationhood and Buffalo Bill."

m. Michael Stanfield, Ph.D. student delivered a lecture on "Violence and the State in Peru and Columbia".

n. Dr. Frank H. H. King, Professor Emeritus, University of Hong Kong delivered a lecture on "The Fate of Hong Kong - Continuity or Discontinuity?".

o. Dr. Margaret Connell-Szasz delivered the first annual Snead-Wertheim Lecture on "Cultural Brokers in Native American History."

p. The History Department celebrated the opening of the Center For The American West by holding a Western History Week. The following lectures were held:

Dr. Martin Ridge, Huntington Library delivered a lecture on "The Significance of the Frontier in American History: A Masterpiece?"

Dr. Patricia Nelson Limerick, University of Colorado, Boulder delivered a lecture on "Closing The Frontier and Opening Western History."

5. Awards

a. Heather A. Tomasini and Joseph Palmer were the recipients of the Grunsfeld Award.
b. Sandra McCallion received the Charles Coan Award.

c. Kevin Fernlund received the Dorothy Woodward Memorial Fellowship.

d. Office of Graduate Studies, Dissertation Year Fellowship was given to Barton Barbour, History Ph.D. Student in U.S. Western History. The Graduate Fellowship was given to Irene Gonzales, History M.A. Student in U.S. Western History and Jeffrey Scott, History M.A. Student in Latin American History.

B. Significant Plans and Recommendations

In 1990-91 the History Department will build on its significant achievements of the last few years. These include: The addition to the faculty of one of the most eminent historians in Colonial Latin America, Enrique Semo; the successful recruitment of the faculty of Deena Gonzalez, an exceptional scholar of nineteenth century colonial New Mexico and women’s history; the opening of the Center for the American West under the Directorship of Richard Etulain; the acquisition of the office of Executive Secretary of the Western History Association, the premier organization of western historians, under Paul Hutton; the refinement and enrichment of the graduate program with new assistantships, teacher training opportunities, and administrative reforms and improvements.
In the coming year we will be pursuing a number of initiatives, include:

1. A search for a modern Latin American historian with a specialty in Brazil, at the junior level, to replace Michael Conniff. This important position will have an impact on one of our strongest fields, and it will be vital to select a well qualified candidate.

2. Target of opportunity approaches to several senior Hispanic historians.

The UNM History Department possesses quite probably the best program in the American West in the world, and one of the best programs in Latin America. It includes, as well, many other excellent faculty with distinguished national and international reputations. In addition, the department’s Women’s History program is on the verge of emerging as one of the strongest in the country.

We recommend that the University finally recognize in a formal and material way that the History Department is not only one of UNM’s finest in a general sense, but a center of excellence in several specific areas. Several important opportunities and decisions are imminent. Target of opportunity hires could cement the status of the Women’s History program and strengthen even more the Western History and Latin America programs. We must find a new editor to take over the New Mexico Historical Review, an important asset not only to the department but also to the university and the state. With the expected expansion of the market for trained historians over the next decade,
the department needs a substantial infusion of support for graduate study. We recommend that the university make a strong commitment to the development of these programs and initiatives.

C. Affirmative Action

The present ethnic and gender composition of the History Department regular faculty and graduate students is shown in the following tables:

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<td>Female: 7 (25.0%)</td>
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<td>Female: 34 (46.5%)</td>
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<td>Minority: 10 (9.2%)</td>
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<td>Hispanic: 7 (9.5%)</td>
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<td>American Indian: 3 (4.1%)</td>
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D. Appointments to Staff

1. Visiting or Part-Time Appointments:
   a. William Dabney, Professor, US History to 1855, Fall 1989.
b. Lincoln Draper, Visiting Lecturer, Western Civilization, Fall 1989.

c. Kevin Fernlund, Teaching Associate, History of the US, Spring 1990.

d. Monika Chattas, Visiting Lecturer, Western Civilization, Spring 1990.

e. Rolf Lokke, Visiting Lecturer, Western Civilization, Fall 1989.

f. Carol Lovato, Visiting Lecturer, History of the US, Spring 1990.

g. Ernest Mares, Asst. Professor, Western Civilization, Spring 1990.

h. Dorothy Parker, Visiting Lecturer, History of the US & History of New Mexico.


j. Shelley Sinclair, Teaching Associate, Western Civilization, Fall 1989 & Spring 1990.

k. Mike Stanfield, Teaching Associate, Modern Latin American History, Spring 1990.

l. Karen Sundwick, Visiting Lecturer, History of the US, Fall 1989.

m. Alvin Sunseri, Visiting Lecturer, History of the US and History of New Mexico, Spring 1990.

n. Henry Tobias, Professor, Romanov Russia to 1855, Spring 1990.

o. William Tydeman, Visiting Lecturer, History of the US, Fall 1989.
2. **Office Staff Appointment**
   
a. Valerie Gonzales joined the department as Department Secretary.

E. **Separation From Staff**

1. **Office Staff Separations:**
   
a. Pat Devejian accepted a position of Office Manager with the Center for the American West.

F. **Sponsored Research**

1. Nine professors submitted 11 proposals (32% of current faculty).
2. Of these submitting proposals, 6 obtained awards (66%).
A. Significant Achievements

--Dr. Fred V. Bales, chairman, received a Fulbright grant to lecture in the Philippines at Santo Tomas and the University of the Philippines, and was on sabbatical leave for the year, the undersigned serving as acting chairman.

--Department faculty remained active in the profession, helping judge three press association contests from other states, advisory and/or staff work with the Journal and Tribune and KOAT-TV.

--Professors Gassaway and Lamb planned and conducted the first Native American Journalists Association workshop for high school students. Professor Bales and Professor Lawrence assisted in teaching at this 10-day workshop on June 1, 1990, which attracted students from the states of Washington, Montana, Arizona, Oklahoma, Wisconsin, Colorado.

B. Significant Plans and Recommendations

--The year ends with CIRT improving the computer classroom by about $62,000 in added equipment, making possible the introduction of a new pair of courses, Desk Top Publishing I and II, both in high demand in this and other journalism departments throughout the country. The improvements also will facilitate news writing, reporting and editing classes.
This department and Communication plan more intensive cooperation as administrative offices for Communication are being constructed in the west end of the Journalism Building.

Journalism continues to depend heavily on adjunct instructors, and is preparing for a reaccreditation visit in October of the Accrediting Committee on Education in Journalism. A chronic equipment shortage, particularly in television and radio courses, may be offset by in-plant improvements including paint, new sinks and counter tops in darkroom laboratories.

C. Appointments to Faculty

New faculty joining the department were Associate Professors Dianne Lamb and Henry Trewhitt, Richard Silva and Edwin Sherwood served as adjunct lecturers in night classes, as new hires.

Associate Professor Robert H. Lawrence retired after more than 21 years of service, eight as chairman.
A. Significant achievements during 1989-1990
The 1989-1990 academic year was marked by continued progress toward the achievement of the main departmental objectives established in March 1989 and reported in the Annual Report of the Department of Linguistics for 1988-1989. Significant progress, in particular, has been made on the preparation of a proposal for the establishment of a PhD program in linguistics within the Department and on a proposal to radically restructure the Department’s program in Sign Language Interpreting (See below). The Department has also begun preliminary planning to host the 1995 Linguistic Institute of the Linguistic Society of America.

B. Significant plans for the near future.
The first priority in Departmental planning remains the establishment of the PhD program in linguistics. A preliminary draft of the proposal will be available for distribution during the early part of the Fall 1990 semester; the final proposal, it is hoped, will be available for submission by January 1991. A second major priority, endorsed by the faculty in March 1989, is the restructuring of the Sign Language Interpreting Program, to include undergraduate major and minor in Signed Language Studies and a master’s program in Sign Language Interpreting, the latter to serve as the terminal professional qualification for practicing interpreters. The Department is also seeking to work with other departments and colleges on campus,
as well as with Navajo Community College in Tsaile, Arizona, in order to offer an organized program in Native American languages and linguistics, possibly in the form, initially, of an undergraduate minor in linguistics which would incorporate all of the requirements for an elementary teaching endorsement in Navajo language.

The Department also remains committed to the formation of a Center for Southwest Languages and Linguistics, with special emphasis on the Spanish and Native American language of New Mexico and the Southwest, as well as on regional dialects of English. Professors Garland D. Bills and Eduardo Hernandez-Chavez are now nearing completion of a proposal to the National Science Foundation for sponsored research to be conducted under the aegis of this Center, and several other proposals in areas of Native American linguistics are planned.

C. Appointments to faculty and staff.

Only one new formal appointment to the faculty of the Department of Linguistics was concluded during the 1989-1990 academic year:

Professor Hector Torres was appointed to a .50 FTE position in the Department. Professor Torres was formerly a full-time member of the faculty of the Department of English at the University of New Mexico.

During the 1989-1990 academic year the Department of Linguistics participated with the Department of Anthropology in a search for an anthropological linguist. Initially, the position was to be shared 50/50 between the Department of Linguistics and the Department of Anthropology. In the end Professor Otto Santa Ana was named to the position, which was restored in full to the Department of Anthropology.
In the course of the search for an anthropological linguist, Professor Suzanne Romaine, Merton Professor of English at Oxford University, expressed serious interest in joining the faculty of the Department of Linguistics at the University of New Mexico. Professor Romaine was invited to visit the University in January 1990 and tentative negotiations with regard to a faculty appointment were initiated. As of this date, final approval of an offer of appointment is still pending, but it is hoped and expected that such an offer, to take effect in August 1991, will be approved without delay.

D. Scholarly Presentations.

Visiting Professors:
Hubert Devonish, University of the West Indies, "The National Language Question: A Reassessment from a Caribbean Perspective," August 3.


William Bright, Professor Emeritus UCLA, Research Associate, University of Colorado, "On Nahuatl Poetics--'With One Lip, with Two Lips: Parallelism in Nahuatl'," November 17.


Joshua Fishman, Professor Emeritus, Yeshiva University, "Reversing Language Shift: Theory and Practice," April 23.
Betsy McDonald, National Technical Institute for the Deaf, "Metaphors in Morphology: Predicate Classifiers in ASL and Navajo," April 27.

UNM students:


UNM faculty:


Job Candidates:


Otto Santa Ana, "Can Sociolinguistics Ever Get Into Contact?," March 19.

Special thanks are due to Professor Joan Bybee for her efforts in organizing a most successful colloquium series.

E. Students graduated:

Lisa Cervantes, MA in Language Sciences, May 1990, by examination.

Jeffery Davis, PhD, Educational Linguistics, "Interpretation language contact situation: The case of English to ASL interpretation".

Nicholas J. Haiducek, PhD, Educational Linguistics, "A critical analysis of an educational experiment: American universities in Japan".

Nine (9) Bachelor of Science degrees in sign Language Interpreting were awarded.
F. Other significant events.

The students and faculty of the Signed Language Interpreting Program hosted the twelfth annual Sign Fest program at Del Norte High School in April 27 and April 28, 1990. All three performances of the program were sold out. The program was officially opened by B. Hobson Wildenthal, Dean, College of Arts and Sciences.
The Department of Mathematics and Statistics is engaged in numerous missions. These missions as detailed in last year's annual report include: Research and Graduate Education; Undergraduate Mathematics and Statistics Education; Upper Division Service; Lower Division Service; Outreach. The goal of our department is to bring excellence to each mission. We understand the close coupling and interdependence of these activities and strive to fulfill our multidimensional obligations to our students, UNM and our discipline.

The department is the largest instructional unit below college level at UNM, serving over 13,000 students in courses last year. In fact except for the College of Education and the College of Arts and Sciences as a whole, we have a larger instructional role than any other complete college!

As noted above and illustrated below, we also have other essential missions besides instruction. We are one of the most active UNM academic units in education outreach activities within the state. Our collective faculty are successfully engaged in a wide range of significant research activities. Last year, we had faculty engaged
in research activities in Denmark, Scotland, England, Singapore, Germany, Spain, Mexico and several major U.S. institutions, including Princeton and UC Berkeley.

The Department of Mathematics and Statistics engages in many significant multifaceted activities. Below is a brief outline of a few of those undertaken in the 1989-90 academic year.

A. Significant Achievements

1. There has been continued growth in the graduate program. We now have 36 teaching assistants and 2 externally funded research assistants. Last year the department revised the requirements for the Ph.D. Qualifying examination. This change results in common exams for applied and pure mathematics.

2. The department hosted an AMS/SIAM scientific meeting April 19th through 21st at the Sheraton Old Town. This meeting attracted over 300 participants from the United States, Canada and several from abroad. Included as one of six plenary speakers was Robert M. May from Oxford University. Professor May is a leading AIDS researcher.

   Among those organizing special sessions (typically 20 - 30 speakers) were Michael Buchner, Real Algebraic Geometry; Charles Boyer and Benjamin Mann, Geometry and Topology; Stanly Steinberg, Partial Differential Equations; Alex Stone and Howard Fegan, Differential Geometry; Carla Wofsy, Mathematical Biology; Jens Lorenz, Dynamical Systems.

   In addition, the Great Plains Operator Symposium (GPOTS) held its 10th meeting in conjunction with the joint AMS/SIAM meeting. It was organized by Frank Gilfeather, one of the founding organizers of this annual meeting which attracted over 90 participants this year.

   A general reception for all the meeting participants was held at the New Mexico Museum of Natural History. In addition to the scientific program, the Council of the AMS and several major AMS committees met at this meeting. Local organizers were Carla Wofsy, Alex Stone and
Frank Gilfeather. Judy Woodward was in charge of the receptions and Gloria Lopez, of the department, headed the local staff effort.

3. In cooperation with LANL Center for Nonlinear Studies (CNLS), the department expanded and will continue the prestigious speaker series in nonlinear analysis. Speakers spend several days at UNM and also at Los Alamos. The world class scholars have included a number of Nobel Laureates and Fields Medalists. In addition we organized a joint lecture series with Sandia Laboratories and hosted an annual Efroymson lecture, (a department special lecture series).

4. Major renovations of the Department offices were undertaken, creating additional faculty offices and a computer lab for faculty and graduate student use. A major effort was made to increase the administrative efficiency through computer networking the office. The staff is developing new skills and handling an increasing workload.

5. JUMP - the Junior Mathematics Prognostic Program increased from 19 to 27 schools and is slated to move to nearly 40 this year. In 1989-90 over 6,000 New Mexico High School juniors participated in JUMP. In its second year, JUMP was directed by Professor Nancy Gonzales and supported by the department and the College of Arts and Sciences. Computer services were donated by the UNM Testing Division and supervised by Joe Maes.

6. A number of teacher enhancement projects were conducted by Professor Richard Metzler. These were funded by UNM Foundation and through a state Eisenhower Grant. In total, over 60 New Mexico high school teachers gained valuable experience with graphing and programmable hand held calculators. There is a growing network of teachers developing with close ties to the department through these projects and JUMP.

7. New courses were introduced at the graduate and undergraduate level including 460-461, an introductory analysis sequence. Also 263 and 310 were added as vector analysis courses for mathematics majors to replace the 264 and 311 sequence in multi-dimensional calculus.

8. A full day faculty retreat was initiated during the week prior to classes in Fall 89. Wide ranging discussions were held which set the tone for many actions and activities during the year. A similar retreat is planned this year.
9. A major scholarship program was announced for undergraduate students. Dr. Abraham Franck, an alumnus and speaker at the 1989 department commencement, has pledged to provide four scholarships to advanced undergraduates. These scholarships will be given each Spring in the name of Dr. and Mrs. A. Franck. The department has pledged to try to match this gift through fund raising efforts.

10. The department ran an experiment with computer based examinations and tutoring (practice exams) in Math 150. Newly appointed staff member, Julie Garrard, directed this effort with the cooperation of CIRT, using facilities at the Lobo student computer lab.

11. The department consultation room was enhanced. This "walk-in" help service to our 100-200 level students has been steadily gaining in popularity. When eventually coupled with a math/stat specific computer lab, it will be a major UNM asset. Professor Jeff Davis, assisted by Shirley Harty of the staff, was responsible for the expansion of the consultation room services this year and for the reorganization and direction of the student reader (grader) program.

12. Reuben Hersh was recently elected a Fellow of the American Association for the Advancement of Science. Professor Hersh has written books on the philosophy of mathematics which have been translated into seven languages and one, "The Mathematical Experience", won the American Book Award in Sciences for 1983.

B. Significant Plans

1. We continue to examine our graduate offerings and seek improvements in our graduate program. A detailed evaluation of the statistics graduate program is anticipated. In addition, an evaluation of the comprehensive examination in all will be undertaken and changes in content and form are expected. The department awards annual Efroymson fellowships and seeks to increase its supplemental funds for graduate students.

2. The department needs to develop a computation laboratory in order to meet several goals. The primary goal is to enhance instruction at all levels. We need better efficiency in instruction at the pre-calculus level and certain computer aided tools. A critical corollary of a math/stat computer lab would be the ability to monitor student progress through our two "gateway" calculus sequences: 120 - 150 - 162 - 163 - 264 and 120 - 121 - 180 - 181. With additional information, we hope to increase
articulation through these sequences. Each year, over 6,000 students are in these courses.

3. A statistical computing and consulting lab needs to be established. The statistics faculty received a significant equipment grant from the National Science Foundation and this enhancement should lead to the establishment of this needed facility and related consulting service.

4. There are national calls for increasing the pool of mathematically and statistically trained professionals. Especial emphasis is on the need to bring under-represented groups into the mathematically based professions. The department seeks to attract and better serve students interested in mathematics and the allied fields. To this end, the Franck scholarships, in addition to the Efroymson graduate student fellowships, will be helpful. The department tries to employ as many of its advanced undergraduate students as possible as counselors and graders.

Equally important is enhancing the intellectual stimulation of those interested in the mathematically based professions. The Putnam and other competitions, as well as general seminars are continuing efforts. These, in addition to the rigors of the regular curriculum, help meet these intellectual needs. The annual and nationally recognized New Mexico School Mathematics Contests will continue and be enhanced as resources allow.

5. Outreach is a continuing goal of any mathematics department in a major state university. In particular, we hope to move JUMP to statewide implementation with stable funding. There is a strong demand to bring this program, which has been especially developed for New Mexico, to the entire New Mexico high school junior student body. In addition, a companion program for middle school needs to be created, as that is where we begin to see significant losses of students taking mathematics. Those lost are inevitably lost to any future science and engineering careers.

6. Joint faculty appointments with Sandia, LANL, and other national lab personnel need to be established. We have a strong interaction with many researchers at these laboratories and some formalization of this fact would especially benefit graduate students in the mathematical sciences.
C. **Appointments to Faculty and Staff**

1. Thomas Hagstrom, Associate Professor from SUNY Stony Brook, is an outstanding young numerical analyst. He complements Jens Lorenz who was hired last year from California Institute of Technology. Together they bring UNM a strong presence in this field which is especially important in New Mexico.

2. Krzysztof Galicki, Assistant Professor, is considered among the very best of an outstanding national group of young geometers. He will be on leave in spring semester as an invited visitor to the Advanced Institute at Princeton.

3. Terry Loring, Assistant Professor, is a leading young operator algebraist and a recipient of one of 30 special NSF Postdoctoral Awards in 1990. This three year award will release him from some teaching duties and provide support for him to work with researchers at University of California, Berkeley each summer.

4. Julie Garrard, staff researcher, is responsible for developing a departmental computer lab and assisting in computer instructional projects.

5. Professor Bert Koopmans retired this year. Professor Koopmans had a distinguished career as a UNM faculty member and as a prominent statistician. His articles and books have had a strong impact on his field and on many students. He served as chairman in the early 70's during a period when the department was the recipient of an NSF grant which developed a national recognized faculty in applications of mathematics. Professor Koopmans' service to New Mexico, UNM and his profession was extensive and he will be greatly missed.

6. Assistant Professor Mike Frazier resigned to accept a tenured associate professor position at Michigan State University which included a ten thousand dollar salary increase. Instructor Tim Straney accepted a position at TV-I.

D. **Sponsored Research**

1. Over 17 faculty, about 50% of our research faculty were involved as investigators on proposals involving external projects. These ranged from special equipment grants and grants for teacher enhancement, to
research for various individual statistics and mathematics research activities.

2. Half of those submitting, received awards. In particular, a special equipment award was made to a group of four statisticians to purchase advanced computing equipment. All newly appointed faculty currently have NSF funding for their research.
DEPARTMENT OF MODERN AND CLASSICAL LANGUAGES

Chair: Dick Gerdes
Assistant Chair: Natasha Kolchevska
Administrative Assistant: Rosario Johnson

ANNUAL REPORT
July 1, 1989 - June 30, 1990

I. TEACHING FACULTY AND STAFF

A. Permanent Faculty

Spanish
Bills, Garland
Fernández, Pelayo
Gerdes, Dick
González, Angel
Rodríguez, Alfred
Sainz, Gustavo
Bergen, John
Gonzales-Berry, Erlinda
Rebolledo, Tey Diana
Rivera, Rowena
Fernández, Rosa
Lamadrid, Enrique

Professor
Professor
Professor
Professor
Professor
Associate Professor
Associate Professor
Associate Professor
Associate Professor
Assistant Professor
Assistant Professor

French
Senninger, Claude-Marie
White, Julian
Lynch, Lawrence
Martin, James
Putnam, Walter
Hanson, Suzanne

Professor
Professor
Associate Professor
Assistant Professor
Assistant Professor
Lecturer II

German
Hannemann, Bruno
Pabisch, Peter
Jespersen, Robert

Professor
Professor
Associate Professor

Portuguese
Tolman, Jon
De Sá Rego, Enylton

Professor
Assistant Professor
616

Russian
Kolchevska, Natasha
Lindsey, Byron

Greek/Latin
Smith, Warren
Robin, Diana

B. Permanent Part-time Instructors

Chinese
Wu, Pearl

C. Part-time Instructors

German
Allen, Elayne

Italian
Salimbeni, Elizabeth

Japanese
Santistevan, Grace

Spanish
Usner, Carol

D. Emeritus Professors

Spanish
Duncan, Robert
Holzapfel, Tamara
McCurdy, Raymond
Nason, Marshall
Ulibarri, Sabine

German
Holzapfel, Robert

E. Visiting Scholars

Spanish
Araujo, Diego, Fulbright Scholar, Universidad Católica, Quito, Ecuador

Classics
Neuburg, Matthew, NEH Classics Grant
French
John Coombes, University of Essex, England
Claude Schopp, La Sorbonne, Paris, France

Russian
Slava Davidenko, Alma-Ata College, USSR
Boris Iundin, Moscow University, USSR

F. Language Learning Center, Ortega Hall

Vigil, Neddy, Director
Nadertabar, Mohammed, Lab Tech II

G. Teaching Assistants

Ph.D.
Spanish
Barbarich, Jasen
Buck, Lucy
Clark, Susan
Contreras, Vitelio
Crosby, Margaret
de la Puente, Elsa
García-Alonso, Rocío
Kobylas, Joseph
Lefkoff, Joan
Lettieri, Mónica
Luiselli, Alessandra
Ocougne Renee
Parks, Roger
Reed, Suzanne
Rosas, Patricia
Ruzicka, James
Santos, Ignacio
Sullivan, Brian
Tafoya, Jesús
Torres, Victor

French
Monchal, Maité
Schense, Mary
Smeloff, Mary Michael

M.A.
Spanish
Arrey, Angela
Baker, Tammy Lou
Carstens, Thomas
Cates, Ivelisse
Estala, Luis
Gallegos, Eva
Grover, Lisa
Gustin, Kelsey
Kalland, Keith
Oliva, Tony
Ortega, Paul
Pérez, Gilberto
Rivas, Humberto
Setterlun, Ann
Silva, Joan
Thompson, Kimberly
Weyers, Joseph
Zamanian, Mohammad

French
Blankenship, Terese
Bramante, Paula
Dugan, David
Marquis, Solange
Wallace, Sarah

German Studies
Harris, Steve
Levine, Glenn

Portuguese
Franco, Helenita

Linguistics/Japanese
Yokoyama, Tomoe

H. Office Staff
Cerna, Ivana, Staff Assistant
Montalvo, Margarita, Department Secretary
Gallegos, Eva, Lower Division Spanish Secretary
Johnson, Julie, French Summer School Secretary
Williams, Wilhelmina, German Summer School Office Manager
Logue, Carin, Part-time German Research Assistant
Geiselman, Carrie, German Division Secretary

I. Work Study Help
Derrick, Chris
Field, Tanya
Gómez, Jennifer
Guillén, Yvette
To, Dung
II. **DEPARTMENT ORGANIZATION**

Reclassification

German Summer School Clerical Specialist V. Wilhelmina

Williams was reclassified to Office Manager, starting January 1, 1990.

III. **DEGREES AWARDED**

A. **B.A.**

55 Majors in Spanish, French, German, Russian Studies, and Languages

B. **M.A.**

**Spanish**

Cates, Ivelisse
Gustin, Kelsey
Pérez, José

**French**

Casaus, Marie-Hélène
Johnson, Julie Ann
Pointeau, François
Putnam, Valerie
Selving, Kimberly
Stull, Sue Beth

C. **Ph.D.**

**Romance Languages**

**Belsan, Diana L.,** "Fantasy in the Poetry of the Troubadours and Trobairitz: A Psychoanalytic Interpretation" (Director: Julian White)

**Fonseca, Pedro Carlos Louzada,** "A Criação Ficcional de Almeida Faria" (Director: Jon Tolman)

**García-Sprackling, Soledad,** "Concordancia estilística de la poesía de Angel González" (Director: Alfred Rodríguez)

**Rivera, Susan Darleen,** "Ultima voz del exilio: la generación poética hispano-mexicana" (Director: Alfred Rodríguez)

**Spencer, Laura,** "La Flor de la Querella: A Feminist Perspective on the Poetry of María
Eugenia Vaz Ferreira (Director: Tey Diana Rebolledo)

Thomas, Peter Newcomb, "Neo-Baroque and Meta-History in Fernando del Paso’s Noticias del Imperio" (Director: Gustavo Sainz)

IV. COURSES OFFERED

A. Summer 1989

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D. Courses Approved, Changed or Deleted

Courses Approved

*Spanish 358*, Spanish American Literature Survey II (3).

Continuation of Spanish 357, a survey of the literary Canon in Spanish American from modernism through contemporary times.

*Spanish 449*, Topics in SW Folklore/Literature (3).

Study of oral and literary genres and periods, including Chicano theater, New Mexican literature, Chicano writers, poetry, folk music, orality in folk and Chicano narrative.

French 505. Change of credit to 1-3 hours. (May be repeated for up to a total of 3 hours credit) MA candidates will take 1 additional hour; Ph.D. candidates will take 2 additional hours.

Spanish 519. Medieval Literature (3). (Remove Prerequisite for non-existent course) A survey of major Spanish masterpieces, from the Jarchas to the Celestina.

Spanish 530. Seminar in Spanish American Theater (3). Overview of 20th century theater, emphasizing major dramatic tendencies, such as teatro de costumbres, teatro surrealista, teatro del absurdo, and trends in dramatic criticism and theatrical production.

Spanish 537. Seminar in SW Folklore/Literature (3). Advanced study of folk and literary traditions with emphasis on critical approaches and theory.

Spanish 633. Spanish American Poetry since 1950 (3). Intensive study of contemporary Latin American poets such as Octavio Paz, Pablo Neruda, Nicanor Parra, Ernesto Cardenal, Rosario Castellanos and Nicolás Guillén.

Courses Changed

Spanish 301. Topics in Hispanic Culture (3). Themes in Advanced Composition and Conversation. Taught in Spanish (required for major study. May be repeated for credit as topic changes. A maximum of 9 hours may be applied to the major in Spanish. Emphasis on oral and written expression based on a theme (literature, culture, civilization, contemporary events, etc.) Prerequisites: 202 or 275 or equivalent.
Spanish 302, Topics in Language Study (3).
Advanced Composition and Conversation. Taught in Spanish. Emphasis on oral and written expression based on language-related topics (translation, commercial, writing Spanish, etc.) Prerequisite: 301 or equivalent.

Classics 345, T/Greek Literature in Translation (3).

Spanish 406, Survey of Spanish Literature II (3).
A Survey of Spanish Literature from the Eighteenth, Nineteenth, and Twentieth centuries.

Spanish 418, Spanish Novel (3).
A survey of the Spanish Novel concentrating on master works of the Nineteenth and Twentieth centuries.

Spanish 430, Spanish American Short Story (3).
Spanish American short story from 19th century to contemporary period. Intensive development and discussion of theatrical bibliography.

Spanish 431, Modern Spanish American Poetry (3).
A survey course covering Spanish American Poetry from Modernism to the present.

Spanish 435, Modern Spanish American Fiction (3).
Study of narrative tendencies in Spanish American fiction between 1915 and 1940, including regionalismo, indigenismo, critica social, urbanismo, existencialismo and metaescritura.
Spanish 438, Mexican Literature (3).
Study of readings in Mexican literature emphasizing Mexico’s contribution to Hispanic American literature from pre-Colombian to contemporary times. Examination of diverse genres in Mexico’s literature.

French 505. Change of credit to 1-3 hours. (May be repeated for up to a total of 3 hours credit) MA candidates will take 1 additional hour; Ph.D. candidates will take 2 additional hours.

Spanish 519, Medieval Literature (3). (Remove Prerequisite for non-existent course) A survey of major Spanish masterpieces, from the Jarchas to the Celestina.

Spanish 530, Seminar in Spanish American Theater (3).
Overview of 20th century theater, emphasizing major dramatic tendencies, such as teatro de costumbres, teatro surrealista, teatro del absurdo, and trends in dramatic criticism and theatrical production.

Spanish 635, Latin American Regionalism (3).
Course traces regionalist narrative of Brazil and Hispanic America from mid-19 century to the 1920s, emphasizing major social issues, such as civilization versus barbarie and city versus country.

Spanish 636, Latin American Regionalism (3).
Course traces regionalist narrative of Brazil and Hispanic America from the 1920s to the 1960s. Reading and speaking knowledge of both Spanish and Portuguese essential.
Spanish 639, Seminar in Spanish American Literature (3). Topical seminars geared to doctoral students, emphasizing the literature of one country or region (Argentine novel), one genre (romantic poetry), the literary essay, essential or complete works of one author, or trend (the dictator novel).

Courses Deleted

Spanish 436, Southwest Hispanic Studies (3).

Spanish 535, Spanish American Literature (3).

V. DEPARTMENT NEWS

A. Hiring

During the 1990 Spring semester the Spanish Division hired three new professors who will start August 13, 1990: 1) Anthony Cárdenas, Ph.D., University of Wisconsin: Full Professor, Medieval Literature; 2) Santa Arias, Ph.D., University of Wisconsin: Assistant Professor, Tenure track, Latin American Literature; 3) Valerie Hegstrom-Oakey, Ph.D., University of Kansas: Assistant Professor, Tenure track, Drama and Golden Age Literature.

B. Department Highlights:

Lecture by José A. Burciaga, Chicano writer. Reading of his poetic and dramatic work. (8/19/90)

Lecture by Claudine Lacoste, French Professor at University Paul Valery at Montpellier, France. "La Condition feminine a travers l'oeuvre de George Sand." (10/3/90)

Lecture by Dominique Desanti, novelist, journalist, professor at the Université de Paris VII: "Women and Revolution." Co-sponsored by French Cultural Services, the History Depart-
ment, the UNM European Studies Program, and the UNM Women's Studies Program (10/11/89)

**Lecture by Dr. Aleksandr Matveyev**, Secretary of International Relations and Scientific Exchange for the Soviet Academy of Agricultural Sciences: "Perestroika: A Time of Transition." Co-sponsored by Russian and East European Studies Committee and the International Conflict and Cooperation Project of the Department of Political Science (10/16/89)

**Lecture by Frederick Starr**, President, Oberlin College: "The USSR and the Eastern Europe: Who's Leading Whom and Where." Co-sponsored by Area Studies Seminar for the UNM Centennial (10/24/89)

**Dramatic presentation by Mónica Sanchez**, of La Compañía de Teatro de Albuquerque, "A Medianoche." Co-sponsored by the Southwest Studies Fund. (11/1/89)

**Lecture by Professor Byron Lindsey**, Russian Division, M&CL, Fulbright Scholar in the Soviet Union in 1988-89: "Gorbachev's Soviet Union: An American View." Co-Sponsored by The New Mexico Fulbright Alumni Association (11/9/90)

**Lecture by Enrique Zuleta Alvarez**, former Rector of the University of Cuyo, in Mendoza, Argentina, scholar in the field of Spanish and Latin American intellectual history: "Alfonso Reyes y la Argentina." (11/9/90)


**Reception for Claribel Alegría**, at Prof. Tey Diana Rebolledo's house. (11/15/90)
Lecture by Professor Daniel Lewers, Université de Tours, Vanderbilt University: "Lire la Poesie d’Aurjoumd’hui - Aujourd’hui." Co-sponsored by The Council for European Studies, and the European Studies Program. (11/21/90)

Lecture by Santa Arias, "La Cuestión del Otro - Historia de las Indias de Fray Bartolomé de Las Casas." (1/19/90)

Lecture by John T. Cull, "Death as the Great Equalizer in Emblems and in Don Quijote." (1/29/90)

Lecture by Professor Enrique Lamadrid, M&CL’s Spanish Division, "Journeys of the Picaro from Oral Tradition to the Recent Chicano Literature of New Mexico." Sponsored by Rudolfo Anaya’s Chicano Literature class. (2/6/90)

Cultural Forum, Yiddish poetry, music, humor and folk-tales. Sponsored by the Yiddish Cultural Association of New Mexico. (2/6/90)

Lecture by Martin Kuusk, member of the Estonian Popular Front. "Perestroika in the Baltics: What is ahead for the people of Estonia, Latvia and Lithuania?" Co-sponsored by the East European Studies Committee and the Slavic Studies Association. (2/16/90)

Lecture by Professor Thomas Rosenmeyer, Department of Classics and Comparative Literature, University of California, Berkeley: "Power and Weakness: the Need for Tragedy." (3/8/90)

Otto Santa Ana in a Colloquium, "Can Sociolinguistics Ever Get into Contact?" Co-sponsored by the Department of Anthropology and the Department of Linguistics. (3/19/90)


Two lectures by Isaac Chocrón, one of Venezuela's most prominent literary figures. He teaches theater and literature at the University of Caracas, and is co-founder of the Nuevo Grupo (a play production company) and director of the National Theater Company of Venezuela: "Teatro Político latinoamericano: Augusto Boal, Teatro La Candelaria, Enrique Buenaventura y Rodolfo Santana"; "Fifty Years of Latin American Theater: from Isolation to Integration". Co-sponsored by the Department of Theater Arts. (4/5 and 4/6/90)

Reception honoring Isaac Chocrón, at Aida and Dick Gerdes’ home. (4/5/90)

Lecture by Alfonso Barrera V., Ecuadorian writer and Ambassador to Canada. "Del realismo interior de los campesinos a los profetas del barrio en la ciudad". (4/18/90)

Reception honoring Alfonso Barrera V., at Aida and Dick Gerdes’ home. (4/18/90)

C. Professional Public Activities:

Papers Read at Professional Meetings


Gerdes, Dick: 1) "Mexican and Chicano Literature." The Novel of the Americas, University of Colorado, Boulder (September 1989); 2) "Melodrama in Three Plays by Mario Vargas Llosa." Mid-America Conference on Hispanic Literature, University of Kansas, Lawrence, Kansas (November 1989); 3) "Contemporary Ecuadorian Fiction." University of Kentucky, Lexington, Kentucky (April 1990)

Gonzales-Berry, Erlinda: "Mainstreaming and Chicano Literature." Hispanic Cinema Festival, University of Colorado, Boulder (September 1989)


Neuburg, Matthew: "Is there a Latin Relative Clause of Characteristic?" Classical Association of the Atlantic States, Gettysburg College Gettysburg, Pennsylvania (April 1990)


Graduate Students

Moncha, Maite: "L'image de la femme dans les Contes D'Amadou Koumba" Seventh annual International Colloquium on Twentieth century french Studies, University of Iowa, Iowa City (April 1990)

Contributions to Other Meetings, Workshops, Seminars, Readings, etc.

Gerdes, Dick: Co-Coordinator, USAID Andean Peace Project, UNM Law School, Albuquerque, NM (Summer 89)

González, Angel: 1) "El exilio de España." Simposio sobre el exilio español de 1939, University of Maryland (October 1989); 2) "Notas a la poesía heróica de Juan Ramón Jiménez." Rice University, Houston, Texas (December 1989); 3) "Lectura de poemas." University of Houston (December 1989); 4) "Comentarios a mi poesía." Instituto de Cultura Hispánica, Houston, Texas (December 1989)

Kolchevska, Natasha: 1) "Making Our Classes Livelier: Using Games and Television in the Classroom." Moscow State University, Moscow, U.S.S.R. (August 1989); 2) "Developing
Cultural Awareness." Workshop for university language teachers sponsored by the American Council on the Teaching of Foreign Languages at Indiana University, Bloomington, Indiana (June 1990)

**Lamadrid, Enrique:** 1) "New Mexican Folklore: A Tradition of Resistance." **Museum of International Folk Art,** Santa Fe, New Mexico (July 1989); 2) Moderator, "Cultura, Historia y Biografía en el Mundo; 3) Hispánico." **Old World and New: New Mexico and the Columbus Quincentennial,** Santa Fe, New Mexico (October 1989); 4) Panelist, "Experiential Education and Interdisciplinary Curriculum Development in the CONEXIONES Program." **American Association of Teachers of Spanish and Portuguese,** San Antonio, Texas (August 1989); 5) Co-Coordinator, **USAID Andean Peace Project,** Albuquerque and Taos, NM (Summer 1989)

**Pabisch, Peter:** 1) "The Situation in Eastern Europe and Berlin." **German Club Santa Fe/Los Alamos,** NM (November 1989); 2) "The Situation in Europe." Press Conference based on my recent trip. **Channels 7 and 13,** Albuquerque, NM (December 1989)

**Rebolledo, Diana:** "Et Tu Bruta?: The Connections Between **Chicana Summer Institute/MALCS,** University of Santa Clara, California (August 1989)

**Sainz, Gustavo:** 1) "Una visión panorámica de mi producción literaria." **Middlebury College Spanish School,** Vermont (September 1989); 2) "Aportaciones de la literatura francesa contemporánea." **Universidad de Baja California,** Escuela de Humanidades, Tijuana, México (September 1989); 3) "La literatura experimental de las dos Alemanías." **Universidad de Baja California,** Tijuana, México (October 1989); 4) "Texto y contexto de la literatura italiana contemporánea." **Universidad de Baja California,** Tijuana, México (November 1989); 5) "La ciudad de México como referente en mi obra narrativa."
Arizona State University, Tempe, Arizona (November 1989); 6) "Una década de literatura mexicana. Crítica de la crítica." Librería Castillo, Monterrey, Nuevo León, México (December 1989); 7) "La literatura perseguida en la crisis de la crítica." Librería Castillo, Minterrey, Nuevo León, México (December 1989); 8) "La literatura perseguida en la crisis de la Colonia." State University of San Diego, California (December 1989)

"Literatura Europea de Díglo XX." Universidad de Baja California, Tijuana, México (December 1989)

Ancient Novel, Dartmouth College, New Hampshire (July 1989)

Attendance and Officer at Professional Meetings and Workshops:

Gerdes, Dick: Presiding Officer: Latin American Literature Section, Rocky Mountain Modern Language Association, Las Vegas, Nevada (October 1989)

Kolchevska, Natasha: Attendance, American Association for the Advancement of Slavic Studies, Chicago, Illinois (November 1989)

Pabisch, Peter: 1) Presiding Officer, Moderator and Commentator, "German Literature After 1900: 'Forty years Two Germanies." Rocky Mountain Modern Language Association, Las Vegas, Nevada (October 1989); 2) Presiding Officer, Organizer and Moderator, "Special Session to Revive German at the Rocky Mountain Modern Language Association: Invitation of guest speaker Herbert Knust on Bertolt Brecht and the German Democratic Republic, Rocky Mountain Modern Language Association, Las Vegas, Nevada (October 1989)


Senninger, Claude: Board Member Meeting, Alliance Française USA, San Francisco, California (November 1989)


Other Activities: Poetry Readings, Exhibits, Local Presentations

Fernández, Rosa: "Maximizing Your Performance." Workshop B. Moawad, University of New Mexico (October 1989)

Gonzales-Berry, Erlinda: "New Mexico Culture and Language." Interview with Julia Gabaldón, KLUZ TV, Albuquerque, NM (October 1989)
Kolchevska, Natasha: "Cultural Ferment Under Perestroika." University of New Mexico Centennial Lecture Series, UNM (October 1989)


Lindsey, Byron: 1) "The Trouble with Perestroika: Economic, Political and Cultural Problems in the U.S.S.R." Council on Foreign Affairs, Albuquerque, New Mexico (September 1989); 2) "Glasnost and Gorbachev: the Intellectual Climate in the U.S.S.R." UNM Law Faculty Colloquium, University of New Mexico (September 1989); 3) "Gorbachev's U.S.S.R: An American's View." Fulbright Alumni Association, University of New Mexico (November 1989)

Pabisch, Peter: 1) "The German Speaking Realm in View of Europe 1991--An Academic Contemplation." Albuquerque Academy, Albuquerque, New Mexico (October 1989); 2) "Ludwig Wittgenstein as Perceived by Literature." University of New Mexico Philosophy Club, Philosophy Department, UNM (November 1989); 3) Poetry reading: Der Morgen Leicht Wie Eine Feder. Austrian Society for Literature, Palias Wilczek, Vienna, Austria (November 1989); 4) Presentation of from Wilson to Waldeim, with Professor Donald G. Daviau, University of California at Riverside, Ortega Hall, UNM (December 1989); 5) "Vienna and Central Europe." NW Albuquerque Kiwanis Club, Rio Rancho, New Mexico (October 1989)
**Putnam, Walter**: Presiding Officer, "The Best of Times and the Worst of Times." University of New Mexico Area Studies Centennial Symposium, UNM (October 1989)

**Rivera, Rowena**: "The Interrelationship of Visual and Musical Art in New Mexican Religious Music." Columbus Quincentennial: The Old World and the New, Santa Fe, New Mexico (October 1989)


**Service as Editor of Scholarly Journal, Reviewer, etc.**:


**Gonzales-Berry, Erlinda**: Manuscript Referee, University of Texas Press (1989); Member Editorial Board, El Norte Publications, Albuquerque, New Mexico (1989); Editor, Southwest Hispanic Research Institute Working Papers Southwest Hispanic Research Institute, University of New Mexico (1989).

**Jespersen, Robert**: Book Review Editor, Die Unterrichtspraxis, University of New Mexico, (1989)

**Pabisch, Peter**: Guest Editor: "German Literature of the Fringes." Dimensions

-25-
Contemporary German Arts and Letters, Volume 18/1: 1989; Editor: Special Topic, Jahrbuch Fur Internationale Germanistik. (1989); Editor: "Austrian Literature, German Dialect Literature, German Literature in Foreign Countries." Reilhe VI, Encyclopedia Die Deutsche Literatur (1980 to the present), Berlin: Free University Berlin.

Rebolledo, Diana: Editorial Board, Arte Público Press

University and Community Service:

Bergen, John: Member, M&CL Graduate Committee; Member, A&S Graduate Committee

Bills, Garland: General Coordinator, Collaborative Research Project on Southwest Spanish, UNM; Associate Director for Academic Programs, Latin American Institute, UNM; Linguistics Dept.; Undergraduate Advisor; Educational Linguistics Committee; Preparation of Department History; Undergraduate Advisor, M&CL; Member, Faculty Senate, UNM; Vice President, Hoffmantown Neighborhood Association, Albuquerque, New Mexico; Publicity Chair, Albuquerque Youth Symphony Parents Association, Albuquerque, New Mexico

Fernández, Pelayo: Member, M&CL Search Committee, UNM; Member, Spanish and Portuguese Graduate Committee, M&CL; Member, Sister Cities Foundation, Albuquerque, New Mexico

Fernández, Rosa: Planner, 1990 M&CL Spanish Weekend, Glorieta, New Mexico

Volunteer, Showcase UNM (Fall 1989); Coordinator, Joint Project: APS, UNM and KLUZ-TV, Albuquerque, New Mexico; Judge, Essay Contest, 1989 Language EXPO, Albuquerque, New Mexico; Member, Community Education Committee; Member, UNM; Student
Standards and Grievances Committee; Member, UNM Latin American Institute Library Committee


Gonzales-Berry, Erlinda: Member, UNM Honors Council; Member, Selection Committee, SHRI Rockefeller Fellowships, Southwest Hispanic Institute, UNM (Spring 1989); Spanish Undergraduate Advisor, M&CL

Hannemann, Bruno: Member, UNM International Affairs Committee; Chair, Fulbright Student Research Grant Competition

Jespersen, Robert: Member, Selection Committee, Congress-Bundestaq Youth Change Program

Kolchevska, Natasha: Vice-President, New Mexico-El Paso section, American Association of Teachers of Slavic and East European Languages; Member, National Publications Committee, American Association of Teachers of Slavic and East European Languages; Member, Executive Board, Albuquerque Language Teachers' Association Albuquerque, New Mexico; Member, Selection Committee, Rockefeller Academic Alliances Fellowships, UNM; Member, New Mexico Task Force on Modern and Classical Languages, New Mexico; Outside evaluator for promotion decision, University of Missouri-Rolla; New Mexico Liaison for Educational Testing Service, Russian Language Competency Field Test; Translator and Consultant, Corinth Films Soviet American Documentary Film Project; Russian Studies Consultant and Translator, UNM Department of Nuclear Engineering 7th International Symposium on Space Power Systems Russian Translation Consultant, Sandia Laboratories Technical Translation
Office, Albuquerque, New Mexico; Assistant Chair, M&CL; Chair, Russian Division, M&CL; Chair, Russian & East European Studies Program, UNM; Member, UNM Dean of Education Search Committee; Member, UNM International Studies Centennial Events Committee
Member, UNM Arts and Sciences Women’s Caucus Steering Committee; Executive Board member, American Soviet Friendship Society and New Mexico-Soviet Sister Cities Project, Albuquerque, New Mexico

Lamadrid, Enrique: Member, UNM Special Admissions Committee; Member, M&CL Undergraduate Committee: Director, M&CL Bilingual Spanish Tract; Director, "Fiesta de Otoño," Intensive Spanish Weekend for High School Spanish Students, Glorieta, New Mexico; Director, Conexiones, Summer Program in Mexico

Lindsey, Byron: Member, Russian Studies Committee, UNM; Member, Fulbright Alumni Association, UNM

Pabisch, Peter: Director, 1989 UNM German Summer School, Taos, New Mexico
Director, German Studies Workshop, Taos, (July 1989); Member, UNM 2000 Committee Coordinator, German Language Division; Faculty Advisor, Yiddish Cultural Association Of New Mexico, Albuquerque, New Mexico; Member, UNM Faculty Senate Long Range Planning Committee; Evaluator, German Graduate Program, Arizona State University, Tempe, Arizona (October 1989); Member, Board of Directors, Chamber Orchestra of Albuquerque, New Mexico

Putnam, Walter: Director, French Summer School, Albuquerque, New Mexico
Chair, UNM European Studies Committee; Member, Planning Committee, UNM Area Studies Centennial Symposium; Coordinator, M&CL Library Liaison for French Coordinator, French Weekend, Glorieta, New Mexico; French Oral Examiner, International Bacalaureate
Exam; Member, Ph.D. Committee in French; M&CL Representative, UNM "Find a Major" Day

Rebolledo, Diana: Board of Directors, El Norte Publications Board of Directors, The Hispanic Women’s Council; Member, UNM 200 Committee; Member, UNM Academic Freedom and Tenure Committee; Member, A&S Promotion and Tenure Committee, UNM; Graduate Advisor, Spanish and Portuguese, M&CL

Rivero, Rowena: Instructor, NEH Summer Hispanic Institute, El Rito, New Mexico (Summer 1989); M&CL Library Liaison Faculty Coordinator, Showcase UNM, University of New Mexico Centennial (October 1989); M&CL Undergraduate advisor; M&CL Undergraduate Committee; Member, UNM Faculty Senate; Member, UNM Press Committee; Member, Policy Committee, Latin American Institute, UNM; Member, Latin American Institute Publications Committee, UNM; Member, UNM Graduate Awards Committee; Member, UNM Concilium on Research on Women (Steering Committee); Board Member, La Zarzuela de Albuquerque, Albuquerque, New Mexico Director, Chicana/Hispanic Oral History Project, Albuquerque, New Mexico

Robin, Diana: Committee on the Status of Women and Minorities, American Philological Association (January 1989); Vice-President, Classical Association of the Middle Western States and South; Member, College Awards Committee, Classical Association of the Middle Western States and South; Member, A&S Junior Tenure Committee, UNM; Member, A&S Tenure Committee, UNM; Member, A&S Dean’s Policies & Procedures Committee, UNM; Member, A&S Steering Committee, Women’s Caucus, UNM; Member, UNM Faculty Senate
Rodríguez, Alfred: Member, A&S Dean's Promotion Committee, UNM; Member, Spanish and Portuguese Graduate Committee, M&CL; Treasurer, La Zarzuela de Albuquerque, Albuquerque, New Mexico

Senninger, Claude: Co-director, French Summer School, Albuquerque, New Mexico; Honorary Consul of France, Albuquerque, New Mexico; Vice-President, Alliance Francaise, Albuquerque, NM; Board of directors, Alliance Francaise USA

Tolman, Jon: Coordinator, M&CL Spanish and Portuguese Division; Chair, Hiring Committee, Spanish, M&CL; Member, M&CL Policy Committee, UNM; Member, Spanish and Portuguese Graduate Committee, M&CL; Director, Latin American Institute Luso-Brazilian Studies UNM; Member, Spanish and Portuguese Graduate Advisory Committee, M&CL; Associate Director, Latin American Institute Luso-Brazilian Programs, UNM; Member, Latin American Institute Policy Committee, UNM; Member, Latin American Institute Grants and Awards Subcommittee, UNM; Member, Latin American Institute Budget Subcommittee, UNM

Honors to Faculty

Gonzales-Berry, Erlinda: Nominee, New Mexico Eminent Scholar, Western New Mexico University (1989); Fulbright at the Johannes Gutenberg Universitat, Department of American Studies, Mainz in Germensheim, Federal Republic of Germany, January to July 1990.

Kolchevska, Natasha: International Research and Exchange Board Summer Language Teachers Exchange, Moscow State University, Moscow, U.S.S.R. (Summer 1989)
Lamadrid, Enrique: Stanford University Faculty Renewal Program in Chicano Studies: Ideology and Critical Theory in Current Scholarship, Stanford University, California (November 1989)

Pabisch, Peter: "The Morning Light as a Feather" was introduced to the Austrian Society for Literature in Vienna, Vienna, Austria (November 1989).


Rivero, Rowena: Burlington Resources Foundation Faculty Achievements Award for 1989-1990


VI. GRANTS AND CONTRACTS, EXTRAMURAL AND OTHERWISE

Awarded with 1989-1990 Initial Start Date

Lamadrid, Enrique
Title: "The Urban Balad in Mexico; from Corridos to Gauacarock"
Agency: Mellon Foundation/Latin American Institute, UNM
Date: March 1989
Funding: $610
Title: "NM Sound Archive: Creation of a permanent Audio Archive of NM Spanish and Hispanic Folklore"
Agency: Public Service Company of New Mexico
Dates: May 1990 to May 1991
Funding: $4,950

Lynch, Lawrence
Title: "A Monograph on Jules Verne"
Agency: UNM Research Allocation Committee
Dates: 1/90-9/90
Funding: $765.00

Rebolledo, Tey Diana
Title: "And Where Were the Women? In Pursuite of a Literary and Historical Heritage of Hispanic Women in the West/Southwest, 1550-1930"
Agency: UNM Research Allocation Committee
Date: March 15, 1990
Funding: $4,752.70

Smith, Warren
Title: "Classical civilization: Cradle of the West"
Agency: National Endowment for the Humanities
Date: 1989
Funding: $78,000
Title: "Tennyson and the Classics"
Agency: UNM Research Allocation Committee
Date: March 1990
Funding: $1,596

Tolman, Jon
Title: Seminar on Contemporary Issues in American Democracy for Brazilian Academics
Agency: Comissao Fulbright do Brasil
Dates: June 19-July 14, 1989
Funding: $55,481
Title: "Assisted Language Learning at University of New Mexico"
Agency: PNM Foundation
Date: March 1990 to Fall 1990
Funding: $4,982.00

In Force from Previous Years
Pabisch, Peter
Raised $130,000 in donations for German Summer School

VII. FUTURE PLANS

The department faculty are actively involved in three areas of development: administrative; academic; hiring; and recruitment and retention. With reference to the first area, the Dean of the College authorized the faculty to invite three outside evaluators to visit the campus during the 1990 Spring semester and to provide observations concerning the Spanish and Portuguese graduate programs. As a result, the evaluators unanimously recommended that the present department be split into two departments: 1) Department of Spanish & Portuguese; 2) Department of Modern & Classical Languages. The Modern Language Association indicates that most of the more impor-
tant graduate academic programs are tied to single or dual language departments. At present the undergraduate and graduate Spanish & Portuguese programs represent 65% of the department faculty and student enrollments. Moreover, the case has been made for giving a separate, distinct identity to Spanish in a bilingual, multi-cultural state and region that places much importance on Hispanic language and culture.

With regard to academic programs, the department faculty voted to study and to institute as soon as possible a change in lower-division language courses from three to five hours of credit. Initial contact with the scheduling office indicates that times and locations for teaching our classes on a five-day-per-week schedule is entirely possible. Beyond logistical matters, the proposal will go before the appropriate university committees for approval in the fall. Also, efforts are being made to purchase and to install the equipment necessary for a computer-assisted classroom which will be used for writing classes by students in languages, including English.

As for hiring, the department administration forsees the need to replace at least three faculty members who have been awarded one-year contracts for 1990-1991 due to negative tenure and promotion decisions. The faculty recommends initiating the search process during the 1990-91 academic year for the Portuguese position, which will be left vacant by Professor Enylton de Sá Rego beginning in August 1990. (Arrangements have been made to cover a reduced set of Portuguese courses for the 1990-1991 academic year). Also, the faculty recommends converting the position to be vacated by Professor Rowena Rivera, now assigned to teach Hispanic language, folklore, and culture courses, to a bonified Latin American literature position in order to bolster that area of studies.

While the future of the non-Spanish academic programs has not been carefully mapped out, it is the department chair's recommendation that with the continuance of the Department of Modern & Classical Languages (without Spanish and Portuguese), the Ph.D. in French should be carefully analyzed for its potential as a viable, academically-strong program. As it is, the French division is weak, factionalized, and unorganized. The position that will be vacated by Professor James Martin should be readvertised or eliminated in light of the findings of the proposed study.
This year the department provided employment opportunities to several persons, following as always the rules and procedures of Affirmative Action, and making an effort to attract women and minority groups. During the 1989-90 year, the department hired four new Professors, two of whom are Hispanic and three of whom are female. A total of fifty Teaching Assistants employed, 19 of whom are Hispanic and 12 are women. One teaching Assistant was Asian and one was physically handicapped. The work study team was composed of 5 students (two Hispanic, two Anglo, and one Asian).
A. Significant Achievements

1. The Brian O'Neil Memorial Lectures in the History of Philosophy

Professor Richard Popkin, University of California at Los Angeles, delivered the 1989 O'Neil Memorial Lectures, entitled "The Sources of Spinoza's Thought Reconsidered" and "Interpretations of the Role of Scepticism in Modern Philosophy", on 20 October 1989. This marked the second year of the annual lectureship which was established as a permanent memorial to the late Brian O'Neil who was a member of the department faculty from 1966 until his death in November, 1985.

A permanent endowment for the lectureship was made possible this year through a University Centennial Matching Grant of $5000 from the UNM Foundation. Under the leadership of Professor Schueler the grant was matched by gifts from alumni, students, faculty, former faculty, and friends of the department.

2. Recruitment of Undergraduate Majors and Minors

That a recent, on-going effort at attracting undergraduate majors and minors has begun to bear fruit was made quite evident with the awarding of B.A. and B.S. degrees at the May, 1990 Commencement to five Philosophy majors, three English/Philosophy majors, and twelve Philosophy minors:

<table>
<thead>
<tr>
<th>Philosophy Majors</th>
<th>English/Philosophy Majors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allen Binford Coates</td>
<td>Virginia Barva</td>
</tr>
<tr>
<td>Eduardo Duffy</td>
<td>Katharine H. Downer</td>
</tr>
<tr>
<td>William Day Fanning</td>
<td>Melanie L. Williams</td>
</tr>
<tr>
<td>John R. Maynard</td>
<td></td>
</tr>
<tr>
<td>Peter J. Williams</td>
<td></td>
</tr>
</tbody>
</table>
Philosophy Minors

Bryan Biedscheid
Lonnie Brown
Terry D. Cameron
Whitney Conover
Jennifer Eldridge
Raymond C. Etcitty
Eric Duncan Herder
William R. Markham
Kristin Morse
Jennifer Pease
Barry Robinson
Renee Torres

Virginia Barva graduated with Honours in Philosophy.

3. Recruitment of Students for M.A. Concentrations

A special effort has been made this year to do selective recruitment for two of the department's four concentrations at the M.A. level: Philosophy of Literature and Asian & Comparative Philosophy. Initial indicators are positive, but the relative success will be apparent only when the 1990 fall semester has begun.

4. 35th Annual Aesthetics Institute Workshop

The 35th Annual Aesthetics Institute Workshop, sponsored by the department, was held at the D. H. Lawrence Ranch (San Cristobal, NM) from 28 May through 1 June. Philosophers of Art attended from the College of Santa Fe, Highlands University, Southwestern Baptist Theological Seminary, the Taos Institute of Arts, the University of Dallas, the University of New Mexico, the University of Texas at Austin, the University of Texas at El Paso, and the University of Wisconsin. The focus of discussion was on the place of Aesthetics in education from Kindergarten level through doctoral programs.

Participants became so excited about the issues raised that they decided to found a Society for the Development of Aesthetic Sensibility which would entail a
Newsletter, a projected Journal, regional meetings with public school teachers, and annual meeting in conjunction with the Aesthetics Institute Workshop.

5. **14th Annual Summer Seminar on the Sutras**

For the fifth year the summer Seminar on the Sutras was held at Jemez Bodhi Mandala Zen Center, Jemez Springs, NM, under the joint auspices of the Rinzai-ji, the national sangha (congregation) of Zen Buddhist practitioners founded by Kyozan Joshu Sasaki Roshi, and the UNM Department of Philosophy. Prior seminars were held at UCLA and Cornell University.

Students enrolled for credit came from Brown University, New York University, St. John's College of Santa Fe, and the University of New Mexico.

Faculty included Sonja Arntzen (University of Alberta), David Chappell (University of Hawaii), Stephen Collins (Concordia University, Montreal), Miriam Lindsey Levering (University of Tennessee), John Taber (UNM), and Terry Yamada (California State University, Long Beach).

B. **Significant Plans and Recommendations**

1. **Philosophy in New Mexico High Schools**

Much interest has been expressed in the earlier effort of this department to find ways of introducing high school students to philosophical analysis and dialogue. This has come from high school students who had participated in the pilot projects and their parents, as well as teachers and administrators from the high schools and faculty from the colleges and universities who had collaborated. The department is on record as
favoring the reinstatement of the program, and this will be done in the coming academic year.

2. Philosophy of Literature; Asian and Comparative Philosophy

Four concentrations are provided at the Master's level. Two, Philosophy of Literature and Asian & Comparative Philosophy, have been singled out for selective recruitment of students. We expect to receive a small, but significant, number of newly admitted graduate students in the 1990-91 academic year who have been attracted to our program because of these concentrations. The Philosophy of Literature concentration at the Master's level builds on the successful English/Philosophy undergraduate major program. The Asian & Comparative Philosophy concentration is based on a long-standing departmental commitment to, and strength in, research and teaching in the Buddhist, Chinese, and Indian philosophical traditions.

3. Aesthetics Institute Workshop

The success of this year's 35th annual workshop at D. H. Lawrence Ranch has aroused considerable interest in the new directions for the program which began to be followed on the part of many philosophers of art and aestheticians in the southwest. The newly organized Society for the Development of Aesthetic Sensibility, to be headquartered in this department, will seek close working relationships with the American Society for Aesthetics, the Taos Institute of Arts, and several other similar associations.

4. Philosophy of Science and Mathematics

During Assistant Professor William Boos' tenure with the department close ties were forged with the Department of Mathematics. Professor Boos held doctorates
in both Mathematics and Philosophy, and was a specialist in Logic. 1990-91 will be the final year of service by the successor to Professor Boos, and we need to replace him with someone who will be able to re-establish rapport with the Department of Mathematics and provide a strong program in Logic and the Philosophy of Mathematics.

Assistant Professor Rose-Mary Sargent, during her two years of active service, quite quickly established close working ties with faculty and researchers in the physical, biological, and social sciences. An interdepartmental undergraduate minor in Science, Technology, and Society was the result of her leadership and coordination. She had begun to re-design the department's Master of Arts concentration in the History and Philosophy of Science, with the idea of making it an inter-departmental program. After a year's Leave Without Pay, she has resigned from the faculty for personal reasons. We shall be recruiting a replacement with her strengths to begin work with us in the fall of 1991.

C. **Appointments to, and Departures from, the Staff**

There were no appointments made. Rose-Mary Sargent resigned as Assistant Professor of Philosophy, effective the end of the 1990-91 academic year.

D. **Sponsored Research**

1. **Proposal submissions to outside agencies**

   Number of faculty: 3  
   Percentage of faculty: 27%

2. **Grant awards from outside agencies**

   Number of faculty: 3  
   Percentage of faculty: 27%
A. Significant Achievements during the Academic Year 1989–90

This particular year has been marked by many important scientific conferences being held in Albuquerque. January was the venue for an international workshop on the structure of the H– ion, which was hosted by Professor Howard Bryant and supported by grants from NSF, DoE, CVI Laser Corporation and UNM, both locally and from funds at the Graduate Center at Los Alamos. Dr. Bryant has long been doing major, landmark experimental research in this area, confounding the theorists and requiring them to make better approximations in order to accord with reality as Howard has uncovered it. Following on this meeting, in March, a special workshop was held at UNM on aperture synthesis observations of spiral galaxies. Sponsored by the Institute for Astrophysics, the Los Alamos Graduate Center and the National Radio Astronomy Observatory, co-hosts were Pat Crane of NRAO and Professor Nebojsa Duric of UNM. This meeting brought about 50 astronomers from around the world to discuss interferometric techniques.

In May, Marlan Scully was the culprit who again brought a conference to UNM. This time the conference was on the foundations of quantum mechanics, which concentrated on the interplay and symbiosis between theory and experiment in quantum mechanics, and was jointly sponsored by Los Alamos National Laboratory. Then, in
June, the astronomers returned in force, with UNM being the host institution for the annual summer meeting of the American Astronomical Society. Prior to this arrival, the organization of this meeting of approximately 1000 astronomers had required more than all of the free time of Professor Harjit Ahluwalia for the last couple of months. He had enlisted all the other astronomy-related organizations in the state into the campaign to make this a successful meeting--some eleven different ones, as well as the help of many astronomers and graduate students within this department. The meeting was an enormous success, with many comments centering around the quality of the organization, the New Mexico mode of operation, the red chile, etc. One of our best graduate students in astrophysics, Jun-Hui Zhao, rather serendipitously had already been scheduled to present his final dissertation defense during the time of the meeting. As a result, he had about half of the entire world's experts on his material sitting there in his audience. The overwhelming consensus of the audience was that his work was a very important step forward in the area of jets and their use as tools to interpret the structure of clusters of galaxies! In addition the Albuquerque AAS meeting had sufficiently important news that it several times made the "New York Times."

While these are all of the meetings the department sponsored during this last academic year, already three more are known to have been scheduled for the coming one: in late July, the 37th International Field Emission Symposium will be held in Albuquerque, jointly with Sandia National Laboratories; in August, the 10th International Symposium on Boron, Borides, and Related Compounds will be held at UNM, endorsed and supported by a large variety of university and industrial interests; and, in the fall, Professor Bryant will be organizing the Annual DoE Atomic Physics Contractors Meeting.
Not to be outdone by the all the meetings the faculty has scheduled, our departmental staff has banded together and invited individual faculty to come and give them a talk at a monthly luncheon meeting. They have been doing this over most of the last year and have found it a very good approach to building better communication between themselves and to having a more personal rapport with the individual faculty members. So far they have had extremely good luncheon menus— to which the chair has been invited—and have heard discussions and/or slide shows concerning Lithuania, the structure of the universe, India, Russia, the Galapagos, Hungary, archaeoastronomy and the U.S. Arms Control agency. I trust that this will be a continuing affair.

A new program the department has embarked upon strikes me, at first site, as being at the opposite pole from all of the frontier-level meetings being held here, described above. This endeavor is a public school outreach program, which has had meetings with high school (and middle school) physics teachers, encouraging them to make better use of teaching resources that this department is interested in making available to them. These resources include equipment, materials, knowledge and time, all of which we are trying to share with these people in the Albuquerque public school system in the hopes of increasing the interest in and knowledge of physics and astronomy at that level. As specific examples, we are loaning laboratory demonstration equipment to the schools; we have a slide program on astronomy, especially for elementary and middle school level with extensive descriptions written by a graduate student, Phil Carman; we have sent out about a dozen faculty and students to give talks, upon request, to several different schools; we had a special "Astrophysics Day" in the spring for any schools that wanted to bring their classes, and we are hoping to have a special laboratory tour for physics teachers this coming fall.
After last year's rousing success the department was very pleased to go forward again with its own Commencement Day ceremonies. Attendance was not as good as last year (the first year) but was quite reasonable. Byron Spice, the then Albuquerque Journal science editor gave a brief commencement address and each graduate was individually honored. There was an excellent turnout of faculty, students and visitors for the Showcase UNM, on 30 October, with several new demonstration facilities being first shown at that time. In particular, there is now a small Physics Exploratorium in Regener Hall, with hall and wall displays created by graduate student, Susannah Foltz with funding from the UNM Centennial Program. The displays include a very detailed time-line of the history of physics (and civilization) along the top of the corridor in Regener Hall along with some public use demonstration equipment now permanently placed in that corridor. Also departmental colloquia and seminars have continued unabated throughout the year. As usual there is a complete list of these speakers and their home institutions attached to the end of this report. A speaker of special prominence and interest was Nobel Laureate Ivar Giaever, who was actually the last of the department's special series of Centennial lecturers. He spoke in October of genetic engineering and its relation to problems with cancer, to standing-room-only audiences. An historical development of the role played by serendipity in particle physics was very well presented, in April, by Nobel Laureate Sam Ting, who was actually present during almost all of the time period described. We were also pleased to have what could now be called this year's visits from Nobel Laureates Roy Glauber and Julian Schwinger, who gave very interesting and well-attended talks.

An important and easily noticed change in the department has been caused by the addition of Professor David Dunlap, increasing substantially the department's
commitment to research activities involving condensed matter theory, since only V. M. Kenkre was primarily in this area before, although Charles Beckel is currently quite involved in work in this area. In addition, we have had Professor Lubomir Skala visiting all year from Charles University in Prague, Czechoslovakia. Various collaborations have been set up between these investigators and other researchers within the department that have some interests in condensed matter subjects, including Research Professor Ahmet Elci.

Several rather special collaborations have developed over the last year, one of them indeed involving condensed matter research. Dr. Robert Duncan, recently hired at Sandia National Laboratory, has been granted a small amount of space in this department (about 8 ft square) where he has been working on new and more efficient refrigeration methods, to liquify helium gas. He is engaged in this experimental project with our new theorist, David Dunlap, just mentioned above. The collaboration seems to be working very well and to everyone's satisfaction, with Rob being in the building at least some of the time almost every day of the week. An additional important collaborative effort with SNL is the cause of Dr. Paul Schwoebel having been hired by SNL to work with Professor John Panitz on his problems in microscopy, as well as a part-time collaboration between John and Dr. Arian Pregenzer, also from SNL. Yet another "contribution" to the department from Sandia is Dr. Crawford MacCallum. Although Dr. MacCallum received his Ph.D. from this department very many years ago, he has now returned to its doors, having retired from SNL but very actively continuing his studies of the center of our galaxy, with active NSF support. The department has conferred Adjunct appointment status on each of Drs. Duncan, MacCallum and Pregenzer, and is very hopeful that these new signs of important interactions with SNL will continue to grow and prosper.
No new faculty were hired during the year, although several unsuccessful searches were pursued. Professors Marlan Scully, David Wolfe and Derek Swinson were away on sabbatical leave for the spring semester, although in truth all of them were seen in these halls almost as often as in halls far away, because of their proclivities toward much traveling, with Germany, California, Texas, Colorado, Australíia, Japan and New Zealand on the list of one or more of them. As well, Professor Marcus Price was on sabbatical leave for the entire year, with his time spent between the radio telescopes here in New Mexico and those in Australia. We will be very glad to have all of these faculty returned for the upcoming year. On the other hand, we did have several teaching visitors from far away come to enliven our interactions with the rest of the world, including Dr. Algis Piskarskas, from the central university in Vilnius, Lithuania, Dr. Joel Fontaine from the Ecole Nationale Superieure in Strasbourg, France, and Dr. Krzystoff Wodkiewicz from the University of Warsaw, Poland.

Awards and Recognition: Again near the top of the list of prize recipients this year was the name of Professor Marlan Scully. On 1 May, Marlan received the Elliott Cresson Medal, in a ceremony at the national memorial to Benjamin Franklin, in Philadelphia. The medal is one of the oldest and most distinguished American awards for achievements in science and engineering, and cites Dr. Scully "for his theoretical study of lasers, his contributions to many-body theory, general relativity, and to biological engineering."

Several students received awards throughout the year. Graduate student Andreas Stintz was awarded the Research Scholarship for 1989 by the New Mexico chapter of the American Vacuum Society. Graduate student Steve Long was given the award for best paper presented at the first ever state-wide meeting of the Society for Phys-
ics Students, a national organization with chapters in most physics departments throughout the nation. Receiving jointly the (annual) award for best Teaching Assistant of the Year were Shannon Hall (astrophysics) and Michael Dennis (optical sciences), along with many plaudits from the faculty they supported throughout the year.

The recipient of the Eoin Gray Fellowship Award, granted to the outstanding senior Honors student in the department--this year being the second time--was Adam Rusek. As well, Adam received the Undergraduate Sigma Xi Research Award for 1990.

An award of rather a different type was received by our master technician, Charles E. Williams, for having given--so far--thirty years of faithful service to this department, and the University of New Mexico.

Academic Matters: Enrollment in undergraduate service courses, undergraduate major courses, and graduate courses has been relatively stable for the past three years with this year, 1989/90

is 2.3% higher in total than last year, 1988/89;

virtually the same as the year before, 1987/88;

and 8.35% higher than the year before that, 1986/87.

The corresponding Student Credit Hours, not including summers, are

1989/90, 14,972; 1988/89, 14,634;

While enrollment has been quite stable for the last three years, one can observe noticeable oscillations from semester to semester.

Of certainly much greater interest than the recent flat growth rate of overall
departmental enrollment numbers is the breakdown of those SCH into a) lower
division service courses, b) upper division major courses and c) graduate courses.

From the 1986/87 academic year to 1989/90

lower division courses increased 1.55%,

upper division major courses increased a dramatic 47.12% and,

not to be out-done, graduate courses grew by a whopping 43.69%.

Several interesting observations about the future of the department may be made from these figures. The number of graduate students enrolled in the department has nearly doubled in the past nine years while the graduate SCH has nearly tripled, which indicates that more of them are full time students. That in turn might imply wider geographic diversity, greater availability of funding for assistantships and an improving departmental reputation.

The substantial increase in the undergraduate major courses is particularly gratifying as the department faculty took a stand two years ago to lessen the rate of attrition between the sophomore and junior physics courses. For these two years faculty have staffed an afternoon tutorial center at Regener Hall to assist any physics student seeking help. Also, the first two junior courses, Physics 301, Heat and Thermodynamics, and Physics 303, Analytical Mechanics, have instituted special weekly problem sessions, all to help ease the transition to upper level physics. It may well be working. At least last year they were working well enough that another professor, teaching Physics 405, Electricity and Magnetism, decided to add such a problem session to his course. As well we will be continuing this program again this coming fall semester.

During the academic year 1989/90, 28 students earned degrees in Physics or Astrophysics. Eleven of these received B.S. degrees in Physics or Astrophysics (\*)
two of the students accomplished this with a double major, while two additional students minored in Physics for their bachelor's degree with another major. Eleven students received M.S. degrees in Physics and six received the Ph.D. degree. Of the Ph.D.'s awarded, one was in Optical Sciences (*). The following tables list the names of the students involved:

Students receiving a B.S. degree in 1989/90

Physics and Astrophysics (*) Major

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>David Burton Anderson</td>
<td>Shaun Michael Bloom</td>
</tr>
<tr>
<td>Sharman Lee Carpenter</td>
<td>Todd J. Cloutier</td>
</tr>
<tr>
<td>Cecilia Marie DeBlasi*</td>
<td>Gregory Allen Feather*</td>
</tr>
<tr>
<td>Philip Ralph Gonzales*</td>
<td>John Michael Melvin</td>
</tr>
<tr>
<td>Mark William Noah*</td>
<td>Jeffery William Norris</td>
</tr>
<tr>
<td>Adam Rusek</td>
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</tbody>
</table>

Double Majors:

B.S. in Physics & Astrophysics, Mark William Noah
B.S. in Physics & Mathematics, David Burton Anderson

Physics Minors:

B.A. in History, Michael L. Akard
B.S. In Mathematics, Peter Smith

Students receiving an M.S. degree in 1989/90 (thesis advisor, when the Plan I option was followed)

<table>
<thead>
<tr>
<th>Name</th>
<th>Name</th>
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</thead>
<tbody>
<tr>
<td>Brian Tanner Anderson</td>
<td>Jordis E. Asbell-Clarke</td>
</tr>
<tr>
<td>David Alan Cox</td>
<td>Melissa Rae Dittmar-Douglas</td>
</tr>
<tr>
<td>Edward Patrick MacKerrow</td>
<td>Fardad Serry</td>
</tr>
<tr>
<td>Wolfgang Spahn</td>
<td>Lirong Sun</td>
</tr>
<tr>
<td>Michael Lee Tilton</td>
<td>Feiling Wang</td>
</tr>
<tr>
<td>Charles John Wetterer</td>
<td>(Jean-Claude Diels)</td>
</tr>
</tbody>
</table>
Students receiving the Ph.D. degree in 1989/90 in Physics or Optical Sciences (*)

(dissertation advisor)

Philip Greville Harris  
(Howard Bryant)  
Jong-Dae Park  
(John McInerney)  
Honglu Wu  
(V.M. Kenkre)

Billy Wayne Mullins*  
(Steven Brueck)  
Ismail Saleh Sabbah  
(Harjit S. Ahluwalia)  
Fang-Xiao Zhao  
(Marlan Scully)

B. Significant Plans and Recommendations for the Near Future

Space and Building Needs: It seems never to be possible to compile an Annual Report that does not say that the department is critically short of space! During the last year we have tried desperately to be placed on the university's list of departments that must have significant new additions to their space. With the help of Facilities Planning, in May discussions were begun with John Petronis of Architectural Research Consultants, Inc., here in Albuquerque, concerning the beginnings (?) of making definitive planning documents validating our need for additional space. They have now indicated that our research laboratory area has shrunk by half during a time which our needs have trebled. We have survived only by crowding, shoving, and praying! It is hoped that something will be done to alleviate this problem in the near future.

As an additional, short-term, palliative measure, the department has been in very consistent negotiations with both the New Mexico Medical Foundation and the UNM Office of Finance in order to acquire some very well-created, mobile space that the Foundation no longer wants. This space comes in the form of two double-wide (28 ft x 60 ft, each) trailers, already well comported for offices. This space
could be permanently attached to the rear of our building so that walking from one
to another would be relatively transparent, and would allow some current offices to
be re-routed back into very much needed laboratory and/or instructional space.

Areas of future growth: Various members of the department have been involved
this year in the creation of proposal for the "New Mexico Center for Particle Phys-
ics," which is intended to be an effort jointly sponsored by UNM and the Los Alamos
National Laboratory, to work on problems concerning physics experimentation to be
performed at the Superconducting Super Collider, now scheduled to be built in
north central Texas and completed by about the year 2000. There have been several
visits back and forth by faculty here, staff at LANL, and the administrative personnel
at SSC Headquarters in Waxahachie, Texas. Final proposals have not yet been sent,
but it is hoped that up to 10 physicists will be hired in this area, again jointly spon-
sored by LANL and UNM, and that talks concerning collaborative efforts with
Nobel Laureate Sam Ting will be successful as well.

The Institute for Astrophysics was seriously diminished when Professor Jack
Burns decided to accept the offer of the Chair of the Department of Astronomy at
New Mexico State University. However, the remaining researchers have done very
well during the previous year in their ongoing efforts to uncover the riddles of the
universe and to find support from NASA, NSF, etc. in order to do it, including espe-
cially the Hubble Space Telescope project. Nonetheless, the department seriously
wants to replace Professor Burns as Director of the Institute, and has searched all
during the last year for a candidate with a suitable marriage of scientific experience,
capability and reputation along with administrative skills sufficient for the purpose.
So far the perfect candidate does not seem to have been found. Therefore the
search will continue through the coming year. It is hoped that we will be able to con-
vince that person, when she or he materializes, to immediately settle down in Albuquerque!

The department continues to have important needs for more faculty in the area of experimental optics and its applications to semiconductor technology, biophysics, spectroscopy, etc. We are therefore setting up a new search for the coming year, in this area, with intentions of looking for mid-range faculty instead of younger, beginning faculty members. An extra opportunity has arisen that would, in past years, have seemed very remote indeed. The accidental confluence into the university of new faculty--Professors Charles Boyer and Benjamin Mann, in the Department of Mathematics and Statistics--and of researchers in the nearby area--Dr. Warner Miller at the Air Force Weapons Laboratory, and Dr. Kent Harrison at Brigham Young University--have made this area sufficiently attractive, along with Professor Daniel Finley having been in the area for some time, that there has been interest evinced in moving here by Professor Fred Ernst, at Clarkson University in New York. Professor Ernst is a very well known person in general relativity and addition of a person of his stature to the department could create a nationally important center in this area.

Staff needs: The department is very slowly solving some of its staff needs. During the last year we have been able to hire a graduate secretary to handle all aspects of that program. However, currently, only half of that position is funded by the state, with the rest coming from (discretionary) IDC funds received by the department because of the size of the external funding received by researchers within this department. As well, the department also hires (on such 'soft' funding) a maintenance person who handles the regular servicing of the department's far-flung stations: two cosmic ray telescope stations, one in a mine near Socorro and one in a cave at the top of the Sandia Mountains, and our Capilla Peak Observatory. As well,
we have managed a consortium of state funding, extra departmental funding, and outside research funding to hire the now-very-useful new machinist. This addition is one that is felt to have been truly crucial to our efforts, and whose efforts are only now beginning to work toward decreasing the backlog that was evident in the shop. Full state funding of all of these positions is a theme that must be worked on in the near future.

The department did operate during last year without a regular faculty-type person involved in the lower-division laboratory courses. For many years they had been handled jointly by our technician, Chuck Williams, and a retired faculty 'volunteer,' Dr. David Steinhaus. Now that David has retired again, Chuck has managed the job during the last year in an admirable way; however, I do not feel that this is a tradition that ought to be allowed to continue forever. We must re-consider the question of faculty support for these laboratory courses and how we will re-solve that question.

**Undergraduate Program:** The last two years of serious work on the department's undergraduate program have indeed borne some serious fruit. The first, and very positive, aspect of this is that now the last two years have seen a reasonable number of B.S. degree recipients: 11 this last year and 12 the year before. On the other hand, other fruit coming out of this effort is the department's idea that yet much more should be done. Therefore, it has agreed that there must be a faculty-level position of Undergraduate Education Coordinator, who will work with increasing the quality (and quantity) of the undergraduate program and who will also work with the local public school program to begin recruitment very early. For the coming year, Professor Steven Gregory will fill this role, very willingly! We will all be trying to support him in every way.
C. Appointments to Staff

As mentioned earlier, three new scientists from Sandia National Laboratories have been added to the adjunct faculty. They are Crawford MacCallum, Adjunct Professor; Robert Duncan, Adjunct Assistant Professor; Arian Pregenzer, Adjunct Assistant Professor.

John Dolby was promoted from the Resident Observer at Capilla Peak to the Instrumentation Technician position which services our remote cosmic ray and astronomical sites, repairs electronic instruments and operates a bulldozer, mostly for snow removal during the winter and spring from the road that leads to our Capilla Peak Observatory.

David Sommers was hired as the new Resident Observer at Capilla Peak, a position supported by the Institute for Astrophysics.

A new part-time staff assistant was hired to handle department publicity and public relations. Renee Stegall began at mid-year and is now producing the weekly newsletter, producing a new brochure and organizing the reading room.

D. Separations from Staff

Associate Professor Jack Burns accepted the position of Chairman of the Department of Astronomy at New Mexico State University. Dr. Burns had been at UNM since 1980, where he distinguished himself as a researcher and was the primary moving force in founding the Institute for Astrophysics which he also directed.

Chris Squire was the department's staff assistant for public relations on a part-time basis. She resigned to continue (and complete) her college education. Chris had been with the department for seven years where she worked in competent good humor.
Another "old hand" in the department, Tom Williams who was also a part-time observer and technician at Capilla Peak, left during the year. He had a very thorough working knowledge of the computers and other mechanisms at the observatory that will not soon be replaced.

We continued to have a problem with the difficult Instrumentation Technician position earlier in the year, the diversity of skills required to perform the job properly is not often found. As such, Charles Porter departed during the year.

Research Personnel at Physics and Astronomy During the Year

<table>
<thead>
<tr>
<th>FACULTY SPONSOR</th>
<th>NAME</th>
<th>TITLE</th>
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<tr>
<td>Charles Beckel</td>
<td>Mohammed Yousaf</td>
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<td>Howard Bryant</td>
<td>Hassan Sharifian</td>
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<td>Hossein Toutouchchi</td>
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<td>Colston Chandler</td>
<td>Gunther Berthold</td>
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<td>Jean-Claude Dies</td>
<td>Mehrdad Mohebi</td>
<td>Research Associate III</td>
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<td>Nandini Mukhergee</td>
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<td>Augustine Syn</td>
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<td>Paolo di Tripani</td>
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<td>Byron Dieterle</td>
<td>Randolph Reeder</td>
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<tr>
<td>V.M. Kenkre</td>
<td>Lubomir Skala</td>
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<td>Daniel McGraw</td>
<td>Xin-Miao Zhao</td>
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<td>John Panitz</td>
<td>Mary Raymond</td>
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<td>Paul Schwebel</td>
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</table>

D. Sponsored Research or Other Projects

a. During the year, there were 48 new proposals submitted to outside funding agencies by 21 regular faculty members representing 75% of our total faculty.
b. Altogether 24 faculty members (86%) and three research associates were actively involved in outside-funded research on 61 separately funded grants or contracts. These research projects are performed out of the Department of Physics and Astronomy and come either directly under our jurisdiction or under the aegis of several other organizations such as the Center for Advanced Studies, the Center for High Technology Materials, the center for Micro-Engineered Ceramics or the Institute for Astrophysics.

c. Approximately $1,999,500 were expended on research projects supported by external grants and contracts that were filed through the College of Arts and Sciences or the other centers mentioned above.
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**TOTALS**: 3046 7790
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<td>09/08/89</td>
<td>Alexander Popov</td>
<td>Light Induced Drifts</td>
<td>Kirenski Institute of Physics, Krasnoyarsk, USSR</td>
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<td>09/12/89</td>
<td>H. Zankel</td>
<td>Regional Energy Planning in Austria</td>
<td>Commissioner for Energy, Provincial Government of Styria, Austria</td>
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<td>R. V. Duncan</td>
<td>Josephson Effect Voltage Standards: New Physical Insight From Emerging Measurement Technology</td>
<td>Sandia National Laboratory</td>
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<td>Richard Hughes</td>
<td>Constraints on New Forces From Gravitational Red-Shift Experiments</td>
<td>Los Alamos National Laboratory</td>
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<td>P. R. Schwoebel</td>
<td>Structure and Growth on an Atomic Scale</td>
<td>Sandia National Laboratories</td>
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<td>Rolf M. Sinclair</td>
<td>Recent Results from Chaco Canyon: The Mathematics and Astronomy of a Prehistoric Culture</td>
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<td>Neil Tanner</td>
<td>Neutrino Astronomy -- The Sexiest Neutrino Oscillation Experiment</td>
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<td>Linda Reichel</td>
<td>Quantum and Stochastic Manifestations of Chaos</td>
<td>Center for Statistical Physics, Univ. of Texas, Austin</td>
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<td>Cold Fusion -- A Hypothesis</td>
<td>UCLA</td>
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<td>Genetic Engineering and Cancer</td>
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<td>W. Tifft</td>
<td>Cosmological Redshifts</td>
<td>University of Arizona, Steward University</td>
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<td>11/03/89</td>
<td>Cornelius Hoenselaers</td>
<td>Solitons and Nonlinear Evolution Equations</td>
<td>Max-Planck-Institut fur Physik und Astrophysik</td>
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<td>Roger Dorsinville</td>
<td>Picosecond Nonlinear Optical Response and Photoconductivity in Polymers</td>
<td>The City College of CUNY</td>
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<td>A. Scott</td>
<td>Biological Solitons</td>
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<td>Jay M. Wiesenfeld</td>
<td>High-Speed Photonics: Applications to Semiconductor Optical Amplifiers and Optical Probing of Elect. Waveforms</td>
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<td>Simon Peter Rosen</td>
<td>Sun, Supernova, Double-Beta Decay, and The Neutrino Magnetic Moment</td>
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<td>Roberta Humphreys</td>
<td>The Biggest, The Brightest and The Best</td>
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<td>Arian Pregenzer</td>
<td>Electrohydrodynamically-Driven Lithium Ion Source For Fusion Research</td>
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<td>01/18/90</td>
<td>Roy Glauber</td>
<td>Atoms in Cavities</td>
<td>Harvard University</td>
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<td>Ray Kunselman</td>
<td>Muonium Conversion to Anti-Muonium</td>
<td>University of Wyoming</td>
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<td>Rodolfo Bonifacio</td>
<td>Superradiance and the Free Electron Laser</td>
<td>University of Milano, Milano, Italy</td>
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<td>Stan Cohen</td>
<td>Introduction to CAMAC</td>
<td>Los Alamos National Laboratory</td>
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<td>02/15/90</td>
<td>Kevin Cahill</td>
<td>Artificial Life</td>
<td>University of New Mexico</td>
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<tr>
<td>02/16/90</td>
<td>David Statman</td>
<td>Holographic Grating Dynamics in Photorefractive Materials</td>
<td>Air Force Weapons Laboratory</td>
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<td>02/20/90</td>
<td>Leonid Ozernoy</td>
<td>The Galactic Center: Diagnostics of the Central Engine</td>
<td>Distinguished Visiting Scholar, Inst. of Geophysics and Planetary Physics, LANL</td>
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<td>Philip Harris</td>
<td>Observation of High-Lying Resonances in the H- ion</td>
<td>University of New Mexico</td>
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<td>Edward Chupp</td>
<td>Gamma Ray Spectroscopy of Supernovae and Solar Flares</td>
<td>Univ. of New Hampshire</td>
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<td>03/02/90</td>
<td>Valerie Gremillion</td>
<td>Looking at the Brain as a System</td>
<td>Los Alamos National Laboratory</td>
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<td>03/06/90</td>
<td>Emil Mottola</td>
<td>Baryon- and Lepton-Number Violation in the Electroweak Theory at TEEnergies</td>
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<td>High Energy and Astronomy</td>
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<td>Gary A. Mastin</td>
<td>Digital Image Processing: Introduction and Applications in the Sciences</td>
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<td>Digital Image Processing: Introduction and Applications in the Sciences</td>
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Date

03/29/90  Presenter: Arkady Kheyfets
Title: Relativistic Smoothed-Particle Hydrodynamics
Institution: North Carolina State University

03/30/90  Presenter: Stuart Trugman
Title: The Normal State of High Tc Superconductors
Institution: Los Alamos National Laboratory

04/03/90  Presenter: Sam Ting, Nobel Laureate
Title: In Search of Fundamental Building Blocks of Nature
Institution: Massachusetts Institute of Technology

04/05/90  Presenter: John A. J. Matthews
Title: Z Physics from the SLAC Linear Collider
Institution: The Johns Hopkins University

04/06/90  Presenter: J. Cresser
Title: Autoionization: Spontaneous Emission Effects and Non-Inversion Lasing
Institution: Macquarie University, Australia

04/10/90  Presenter: Norman Lafave
Title: The Structure of The Null-Strut Calculus
Institution: Air Force Weapons Laboratory

04/12/90  Presenter: M. Fink
Title: Search for the Neutrino Rest Mass
Institution: University of Texas, Austin

04/13/90  Presenter: Thomas Erber
Title: The Quantum Mechanics of Single Atoms
Institution: Illinois Institute of Technology

04/13/90  Presenter: Fred Ernst
Title: The Impossible Mission: The Quest for Physically Interesting Exact Solutions of the Einstein Equations
Institution: Clarkson University

04/17/90  Presenter: John Miller
Title: The Economy as a Complex System
Institution: Santa Fe Institute

04/20/90  Presenter: Crawford J. MacCallum
Title: Positron Annihilation at the Galactic Center: Black Hole or Myth?
Institution: University of New Mexico
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<td>04/24/90</td>
<td>Warner Miller</td>
<td>Towards Information Geometry It From Bit</td>
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<td>Chris Langton</td>
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<td>Thomas Klitsner</td>
<td>Scanning Tunneling Microscopy: Basic Concepts,</td>
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<td>Recent Accomplishments, and New Horizons</td>
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<td>06/01/90</td>
<td>Michael Scadron</td>
<td>Chiral Field Theories and Dynamical Symmetry</td>
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Presenter: M. V. Fedorov  
Title: Coherence and Interference in Photoionization of Rydberg Atom  
Institution: General Physics Institute, Moscow, USSR  

Presenter: Stephen R. Friberg  
Title: Soliton Collisions: Ultrafast Switching and Quantum Nondemolition Measurements  
Institution: NTT Basic Research Laboratories, Tokyo, Japan  

Presenter: A. Popov  
Title: Fractals and Nonlinear Optics  
Institution: Krasnoyarsk, USSR  

Presenter: M. Barthes  
Title: Incoherent Neutron Scattering in Nonlinear Materials  
Institution: Montpellier, France  

Presenter: Howard Bryant  
Title: Observations of Atoms in Strong Fields  
Institution: University of New Mexico  

Presenter: Franz Mertens  
Title: Mean First Passage Times in the Presence of Colored Noise  
Institution: Warsaw, Poland  

Presenter: Franz Mertens  
Title: Dynamics of Vortices in 2-Dimensional Magnets  
Institution: Univ. of Bayreuth  

Presenter: Algis Piskarskas  
Title: Progress in Parametric Generation and Amplifications of Ultra-Short Light Pulses  
Institution: Vilnius University, Lithuania, USSR  

Presenter: David Dunlap  
Title: Excimers in Crystals: Theory of Y-States  
Institution: University of New Mexico  

Presenter: Neil Tanner  
Title: Neutrino Astronomy--The Sexiest Neutrino Oscillation Experiment  
Institution: Oxford University
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<td>J. McInerney</td>
<td>Bistability in Nonlinear Wave Guiding in Semiconductors</td>
<td>University of New Mexico</td>
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<td>10/18/89</td>
<td>Marlan Scully</td>
<td>Demonology from Maxwell to Ravana</td>
<td>Center for Advanced Studies</td>
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<td>10/27/89</td>
<td>Susan Simkin</td>
<td>Gas Disks in Radio Galaxies</td>
<td>Michigan State University</td>
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<td>11/01/89</td>
<td>A Rangwala</td>
<td>Solitons in Stimulated Scattering</td>
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<td>D. Smith</td>
<td>Fractal Analysis in Materials Science</td>
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<td>J. Panitz</td>
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<td>D. Finley</td>
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<td>12/06/89</td>
<td>L. Skala</td>
<td>Theoretical Problems in Photosynthesis</td>
<td>Prague, Czechoslovakia</td>
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<td>01/11/90</td>
<td>L. M. Narducci</td>
<td>Sub Natural Resonance Fluorescence Spectra</td>
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Presenter: V. H. Danilychev  
Title: High Power Atomic Transitions Inert Gas Lasers  
Institution: Academy of Sciences of the USSR, Moscow

Presenter: Wolfgang Wallraff  
Title: Z Production and Decays--First Results from L3 at LEP  
Institution: CERN

Presenter: Dikran Antreasyan  
Title: Measurement of the ZO Parameters In L3 and the Number of Light Neutrinos  
Institution: CERN, Geneva, Switzerland

Presenter: Geoffrey Blount Mills  
Title: L3 Hadron Calorimetry  
Institution: CERN, Geneva, Switzerland

Presenter: Carlos Bustamante  
Title: Structural and Dynamical Studies of Nucleic Acids and Fluorescence Microscopy  
Institution: University of New Mexico

Presenter: A. Rangwala  
Title: Solitons in Stimulated Raman Scattering  
Institution: Bombay, India

Presenter: L. Skala  
Title: Theoretical Problems in Photosynthesis  
Institution: Prague, Czechoslovakia

Presenter: E. Budding  
Title: Stellar Astronomy at Extreme Ends of the E. M. Spectrum  
Institution: Carter Observatory, New Zealand

Presenter: V. M. Kenkre  
Title: Microwave Interactions in Ceramics and thermal Runaway  
Institution: University of New Mexico

Presenter: Andrea P. T. Palovnek  
Title: Physics and Tracking of the SSC  
Institution: Lawrence Berkeley Laboratory
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<td>Peter Milonni</td>
<td>Atoms in Super-Intense Field</td>
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<td>Adiabatic Hyperspherical Approach to the 3-Body Quantum Scattering Problem</td>
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<td>Inclusion of the Breakup Channel in the Arrangement quantum Treatment of Reactive Scattering</td>
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<td>Maxwell Demons and Szilard Engines: Can Intelligence Violate the Second Law of Thermodynamics?</td>
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<td>Superradiance in the High Gain Gee-Electron Laser</td>
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<td>Y. Ishida</td>
<td>Soliton-Like Pulse Shaping In a CW Passively Mode-Locked Ti-A1203</td>
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THE REPORT OF THE DEPARTMENT OF POLITICAL SCIENCE

July 1, 1989 - June 30, 1990

Karen L. Remmer, Chairperson

A. Significant Achievements


2. Undergraduate program development.
   a. Enrollments increased by approximately 20 percent.
   b. The number of undergraduate majors increased 33 percent from 88 in the 1988-89 academic year to 117 in 1989-90.

3. Institute for Public Policy. Under the leadership of Hank Jenkins-Smith, the Institute for Public Policy completed its seventh quarterly state-wide survey. The quarterly surveys collect general behavioral and demographic information and ask New Mexicans their feelings about the quality of life in New Mexico, taxes, state government, and special issues such as the environment.

   Surveys conducted by the I.P.P. under special contract in the 1989-90 academic year were as follows: Household Waste Management and Recycling Survey-ENMR, Survey regarding the Roles of the U.S.
National Laboratories-LANL, Political Feasibility and Standard-Setting for Federal Waste Management: Mapping Elite and Mass Beliefs and Attitudes-Sandia National Laboratories; Statewide Crime Survey-UNM Criminal Justice Institute; Citizen Satisfaction with the Albuquerque Police Department-UNM Criminal Justice Institute; UNM Higher Education Survey-UNM, Dean of Arts and Sciences; Needs Assessment for the Albuquerque Parks and Recreation Bosque Plan-City of Albuquerque; General Usage: Albuquerque Parks and Recreation Department Master Plan-City of Albuquerque; Economic Development for the Extractive Industries-State of New Mexico, Mineral Industry Services Bureau. The total for contracts received by the Institute during the academic year was approximately $130,000, which was expended principally for graduate and undergraduate student salaries.

During the year the Institute also sponsored three distinguished speakers in the field of public policy: David Wiemer, "Creative Incentives in Regulatory Compliance," Joe Stewart, "Political Science and the Study of Public Policy," and Paul Sabatier, "Political Science and the Study of Public Policy."

4. Instructional and Research Facilities. The department enhanced its research and instructional capabilities with the addition to its computer room of ten MacIntosh Plus machines and a computer-assisted telephone interviewing system.

5. Advisement. The department revised its system of undergraduate advisement through the appointment of a staff member with specific responsibility for advising department majors and pre-law students.
6. Internship programs.
   a. The department established a supported internship program with the City of Albuquerque Planning Department.
   b. With the assistance of lobbyist and UNM alumnus Ed Mahr, the department raised $1,000 to support five undergraduates as interns for the 1990 session of the N.M. Legislature. Each intern spent one week at the legislative session working under the supervision of Professor Peter Lupsha. The UNM Foundation received and disbursed the funds for the program.
   c. The department also placed an undergraduate in a summer internship program in Washington, D.C. through the Washington Center for Internships and Academic Seminars and initiated measures to establish an ongoing supported summer internship in Washington, D.C..

7. Curriculum development.
   a. The following courses were added to the departmental curriculum:
      Political Science 215: Introduction to Law and Political Community (Harry Stumpf)
      Political Science 521: Research Seminar on Drug Trafficking in Latin America and U.S. Policy (Peter Lupsha).
      Political Science 363: Contemporary Theory (Shane Phelan).
      Political Science 300: Feminist Theory (Shane Phelan).
      Political Science 300: Regulatory Policy (Richard Waterman).
   b. Under the supervision of Gregory Gleason, the curriculum of Political Science 240, Introduction to International Relations,
was altered to introduce students to computer simulation of international conflict.

7. **Student recruitment and public relations.** The department initiated a newsletter and developed a series of display boards featuring faculty achievements and major activities.

8. **Special awards.**
   
a. **Undergraduate students.** Jennifer L. Dalton was named a 1990 Truman Scholar.

b. **Graduate students.** Ph.D. candidate Joao Paulo Peixoto received a travel grant from the American Political Science Association to attend its annual meeting in September, 1990; M.A. student Andrea Philliber received a summer fellowship from the CIA and a University of Maryland "Women in International Relations" award; Ph.D. candidate Faye Korsmo received a Scandinavian Foundation fellowship for field research in Sweden; Ph.D. candidate Richard Sauder received a N.M. Legislative Fellowship.

c. **Faculty.** Professor Peter Lupsha, Keynote Speaker, 17th Annual Conference of Law Enforcement Intelligence Units; Gregory Gleason, Summer Fellow, U.S. State Department and Hoover Institution; Fred Harris, designated "Eminent Scholar" by N.M. Commission on Higher Education.

9. **Noteworthy service.**
   
a. **F. Chris Garcia:** Council on Academic Affairs, National Association of State Universities and Land Grant Colleges; Vice President for Academic Affairs; UNM Foundation Campaign Cabinet;
Popejoy Hall Board of Directors; Chair, Affirmative Action Policy Committee; Chair, Search and Screening Committee, Vice President for Student Affairs.

b. Gregory Gleason, Chair, Russian and East European Studies Committee.

c. Fred Harris, Director, UNM-Guatemala Partnership Program.

d. Hank Jenkins-Smith, Director, Institute for Public Policy.

e. Peter Lupsha, Chair, Political Science Graduate Committee.

f. Neil Mitchell, Chair, Political Science Undergraduate Committee; Chair, Political Science Computer Resources Committee.

g. Martin C. Needler, Chair, Phi Beta Kappa Nominations Committee.

h. Karen L. Remmer, Associate Editor, Latin American Research Review.

i. Robert J. Sickels, Academic Freedom and Tenure Committee, New Mexico Plan Steering Committee.

j. Christine M. Sierra, Advisor, Political Science Honors Program.

B. Significant Plans and Recommendations for the Near Future.

1. The department plans to recruit a senior Latin Americanist to fill the vacancy left by the retirement of Martin C. Needler.

2. Beginning the autumn, the department will be participating in a new program of the American Political Science Association designed to recruit talented minority undergraduates into the profession.

3. The department is initiating efforts to institutionalize governmental internship programs at both the state and national levels.

4. The department will begin a review of cross-listed courses during the
5. With the assistance of a grant from the Foreign Policy Association, the department will establish an outreach program in American foreign policy issues. The program will involve UNM undergraduate students in the organization of community and public school workshops.

6. New initiatives in the areas of student recruitment and public relations will be expanded during the 1990-91 academic year.

7. During the 1990-91 year the department will introduce a revised and restructured 100-level core course and a revised graduate-level curriculum in research methodology.

C. Staff Changes

1. Appointments

   a. Richard W. Waterman, Assistant Professor, effective August 1989.
   b. Major Judy Austin, Air Force Research Fellow, 1989-90 academic year.
   c. Edward K. Fuge, appointed part-time Visiting Assistant Professor, 1989-90 academic year.
   d. Alison Brysk, appointed Assistant Professor, effective December, 1990.
   e. William Stanley, appointed part-time Visiting Assistant Professor and awarded the Gallegos Lectureship, 1990-91 academic year.
   f. Nitza Nachmias, appointed Visiting Assistant Professor for the autumn semester, 1990.
2. Separations.
   b. Martin C. Needler, Professor, effective August 1990.
   c. Paul Hain, Professor, August 1989.

3. Other.
   a. Professor F. Chris Garcia resigned as Vice President for Academic Affairs to reassume full-time teaching responsibilities in the department, effective August 1990.

D. Sponsored research and other projects.
   1. Members of the department applied for a record amount of outside funding and received grants totalling nearly $2 million. Significant projects include:
      b. UNM Foreign Affairs Program: $15,000 pilot grant from Foreign Policy Association. Principal investigator: Gregory Gleason.
e. Survey Regarding Roles of the U.S. National Laboratories: $25,050 from Los Alamos National Laboratory. Principal investigator: Hank Jenkins-Smith.

2. Number of faculty submitting proposals to outside agencies: 8 (57 percent).

3. Number and percent of faculty obtaining awards from outside agencies: 4 of 14 (29 percent).
APPENDIX A

Political Science Department Organization

Department Chair: Professor Karen L. Remmer

Administrative Assistant: Mrs. Mary Boughton – Assists the chair in performing administrative responsibilities and supervises department office.

Department Secretary (0.5FTE): Mrs. Jennie Aragon

Department Secretary (0.5FTE): Mrs. Dallas Dee Bauer

Faculty:

Professors:

F. Chris Garcia
Fred R. Harris
Peter A. Lupsha
Martin C. Needler
Karen L. Remmer
Robert J. Sickels
Jay B. Sorenson
Harry P. Stumpf

Associate Professors

Neil J. Mitchell

Assistant Professors

Gregory W. Gleason
Hank C. Jenkins-Smith (Director, Institute for Public Policy)
Shane Phelan
Christine M. Sierra
Richard W. Waterman
## Course Offerings

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## Course Offerings

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TOTAL STUDENT CREDIT HOURS: SPRING 1990 6,778
APPENDIX C: Affirmative Action

A. Faculty. With the appointment of a new faculty member for the 1990-91 academic year, 29 percent of the tenure-track faculty in the department will be women (as compared to a national Ph.D. pool of 26 percent). The percentage of Hispanic faculty will be 14.3 percent, as compared to a national figure of less than 3 percent.

B. Recruitment. In recruiting a new member of the faculty during the 1989-90 academic year, the department advertised in the APSA Personnel Newsletter, La Red/The Net, and the LASA FORUM. To create as broad and diverse a pool as possible, the department also mailed 615 announcements to chairpersons of political science departments and members of the Latin American Studies Association with a special interest in the field of political science. The three-person search committee was appointed with a view towards maximizing the representation of women and minority faculty. It included two women, one of whom is a minority. The eight finalists for the departmental vacancy were all women and minority group members.

C. Graduate students. Of the twenty-three graduate students in the department during the academic year, ten were protected category students.

D. Minority student recruitment.

1. The department joined the American Political Science Association's Minority Identification Project, which is designed to recruit talented minority students into the teaching profession.
3. The department also participated in a mentoring program designed to involve minority students in professional research projects. The first student in that program, Carol Silva, will be entering the graduate program in political science at Rochester in the autumn of 1990.

E. Undergraduate education. A member of the department who will be joining the Undergraduate Committee in the 1990-91 academic year, Shane Phelan, attended a national meeting focused upon the problems of racism, ethnocentrism, and sexism in the classroom, "Cultural Diversity and Liberal Education: Negotiating Difference in the Academy," at the University of Chicago Institute on Teaching and Learning. She also participated in a three-day workshop on Gender/Ethnic Expectations and Student Achievement, which was sponsored by the UNM Program for Assistance in Equity and the state Department of Education.
ANNUAL REPORT
1989 - 1990
DEPARTMENT OF PSYCHOLOGY
Douglas P. Ferraro, Chair
DEPARTMENT OF PSYCHOLOGY

STATEMENT OF MISSION

The Department of Psychology shares with other academic departments at the University its raison d'etre: the discovery and dissemination of knowledge. It shares with other science departments a commitment to empirical research as the means of validating that knowledge. 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.

Because of its particular historical development, composition and geographical location the UNM Psychology Department 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 an environment in which those faculty and students associated with the Department are encouraged to achieve their maximum potential as scholars.

- Promote active research programs within the Department.

- Maintain a distinctive emphasis on the psychology of learning, broadly defined, in our programs. (That is, those areas of psychology concerned with the scientific study of changes in behavior as a result of experience will be emphasized, which includes, among others, the areas of human and animal learning, memory, cognition and information processing.)

- Place particular emphasis on teaching and cultivate a reputation as a department consisting of unusually effective teachers, both in communicating psychology to undergraduates as a critical part of a liberal arts education and in training graduate students at a professional level.
- Train all graduate students in general experimental psychology in such a way that they will be well prepared for professional positions in academic or applied settings.

- Ensure graduate students in all areas are well trained in methodology appropriate for their effective functioning as researchers and professionals.

- Make available educational opportunities which enable students to understand the development and operation of psychology in the context of the larger culture and its application in the culture of the Southwest in particular.

- Be actively involved in service to the University, the community and the profession.

- Evaluate, in an on-going fashion, our performance as a department with respect to our mission, and the potential need to revise this Statement of Mission to accommodate to changing situations.

*Adopted: October 18, 1985*
# ANNUAL REPORT

1989 - 1990

DEPARTMENT OF PSYCHOLOGY

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ANNUAL REPORT
1989 - 1990
DEPARTMENT OF PSYCHOLOGY

Douglas P. Ferraro, Chair

I. DEPARTMENTAL INFORMATION AND ACHIEVEMENTS

A. DEPARTMENTAL ADMINISTRATION AND STRUCTURE. The current academic year marked the conclusion of Douglas Ferraro's six-year term as Chair of the department. William Gordon has been selected to serve as Chair beginning in the Fall 1990. During this past year, the department began operating with a new administrative structure which was designed to lessen the administrative load of the Chair and to empower more members of the faculty with decision making authority. An organizational chart for this new administrative structure is presented on the following page.

As this chart indicates the department is conceptualized as having four overlapping areas of educational responsibility, each of which is administered by an Associate Chair. Aside from forming ad hoc and standing committees within their areas of responsibility, the Associate Chairs also participate in formulating policy and planning proposals that are submitted to the faculty for consideration. This year the four Associate Chairs
were as follows: Associate Chair for Undergraduate Education, Peder Johnson; Associate Chair for Graduate Education, Harold Delaney; Associate Chair for Experimental Training, William Gordon; Associate Chair for Clinical Training, Samuel Roll. In addition to these individuals the Chair of the department was very ably assisted in administrative matters by Robyn Santillanes, Department Budget Director.

It should be noted that this new administrative structure will be retained for the coming year. In this regard the incoming Chair has appointed the following faculty to serve as Associate Chairs for 1990-1991: Undergraduate Education, John Gluck; Graduate Education, Harold Delaney; Experimental Training, Peder Johnson; Clinical Training, Samuel Roll.

As in past years, the governance of the department has relied heavily on a number of faculty who have served effectively on departmental committees. A listing of the committee memberships for the 1989-1990 academic year is given in Appendix A.

The Chair again made annual cash awards to those faculty and staff in the department who have best served the administration of the department. Chair's Service Awards this year went to Harold Delaney, his third year in a row, for his work on Graduate Admissions and Financial Aid, Gordon Hodge for his willingness to Chair two Faculty Search Committees, and Paul Amrhein, a first-year Assistant Professor, for setting up the computer lab and serving on the Senior Search Committee.
FACULTY

Chair

Council of Associate Chairs

Associate Chair for Undergraduate Education*

Associate Chair for Graduate Education*

Associate Chair for Experimental Training*

Associate Chair for Clinical Training*

*Undergrad Curriculum

Undergrad Honors

Undergrad Advisement

Undergrad Minorities

Psi Chi

etc.

Core Curriculum

*Admissions

Graduate Minorities

Graduate Honors

etc.

*Experimental Committee

*Clinical Committee

Experimental Curriculum Clinic

Methodology/Computer Use

Clinical Curriculum

Human/Animal Subjects

Clinical Colloquium

Experimental Colloquium

etc.

etc.

etc.

etc.

*Committees chaired by the responsible Associate Chair in each area
The following staff were also recognized for outstanding service to the department: Rhonda Fuller, Mary Hungate, Lois Kennedy, Robyn Santillanes, Wanda Sharts, and Elizabeth Nance. The Chair further wishes to acknowledge the 1989-1990 officers of two important psychology student organizations, namely Psi Chi, the undergraduate psychology honorary society, and the Graduate Association of Students in Psychology (GASP). For Psi Chi the officers were: Jessie Jacobsen, President; Lorraine Torres, Vice President; and Michelle Sanchez, Secretary. For GASP the officers were: Russell Walsh, President; Sheri Pruitt, Vice President; Ivan Smason, Treasurer; and Marina Amaya-Williams, Secretary.

As will be described in a later section of this report, the Psychology Clinic had a particularly successful year. In large measure the Clinic's success is attributed to the Dean's willingness to transfer the Clinic Staff Assistant and the Clinic Staff Director salary lines to the Department's budget beginning last year. These transfers effectively eliminated the burden the Clinic has had of generating its own operating funds in order to offer education and training to our graduate students. It is notable that under this year's administrative structure, the Staff Director of the Clinic took on the role of Director of the Clinic and reported directly to the Associate Chair for Clinical Training. This latter administrative arrangement served to better
integrate the Clinic's training operations with the academic curriculum for clinical graduate students.

The department continues to be concerned by the nationwide trend for animal rights activist groups to oppose scientific animal research. Our animal facility continues to comply with all animal welfare regulations and to operate within the main campus HEW animal assurance under the competent guidance of our Department Veterinarian, Michael Richard. We have been given the continued financial support of the administration in order to assure that we remain in compliance with all animal welfare regulations. Indeed, we have received approval to remodel our rooftop primate facility next year. Furthermore, we acknowledge the academic support of the administration, in the face of potentially increasing opposition, in retaining the freedom to do scientific research, where merited, with animal subjects.

The department's highly successful weekly newsletter, Psychology This Week, which completed its fifth year of publication, remains an effective vehicle for both inter- and extra-department communication and is an important adjunct to the administration of the department. Psychology This Week now has a regular circulation of 240 readers due largely to the accomplished efforts of the editor, Mary Hungate.

With the recognition that the maintenance of excellence in our department requires considerable additional financial support, the
department undertook several fund-raising activities again this year. The first of these was a telethon fund drive executed with the cooperation of the UNM Development and Alumni Offices. A second effort was a direct mail solicitation sent to our past Ph.D. students. Thirdly, the department supported its undergraduate honor society, Psi Chi, in organizing "Psych Run '89," the proceeds from which benefited the Psychology Clinic. The responses of our alumni, students and the community to our solicitations for financial assistance continue to be most gratifying. Similar fund-raising activities, including "Psych Run '90," are planned for the next fiscal year. In this context, the Chair wishes to thank all of those who have been willing to give of their time and money in order to support the educational mission of the Psychology Department.

The department again benefited 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 served not only in support of the study of the general area of learning, but also constituted a meeting place for students' defenses of their graduate degrees and for new faculty recruits. This year the Quad-L Trust, joined by the College of Arts and Sciences, supported the third annual Quad-L Lecture which was delivered by Gordon Bower, Professor of Psychology at Stanford University.
The endowed trust established by the New Mexico Psychological Association and the department to honor the memory of Professor Emeritus Sidney Rosenblum sponsored the third annual Sidney Rosenblum Award. This year's scholarship support went to Sheri Pruitt for her Ph.D. work and for her work with children.

A third endowed trust at the UNM Foundation was established by the parents of Barbara Goldman Garland in her memory. The first annual Barbara Goldman Garland Award, which is to be awarded to a psychology graduate student who is interested in working clinically with teenaged children, was presented to Anne Smith for her interest in and work with pregnant teens.

The New Mexico Psychological Association (NMPA) also established the Eugene Mariani Memorial Award last year which is to benefit graduate students in psychology by awarding them membership in NMPA. This year's recipient was Ruth Bookstaber-Smith.

Finally, each year the department makes awards from the Benjamin F. Haught Scholarship Fund to one or more graduate students who have excelled in their research endeavors. This year's awards went to Sheri Pruitt and David Greenway.

B. UNDERGRADUATE EDUCATION. There is no gainsaying that the Department of Psychology excels in terms of the quantity and quality of its undergraduate education at the University of New Mexico. It leads the College in terms of number of elective (nonrequired) undergraduate student credit hours (SCH), number of
undergraduate intended majors, number of undergraduate majors, and number of undergraduate degrees awarded. Stated succinctly, the undergraduate education productivity of the Department's faculty and staff is enormous and unsurpassed. Consider as one example that the Department's student credit hours, at 11,885 for Spring 1990, rank third to Mathematics and English, while the number of budgeted faculty and teaching assistants for the Department ranks but eighth in the College.

Over the past five years psychology has enjoyed a marked growth in its popularity with students. For example, the five-year percentage gain in Psychology's student credit hours for the Spring of 1990 was 19.5%. This percentage increase compares favorably with those for the other five science and mathematics departments in the College. The average five-year percentage increase in the other sciences' student credit hours for the Spring was 0.12%. The average five-year percentage increase for the College as a whole this Spring was 12.7%.

Despite this long-term growth in the popularity of psychology, which reflects the long-term growth pattern nationally, the department's one-year increases in enrollment have actually been considerably attenuated recently. From the Fall of 1986 to the Fall of 1987 we experienced our first one-year SCH decrease in over a decade. While this initial decrease was small at -0.4%, this downward trend has continued in the past few semesters. Between
the Spring of 1989 and this Spring we experienced an overall SCI decline of -6.06%.

An analysis of the contemporary factors that impact our undergraduate education offerings support the hypothesis that further enrollment declines should be anticipated. Appendix B presents summary statistics for the Department for the 1989 - 1990 academic year along with the preceding four years under the current Chair. Actual enrollment counts per course for each AY 1989 - 1990 semester are enumerated in Appendix C. Viewed broadly, what the long-term data show is that there is a general slowing in introductory enrollments, a steady state in upper division enrollments, and a marked increase in advanced laboratory enrollments and in the number of graduating psychology majors.

These several enrollment trends can be understood in terms of both external and internal factors. Working to decrease our introductory and lower division enrollments is Senate Bill 106, which was passed by the State Legislature in the Spring of 1986. This Bill stipulates that psychology courses are not acceptable for credit per se in the training of College of Education students desiring to obtain teaching certificates from the State. In the past, Psychology offered about 7% of its lower division SCI to the College of Education. A second external factor is that lower division psychology courses are now the most often taught college courses at TVI, and necessarily impact adversely on our lower
division enrollments. Finally, this year was the second consecutive year that Psychology 100, basic skills, was not offered. This course accounted for approximately 16% of our introductory laboratory enrollments in the past.

An offsetting factor here has been the increased financial influence wielded over departmental curricula by the Evening and Weekend College and Continuing Education. Inasmuch as the College's line-item support of part-time faculty was removed last year, the department has been strongly influenced by the fact that both the Evening and Weekend College and Continuing Education could pay for part-time instructors. For the most part, these units desired that lower division courses be taught. An actual listing of part-time faculty hired for the 1989 - 1990 academic year appears herein as Appendix D. It is instructive that over 61% of the courses taught by part-time instructors were at the 100 and 200 levels.

Clearly one of our aims in recent years has been to reduce the number of service-oriented courses offered by our regular faculty in favor of increasing the course offerings for psychology majors. Particular emphasis has been placed on the number of undergraduate research laboratory courses offered. Appendix B shows that both advanced laboratory enrollments and the number of graduating majors have approximately doubled over the past six years.

It would appear, indeed, that our department will be kept quite busy educating psychology majors over the next ensuing
years. Data for the Fall 1989 semester show that there were 407 undergraduate psychology majors in the College of Arts and Sciences. This makes psychology by far the most popular major in the College. Indeed, the number of declared Psychology majors is nearly 40% greater than the number of majors in the second ranked department (Biology).

In this context it should not be surprising that Psychology again ranked first in the number of bachelor's degrees, 119, awarded in the College this year. Clearly the monotonic increase in the number of graduating majors shown in Appendix B reflects the Department's now six-year-long emphasis on training psychology majors. We may further anticipate that psychology will continue to attract and graduate impressive numbers of majors. This belief is supported by the fact that in the Fall 1989 semester Psychology had the largest number of intended majors, 207, among University College students.

Another measure of Psychology's impact on undergraduate education at UNM is its centrality, i.e., the extent to which it serves students other than psychology majors. The fact that approximately 75% of our undergraduate educational effort goes to other than psychology majors attests to the importance of Psychology in the broader educational mission of the University. On a per department basis, Psychology's greatest extra-College teaching is directed to students in the College of Engineering.
Psychology's teaching effort has reached the saturation level. Although Psychology leads the College in elective SCH, undergraduate majors, and bachelor's degrees granted, its permanent faculty at 23.5 FTE is only the sixth largest in the College, the five larger departments averaging nine faculty members more. Considering all budgeted teaching personnel, Psychology slips to the eighth largest in the College. In terms of the teaching productivity index, which is the ratio of full-time equivalent students to full-time equivalent faculty (FTE student/FTE faculty), Psychology obviously ranks first.

In attempting to deal with this imbalance between numbers of students and budgeted teaching personnel, two trends have developed over the past few years. First, our department has maximized its class sizes at the 100 and 200 levels. Appendix C clearly shows that class sizes in excess of 100 students are now commonplace in lower division courses in our department with many class sizes exceeding 200 students. Second, we have begun to rely more heavily on the participation of part-time visiting professors and teaching associates to staff some of our lower division courses. As Appendix D shows, these individuals currently account for about 20 of our course offerings each semester. These important contributors to our department have not received the status nor the compensation that their efforts warrant and the department wishes to acknowledge publicly their many contributions.
Finally, our department recognizes that the undergraduate population in the College is extremely varied in terms of background, culture and life experiences. We remain committed to providing a quality educational experience for as broad a range of students as is possible. This year we continued to reschedule a number of our weekday course offerings to evenings and to Saturdays. This was done to better accommodate the working student and to foster the University's priority of establishing an Evening/Weekend College. It is now possible to obtain a B.A. in Psychology through this college. We also recognize that an ever increasing proportion of the students in our undergraduate classes are women and minority students. We have continued to review our curriculum regularly in an effort to better serve these students in an affirmative and sensitive manner.

While much of the focus in this section has been on the quantity of our undergraduate education, it needs to be emphasized that we have accomplished our goals without sacrificing quality. Past reviews of the department have taken specific note of the Department's emphasis on quality instruction. The flagship for quality education in psychology remains our Psychology Honors Program, which has been in existence for over 25 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 E
lists our 1989 - 1990 honors students along with the titles of their research theses and the names of their faculty supervisors.

In a continuing effort to strengthen our undergraduate program, this year the department conducted a comprehensive review of its undergraduate curriculum under the direction of the Associate Chair for Undergraduate Education. This review was prompted by two concerns. First, it had become apparent that some of our majors were selecting the great majority of their courses from one restricted area within psychology and, thus, were not being exposed to a representative sample of areas within the field. Second, because of the major requirements currently in place, there was concern that some students were taking a disproportionate number of 200 level courses to satisfy degree requirements.

As a result of this review the faculty voted to modify the requirements for a major in psychology and to restructure our introductory psychology sequence. The details of this planned change are outlined in Appendix N. Three specific points in this proposal should be noted. First, we plan to offer a single, one-semester introductory psychology course (Psych 105) which will replace the two semester introductory sequence (Psych 101 and 102) we currently offer. In addition, majors will be required to take a single introductory laboratory course (Psych 105L) in place of the two introductory labs (Psych 103L and 104L) that are now required.
This change not only makes our department's introductory requirements more consistent with those found in other universities, it also allows students to progress more rapidly into 200 and higher level courses.

Second, this plan ensures that majors will sample courses from more than one area in the field. This is accomplished by requiring that a student take two 200 level courses from each of two categories. This change should facilitate the breadth of training our students should have as psychology majors.

Third, we will now require that our majors complete at least three courses at the 300 level or above. This stipulation is intended to promote depth in the students' understanding of selected areas in the field. Our current plan is to begin implementation of these curriculum changes in the Fall 1991.

C. GRADUATE EDUCATION. The department continued its excellent tradition of graduate training this year. Training programs in the experimental areas became more clearly delineated, new courses were introduced, a number of students completed their degree work, and another excellent class of incoming students was successfully recruited.

During this year the department continued its commitment to strengthening its graduate curriculum. With the introduction of a new course on multivariate statistical methods called Multiple Measures, the implementation of our new core graduate curriculum
was completed this year. A preliminary evaluation of the complete set of six core courses, including three content or "issues" courses and three methodological or statistical courses and their associated laboratory sections, was carried out under the direction of the Associate Chair for Graduate Education. A more detailed evaluation of the core sequence is slated to begin in the coming year.

In addition to the new core curriculum which is required of all graduate students in our department, other curriculum changes were instituted for graduate students training in experimental areas. Under the direction of the Associate Chair for Experimental Training, the Experimental faculty reorganized to form four training areas for Experimental graduate students. These areas are: Cognitive/Learning; Developmental/Personality/Social; Psychobiology; Quantitative/Methodology. The faculty coordinators for these training areas this year were Henry Ellis, Lynette Cofer, Dennis Feeney and Harold Delaney, respectively.

During the year the faculty involved in each of these training areas designed a sequence of required and/or recommended courses for all students training in their respective areas. Required courses were kept to a minimum to allow each student to take elective courses that would best fit their individual needs. However, these new requirements were intended to ensure some common background among all those students training in a given area. These new curriculum requirements will take effect this Fall.
Finally, progress was made this year in the acquisition of microcomputers which will enhance our department's computer resources and will enable us to improve our graduate student methodology training. These machines will be used extensively by our graduate students as they learn various data analysis techniques.

This year marks the 29th year that the doctorate has been awarded in psychology at the University of New Mexico. Prior to this year the Department awarded 176 Ph.D. degrees. During this 1989 - 1990 academic year, the department awarded 6 additional Ph.D. degrees as described in Appendix F, which provides the names of the degree recipients, along with the titles of their dissertations and faculty advisors.

In addition to Ph.D. degrees, the Department awarded 6 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. It speaks well of the broad involvement of our faculty in the graduate education program that 9 different faculty members served as major professors to graduate degree recipients this year.

As a further indicant of the department's emphasis on graduate training, the faculty offered 955 graduate student credit hours
this Spring, which was the largest number of any College of Arts and Sciences department, and represented 11% of the total College effort at the graduate level.

The five-year gain in psychology graduate student credit hours for the Spring 1990 semester was an impressive 76%. This gain reflects an almost linear increase in the graduate course enrollments over the past five years (again see Appendix B). For 1989 - 1990 the department had 100 graduate students. This is the largest number of graduate students the department has had in the past ten years.

Nineteen graduate students have accepted admission to our Ph.D. program for Fall 1990 (see Appendix H for a listing of these students and their advisors). This large number of graduate students represents the continuance of a plan to increase the departmental emphasis on graduate education. As has been true the past two years, and in contrast to the national trends of declining enrollments in nonclinical areas, approximately half of our incoming class will be experimental students. The affirmative action approach taken by the Admissions Committee again this year for the recruitment of experimental students included accepting a higher percentage of experimental than clinical applicants. Offers of admission were made to 23 of 80 (29%) experimental applicants but to only 21 of 215 (10%) clinical applicants. Similarly, offers of financial aid were biased toward experimental students, with 16
of our 23 (70%) offers to experimental students being accompanied with an offer of departmental financial aid, whereas only 6 of 21 (29%) clinical admission offers included aid. Even so, our entering class consists of a slight majority of clinical students, with 10 incoming students being in clinical and, 9 in experimental. Overall, 44 of 295 applicants were offered admission (for a 14.9% acceptance rate of the applicants by the department) and 19 of our 44 offers were accepted (for a 43.2% acceptance rate of the department by those offered admission). The department continues to receive nearly one-third of all graduate applicants to the College and to have an acceptance rate well below the average acceptance rate for the College. The result is that admission to the Department of Psychology doctoral program is highly competitive and results in our being able to select students who are not only highly qualified but who represent good matches to the research interests of our faculty.

One indicator of the quality of our applicants is the mean GRE scores they achieved. In the past, the national average GRE score for graduate applicant to all fields of study was 505, while the national average for applicants to all graduate psychology departments was 520. By comparison the overall average GRE score for students applying to our program this year was 589 (subtest means were 582--Verbal, 579--Quantitative, 597--Analytical, and 597--Psychology), and the average GRE for students accepting offers
of admission was well above 600 both overall (625) and on each subtest (613--Verbal, 629--Quantitative, 624--Analytical, and 642--Psychology).

The department has continued its concerted and successful effort of the past several years to increase the representation of women and minorities among our graduate students. This year although only 36 of 295 (12%) applicants were minority applicants, 10 of 44 (23%) offers were to minority students, and 6 of 19 (32%) in our incoming class are minorities. Thus the proportion of minority students in our incoming class is more than twice as high as their proportion of representation in our applicant pool. Women students make up 47% (9 of 19) of our incoming class.

Our high quality graduate students continue to compete well against those of other departments at this University and at the national level. This year, for example, our students held the following awards given by UNM: Graduate Achievement Award, Challenge Assistantship, MERS Fellowship, and Graduate Opportunity Fellowship. We are extremely and justly proud as well of the fact that two of our graduate students held American Psychological Association Minority Fellowships, and that another of our students held a prestigious Spencer Dissertation Year Fellowship.

D. FACULTY. At the beginning of the academic year the Department had 25 voting faculty (please see Appendix B for other faculty statistics and Appendix I for a summary of faculty research
interests). This number was reduced with the resignation of Robin Jacobvitz and the retirement of the Chair, Douglas Ferraro, who took a position as Dean of Arts and Sciences at the University of Western Michigan.

Our top hiring priorities for this year were to hire a senior person in Learning/Memory/Cognition to replace Professor Frank Logan and to hire a person in the area of Cognitive-Neuroscience. We were successful in filling the Cognitive-Neuroscience position with the hiring of Kristina Ciesielski. Dr. Ciesielski received her Ph.D. in 1978 from the Polish Science Academy and since that time she has served as a Research Fellow and Visiting Scientist at a number of the top laboratories in the USA and Europe. Before accepting the position in our department she was an Assistant Professor at the University of Alberta. We feel most fortunate to have attracted a distinguished scientist of Dr. Ciesielski's caliber. Other faculty changes involved the promotion of Ron Yeo to Associate Professor and the advancement of Steven Gangestad to Code 4 status.

For next year, the department hopes to attract a senior professor replacement for Professor Ferraro and one Assistant Professor to replace Professor Jacobvitz. In addition Professor William Miller has been honored with a Career Development award that will relieve him from all teaching responsibilities for the next five years. With his receiving this award the department is
committed to replacing him with a tenure track Assistant Professor in the area of addictive behaviors.

It should be noted that, demographically, the number of women faculty and the number of minority faculty in the department next year will be above the average numbers of women and minority faculty in other U.S. doctoral departments of psychology in public institutions. Nevertheless, as it has been for the past six years, the department is committed to making exceptional faculty recruitment efforts so as to attract and support competent women and minority faculty.

It should also be noted that the percentage of tenured faculty in our department is below the national average. This has occurred because, until recently, we have not had the financial support of the University to hire senior professors. Instead, we had been replacing senior faculty with junior faculty. It is of critical importance to the future quality of the department that we have the support to hire senior replacements for senior lines that are vacated.

Appendix B shows that the absolute size of our faculty has not grown over the past five years, nor will it be larger next year. The Department of Psychology's continuing need to add faculty has been documented by the data presented in previous sections of this report pertaining to the Department's excellence, to the high student demand for our courses, and to the heavy workload of the
faculty. Based on workload calculations alone, the Department should have a full-time equivalent faculty of 32.

It is the strong preference of the Department to hire permanent full-time graduate faculty whenever possible. The Chair notes with deep concern the University's increasing reliance on part-time faculty in order simply to execute its curriculum. While such individuals are valuable teaching resources, a department that strives for excellence, such as the Psychology Department does, can only achieve this status by amassing a first-rate, full-time research faculty.

In addition to the part-time faculty who served the Department this year (previously listed in Appendix D), 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 1988 - 1989 list of professional appointments is included as Appendix J. 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 students. Appendix K presents a record of this colloquium series.

The research activities of the faculty are summarized in Appendix B. No detailed commentary regarding faculty research will
be presented herein since these data have been given in detail in each faculty member's Annual Biographical Supplement and in the Dean's 1988 Research and Scholarship Report. It does need to be pointed out, however, that our faculty continue to excel in their research activities and to be productive in terms of publishing and in terms of garnering extramural grant support.

Indeed, by whatever metric one might wish to apply, the faculty of the Department of Psychology is an excellent one. A persistent threat to this excellence is the salary structure in the Department, which for some faculty falls as much as 20% below national and regional norms. While this problem is fully acknowledged by the College, much more remains to be done in order to insure the stability of the current faculty.

There should be no doubt that a high priority of the Chair is to see psychology faculty salaries increased in the immediate future to the level of regional norms and in the near future to the level of national norms. Only by doing this in conjunction with hiring senior professors will the excellence of our department be preserved.

E. DEPARTMENT CLINIC. A separate Annual Report for the Department of Psychology Clinic is presented in Appendix L. 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.
For the second consecutive year the Clinic was able to operate in the black. This financial stability was made possible by the hard money support given to the Clinic by the Dean as described previously (cf. Section A). The Chair again acknowledges the Dean for embracing the Clinic as an educational component of the College. It is anticipated that the Clinic will be able to function within its operational budget for years to come, although the Clinic will soon enter a phase where additional major equipment and capital improvements will be needed. When this phase is realized fully, the Clinic will again need the financial support of the University.

The accomplishments of the Clinic this academic year have been outstanding. The reader is urged to give Appendix L a complete reading so as fully to appreciate the contribution that the Clinic makes to the education of psychology graduate students and to the larger community which it serves.

F. STAFF. The Department of Psychology continues to benefit from an extremely competent support staff. This staff numbered eleven during the 1989-1990 academic year. So as better to inform those who may not be familiar with the important duties of the staff in our department, Appendix M presents a brief job description of each administrative, instructional, research, and clinical support staff member.

The department was fortunate this year in that it experienced no changes in its staff personnel. Robyn Santillanes remained as
our senior Administrative Assistant and Rhonda Fuller continued as the Chair's Administrative Assistant and as Office Manager. Mary Hungate once again served as the department's Chief Editorial Assistant, Lois Kennedy completed her first full year as our Student Advisor, and Wanda Sharts remained as the Department Secretary. These individuals form what must surely be one of the most efficient and effective administrative staffs on our campus.

The recent successes of the Psychology Clinic are due in large measure to the administrative skills of Dan Matthews, who completed his second year as Clinic Staff Director this Spring. Dan was once again ably assisted in his duties by Elizabeth Nance, the Clinic Staff Assistant.

Our research support staff again included Patrick Sharp, Shop Supervisor; Ector Estrada and Gilbert Borunda, Laboratory Animal Technicians; and our Veterinarian Michael Richard, DVM. The outstanding efforts of these individuals clearly facilitated a wide range of research activities in our department.

The Chair continues to be proud of the work carried out by the department staff. Not only are each of these individuals extremely competent in their own positions, but just as importantly they work together well as a team to achieve the goals of the department. It is impossible to overestimate the contributions made by the staff. For this reason, the entire department continues to deplore the low salaries paid to our staff personnel. Once again next year, the
improvement of staff compensation will be a top priority item for the Chair.

G. SPACE. As has been highlighted in the Department's Annual Reports for the past eight years, our Department is not accommodated by its current space allocation. We need a new building. Currently, we have insufficient staff space in order to function efficiently. We cannot house all of our faculty in faculty offices. Furthermore, during the past few years we have had to convert graduate student offices into faculty research space. Even at this, we do not have sufficient, suitable research space in the building to support our current faculty's research needs.

The Department's request for a new building is now acknowledged on the University's Capital Projects list. Additionally, two remodeling projects have been approved for next year. The first is to remodel our rooftop research facility in order to keep us in compliance with regulations guiding the use of animals in research. The second remodeling entails converting corridors to administrative and educational support space. While this latter remodeling will increase our space somewhat, additional remodeling remains essential if we are to improve our research facility.

The Department continues to need financial support in order to initiate a furniture replacement program that would replace 20% of
its classroom and laboratory furniture per year over the next five years. The majority of our current furniture was issued as part of the original building's furnishings more than 17 years ago and it has become increasingly worn and has fallen into disrepair. Since the Chair's request for such a maintenance program has gone unheeded in the past, the need for a systematic replacement of used furniture has become even more imperative.

II. FUTURE PLANS AND COMMENT

In the past few years our department has experienced a number of changes in its faculty, its staff and in its educational programs. Throughout this period of change the department has continued to excel in its training of undergraduate and graduate students, in its scholarly endeavors and in its service to the University and to the community.

Next year will once again be marked by change. The department will have a new Chair and the senior faculty will play a greater role in the department's decision making process. At the graduate level a new set of course requirements will be implemented for students in the Experimental areas and we will continue to assess the effectiveness of our core course program. At the undergraduate level, we will be preparing to introduce a new set of major requirements for the Fall 1991. Additionally we plan a renewed emphasis on grant seeking activities in our department in an effort to expand our research funding base.
What has remained unchanged, for the past 26 years, has been the Department's dedication to the science of psychology and to its mission as stated in the preface to this report. This mission should transcend internal demographic, curricula and administrative changes. However, for this to happen it will be necessary to have the broader understanding of the higher administration of the University and the support of all as the Department faces the challenges of the future.
APPENDIX A

COMMITTEE ASSIGNMENTS AY 1989 - 1990

**Undergraduate Studies**
1. Curriculum
   - Faculty (CHAIR)
     - JOHNSON, Gluck, Hodge, Delaney, Hayes

2. Honors
   - DELANEY, Johnson, Logan

3. Psi Chi
   - AGOSTINELLI

**Graduate Affairs**
4. Admissions
   - DELANEY, Arroyo, Feeney, Gluck, Hayes, Yeo

5. Financial Aid
   - DOUGHER, Agostinelli, Delaney, Gangestad, Hodge, Smith, Waldron

6. Minority Affairs
   - DELANEY, Arroyo, Hayes

**Departmental Affairs**
7. Human Subjects
   - GORDON, Yeo

8. Animal Facilities & Use
   - RICHARD, Feeney, Gluck, Gordon, Hodge

9. Colloquia
   - GLUCK, Gangestad, Harris

10. Methodology/Computer Use
    - GOLDSMITH, Amrhein, Delaney, Gangestad, Harris

11. Commencement
    - PADILLA, Agostinelli, Arroyo, Delaney, Gangestad, Harris, Hayes, Jacobvitz

**Area Committees**
12. Clinical
    - ROLL, Arroyo, Dougher, Gangestad, Gluck, Miller, Padilla, Rubeush, Smith, Waldron, Yeo

13. Cognitive/Learning
    - ELLIS, Amrhein, Delaney, Goldsmith, Gordon, Hayes, Jacobvitz, Johnson

14. Developmental/Pers/Social
    - COFER, Agostinelli, Gluck, Harris, Hayes, Jacobvitz, Roll, Rubeush

15. Psychobiology
    - FEENEY, Ferraro, Gordon, Hodge, Yeo

16. Quantitative/Methodology
    - DELANEY, Amrhein, Gangestad, Goldsmith, Harris
APPENDIX B

DEPARTMENT OF PSYCHOLOGY SUMMARY STATISTICS

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* Does not include Psychology 100 which was discontinued.
** Figures follow guidelines of 1987 Research and Scholarship Report
# APPENDIX C

DEPARTMENT OF PSYCHOLOGY COURSE OFFERINGS

AY 1989 - 1990

SUMMER 1989

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</table>
Part-Time Faculty Hired During AY 1989 - 1990
Continued

Spring, 1990

Pennie Seibert, M.S.  Psychology 101-001  General Psychology I
Shelly Metz, Ph.D.  "  101-400  General Psychology I
Michael Hillard, Ph.D.  "  101-401  General Psychology I
Michael Hillard, Ph.D.  "  101-402  General Psychology I
Martha McDermott, M.S  "  102-400  General Psychology II
Mary Kaven, M.S.  "  102-401  General Psychology II
Mary Wood, M.S.  "  200-001  Statistical Principles
Ed Fouty, M.S.  "  200-002  Statistical Principles
Scott Griffin, M.S.  "  202-003  Statistical Principles
Cynthia Neal, M.S.  "  220-002  Child Psychology
Lynn Vranes, M.S.  "  230-001  Adjustment & Interpersonal Relations
Carolina Yahne, Ph.D.  "  230-400  Adjustment & Interpersonal Relations
Russ Walsh, M.S.  "  231-002  Psychology of Human Sexuality
Jonathan Krejci, M.S.  "  250-001  T/Alcohol & Drug Problems
Ivan Smason, M.S.  "  331-001  Psychology of Personality
Ronald McGowan, Ph.D.  "  332-001  Abnormal Behavior
Kermit Parker, Ph.D.  "  332-002  Abnormal Behavior
Therese Goetz, Ph.D.  "  413-001  Industrial & Organizational Psychology
Peter DiVasto, Ph.D.  "  413-002  Industrial & Organizational Psychology
Joseph Burroughs, Ph.D.  "  414-001  Human Factors Psychology
Stephen Rokicki, Ph.D.  "  415-001  Environmental Psychology
William Foote, Ph.D.  "  450/650  Psychology & Law
A.J. Ferrara, Ph.D., J.D.  "  450/650  Psychology & Law
Marcia Landau, Ph.D.  "  536-001  Practicum Psychological Evaluation
Vern Westerberg, Ph.D.  "  547-001  Psychopharmacology Therapy Drugs
APPENDIX E

SENIOR HONORS THESES

Department of Psychology

AY 1989 - 1990

<table>
<thead>
<tr>
<th>Student</th>
<th>Thesis</th>
<th>Faculty Sponsor</th>
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<tbody>
<tr>
<td>Bond, Jodie</td>
<td>The Effect of Internal vs. External Locus of Control on Recall Among Young and Elderly Adults</td>
<td>Paul Amrhein</td>
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<td>Dencoff, John</td>
<td>Interaction Effects of Cholinergic Drugs and Radio-frequency Lesions of Nucleus Basalis on Differential Conditioning Performance in Rats</td>
<td>Gordon Hodge</td>
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<td>Eldridge, Jennifer</td>
<td>Assessing Environmental Attitudes and Behaviors</td>
<td>John Gluck</td>
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<td>Vines, Jeannette</td>
<td>The Effects of News Presentation on Cognition and Affect</td>
<td>Lynette Cofer</td>
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<td>Whitmire, Deborah</td>
<td>Recognition Memory of Faces in Different Color Contexts</td>
<td>Frank Logan</td>
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<td>Killgore, William</td>
<td>Perceived Intensity of Lateral Facial Asymmetry of Spontaneous vs. Posed Emotional Expressions</td>
<td>Steve Gangestad</td>
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<td>Gruys, AmyKay</td>
<td>An Examination of Advertising Techniques and Political Campaigns: Can Informational Programming Affect Perception?</td>
<td>Lynette Cofer</td>
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<td>Christopherson, Mary</td>
<td>The Effects of Base Rate Data on Active and Passive Risky Behaviors</td>
<td>Paul Amrhein</td>
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SENIOR HONORS THESES
Continued

McKown, Doug
Parent-Adolescent Separation and its Effect on Academic Achievement
Holly Waldron

Streit, Cheryl
Cultural Differences in Self-Attribution
Judith Arroyo

* Outstanding Honors Student Award
# Research Award (1st place)
APPENDIX F

DOCTORAL DEGREES AWARDED

Department of Psychology

AY 1989 - 1990

<table>
<thead>
<tr>
<th>NAME</th>
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<tr>
<td>Evalyn Scott Canham</td>
<td>Global and Local Context Effects Naming Latencies in Spoken Narratives</td>
<td>Goldsmith Newman</td>
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<tr>
<td>Mark N. Gaskill</td>
<td>Dreams of Death: A Study of Manifest and Latent Dream Content in Subclinical Depression</td>
<td>Roll</td>
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<tr>
<td>Cynthia Jones Neal</td>
<td>Training High-Risk Parents To Be Teachers of Their Own Children</td>
<td>Delaney</td>
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<tr>
<td>Benjamin J. Porter</td>
<td>Relationships Between Myers-Briggs Personality Type, Depression, Mania, and Estimating Probability</td>
<td>Harris</td>
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<tr>
<td>Susan Beth Schradle</td>
<td>Stress Buffering Effects of Social Support and Locus of Control: A Model Comparison Approach</td>
<td>Dougher</td>
</tr>
<tr>
<td>Pennie S. Seibert</td>
<td>Irrelevant Thoughts, Emotional Mood States, and Cognitive Task Performance</td>
<td>Ellis</td>
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## APPENDIX G

### MASTERS DEGREES AWARDED

**Department of Psychology**

**AY 1989 - 1990**

<table>
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<tr>
<th>NAME</th>
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<tr>
<td>Thomas Henry Bien</td>
<td>The Correlation of Smoking and Drinking During a Smoking Intervention</td>
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<td>Edelmira Kruger</td>
<td>The Relationship Between the Death of a Parent During Childhood and Adult Anaclitic Depression</td>
<td>Roll</td>
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<td>Martha Jane McDermott</td>
<td>Self-Control and Self-Regulation in Children of Alcoholic Fathers</td>
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<td>Elizabeth Ann Reyes</td>
<td>Comparing the Effects of Specific Monoamine Oxidase Inhibitors with Amphetamine in Animal Model of Attention Deficit Disorder</td>
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<td>Ruth Anne Smith</td>
<td>The Effects of Waiting When Presenting Issue Oriented Material Using A Jury Analogue</td>
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<tr>
<td>Russell A. Walsh</td>
<td>The Effect of Nutritious Labels on Dietary Restraint</td>
<td>Smith</td>
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# APPENDIX H

**GRADUATE STUDENTS ACCEPTED FOR**

**AY 1990 - 1991**

<table>
<thead>
<tr>
<th>NAME</th>
<th>AREA</th>
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<tr>
<td>Carla Basham</td>
<td>Clinical</td>
<td>Dr. Roll</td>
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<td>Andrew Becker</td>
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<td>Birgitta Gabel</td>
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<td>Ronald Salazar</td>
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<td>Dr. Feeney</td>
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## GRADUATE STUDENTS ACCEPTED

### Continued

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<tr>
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<td>Natasha Slesnick</td>
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<td>James Story</td>
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<td>Virginia Waldorf</td>
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APPENDIX I

PSYCHOLOGY FACULTY INTERESTS

AGOSTINELLI, GINA
Assistant Professor. Ph.D. Indiana University, 1988.
Experimental and social psychology, social cognition, and social influence processes. Primarily interested in understanding the causes and consequences of confusion (mental perplexity), focusing on how confusion limits the processing of information, individual differences in responding to confusion, and implications for social influence processes (e.g., persuasion). A secondary interest is in biases present in social perception (e.g., false consensus effect, inability to detect and identify deletions).

ANRHEIN, 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 tasks. Current aging research concerns age-based changes in cognitive processes that pertain to the preparation and execution of simple movements.

ARRUOY, JUDITH A.
Assistant Professor. Ph.D. University of California, Los Angeles, 1988.
Clinical Psychology. Primary interests are in minority mental health, community and health psychology. Current research is on the influence of physical and linguistic variables on diagnostic bias in psychotherapy with Mexican American American clients. Future plans are to extend the videotaped analogue methodology to investigation of diagnostic bias with women and other ethnic groups. Secondary interest is the evaluation and treatment of chronic pain.

COFER, LYNETTE F.
Professor. Ph.D. Cornell University, 1965.
Developmental psychology, mediation of television effects, social development and gender differences, analyses of theoretical and empirical approaches to applied developmental research and child and family public policy. Current interests include media portrayals of youth and families, and adolescents' processing of TV news content and the formation of affective and cognitive schemata of social participation.
DELANEY, HAROLD D.
Associate Professor. Ph.D. University of North Carolina, 1975.
Methodology, quantitative, human learning and cognition. 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 include substantive
issues in the areas of individual differences in human learning,
including learning from prose materials and vocabulary learning.

DOUGHER, MICHAEL J.
Associate Professor, Director of the Psychology Clinic. Ph.D.
University of Illinois at Chicago Circle, 1980.
Behavior analysis and behavior therapy. Primary research is
focused on complex human operant behavior including stimulus
equivalence and rule governed behavior. Also conducting research
on the assessment of sex offenders, covert conditioning procedures
and the integration of radical behaviorism and psychoanalytic
psychotherapy.

ELLIS, HENRY C.
Distinguished Professor. Ph.D. Washington University, 1958.
Human memory and learning, cognitive psychology, emotional factors
in performance. Primary interest is in the analysis of encoding,
storage, and retrieval processes in memory. My current research
work focuses on emotional mood states in memory and cognition,
depression and memory, long-term recognition and recall,
organizational and elaborative processes in memory, constructive
processes in memory, context and attention in memory, imagery,
text processing and comprehension, and individual differences in
learning, memory, and problem solving. Other interests include
memory for visual information, eyewitness testimony and
identification, psychology and law, and applications of cognitive
psychology to educational and clinical issues.

FEENEY, DENNIS M.
Professor (and Professor of Physiology). Ph.D. University of
California, Los Angeles, 1968.
Physiological psychology, 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, autoradiography and behavior. Our goal is to
understand and enhance recovery of behavioral functions after
brain damage in humans, and determine what commonly prescribed
drugs may slow behavioral recovery.
FERRARO, DOUGLAS P.
Professor (and Professor of Psychiatry) and Chair. Ph.D. Columbia University, 1965.
Behavioral medicine/health psychology, behavioral pharmacology and experimental and applied analysis of behavior. Research interests center around an operant conditioning analysis of learned behaviors. Within this context, I am principally interested in behavioral factors pertaining to health and chronic illnesses and the effects of psychotropic agents on behavior.

GANGESTAD, STEVEN W.
Assistant Professor. Ph.D. University of Minnesota, 1986.
Personality psychology; social psychology; behavior genetics. Most generally interested in personality and its links to interpersonal behavior. Current research aims at understanding individual differences in behavior in sexual and romantic relationships, the links between these individual differences and more general interpersonal styles, the biological-social-developmental roots of these differences, and their possible evolutionary. Other interests include issues concerning the basic conceptualization of personality, psychometric theory, and philosophy of science.

GLUCK, JOHN P.
Clinical psychology, developmental psychology, comparative psychology. My general interest in the interface of biological, conditioning and existential models of human activity led to research programs in animal models of psychopathology, the effects of early experience on social and intellectual development, and the philosophy of clinical intervention. Within the clinical framework I have a particular interest in process issues in long-term psychotherapy.

GOLDSMITH, TIMOTHY E.
Assistant Professor. Ph.D. New Mexico State University, 1984.
Applied cognitive psychology, artificial intelligence, human factors. The general theme of my research centers around understanding the nature of cognitive skills, how they are acquired, how they are represented, and how they are applied. My current research investigates structural models of category learning, perceptual organization and graphic representation of multidimensional stimuli, and computational models of human decision-making.
GORON, WILLIAM C.
Animal learning and memory, cognitive processes in animals.
Primary research focus is an analysis of the information retrieval process in animals. Specifically, current research concerns the role of context in learning and memory, the rules governing cueing or reminder effects and the role of retrieval in memory construction.

HARRIS, RICHARD
Professor. Ph.D. Stanford University, 1968.
Experimental and 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.

HAYES, KAREN N.
Assistant Professor. Ph.D. University of North Carolina, 1984.
Developmental Psychology; memory development; cognitive development; social development. Special interests include understanding how knowledge mediates memory performance, and the organization and structure of children's memory. Secondary interests include social cognition and sex role stereotypes and memory.

HODGE, GORDON K.
Associate Professor. Ph.D. University of California, Los Angeles, 1977.
Physiological psychology, psychopharmacology. Research is directed toward revealing the neural mechanisms underlying hyperactivity, and in developing useful therapeutic approaches for eliminating symptoms of hyperkinesis in children. By carefully observing and recording behavior prior to and following the placement of precise lesions in rat brains, and by recording effects of drugs upon behavior, we hope to better understand the causes of hyperkinesis. Another interest is the evaluation of the efficacy of biofeedback training in lieu of traditional drug treatment in ameliorating symptoms of childhood hyperkinesis.

JACOBVITZ, ROBIN SMITH
Assistant Professor. Ph.D. University of Massachusetts, Amherst, 1983.
Cognitive development. Current research focus is on spatial cognition and on the cognitive processing of audiovisual media. Special interest in the development of attention and comprehension and methods for assessing these in toddlers and preschoolers. Future plans include studies of individual differences in these domains of cognitive development.
JOHNSON, PEDER J.
Cognitive processes, knowledge representation, human performance, attention, and encoding processes. Current research includes knowledge elicitation and representation, units of visual encoding, sensitivity to contextual information and mechanisms of priming.

MILLER, WILLIAM R.
Professor (and Professor of Psychiatry), Director of Clinical Training. Ph.D. University of Oregon, 1976.
Behavior therapies, treatment outcome research, motivation, self-control, pastoral psychology. Current work focuses on the assessment and treatment of addictive behaviors, particularly alcoholism. Other interests include neuropsychology, behavioral medicine, psychology of religion, and cognition/behavior interfaces (e.g., attribution theory, expectancies, psychology of humor).

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 the validity of traditional instruments for the assessment of psychopathology and intelligence among minority populations, differences and similarities between Chicanos and American Indians and the majority along various attitudinal, informational and behavioral dimensions, sexual function and dysfunction in a cross-cultural context and the evolution of health and mental health programs.

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. Projects underway also relate to attachment of children and the psychological reaction of "birth mothers".

RUEBUSCH, BRITTON
Professor (and Professor of Psychiatry). Ph.D. Yale University, 1960.
Clinical, child development, family therapy. Research interests include evaluation of clinical programs and services; the effects of child rearing methods and other family variables on child and family behavior; and the relationship between personality variables such as anxiety and defensiveness, and cognitive, learning and physical functions.
SMITH, JANE E.
Assistant Professor. Ph.D. State University of New York at Binghamton, 1985.

WALDRON, HOLLY B.
Assistant Professor. Ph.D. University of Utah, 1987.
Clinical Psychology. Research interests center on child and adolescent psychopathology and intervention, especially juvenile delinquency research and treatment. Specific research focuses on the role of cognitive factors in adolescent psychopathology, family therapy process and outcome.

YEO, RONALD A.
Assistant Professor. Ph.D. The University of Texas, Austin, 1983.
Clinical and experimental neuropsychology. Research interests include individual differences in brain organization, neuropsychological research methodology, the neuropsychology of brain systems governing visuo-spatial and emotional processing. Also strongly interested in the biological bases of affective disorders and schizophrenia.

PROFESSORS EMERITI

GRICE, G. ROBERT
Distinguished Professor. Ph.D. University of Iowa, 1947.
Information processing, reaction time, classical conditioning, quantitative theory. Current research is directed toward the development of theory that will provide quantitative descriptions of the associative, perceptual and sensory processes leading to response evocation. The analytic procedures are derived from variable criterion theory. Experimental procedures include the various forms of human reaction time.

LOGAN, FRANK A.
Professor. Ph.D. University of Iowa, 1951.
Animal learning and motivation, behavior theory. Operant and instrumental conditioning and discrimination learning and stimulus control in animals. Primary focus is on the effects of reward and punishment on the acquisition, maintenance and persistence of behavior. Research is guided by an incentive theory and includes problems related to feedback control of behavior.
## APPENDIX J

### PERSONS HOLDING PROFESSIONAL TITLES IN PSYCHOLOGY 1989 - 1990

<table>
<thead>
<tr>
<th>Name and Address</th>
<th>Phone</th>
<th>Professional Title</th>
</tr>
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<tbody>
<tr>
<td>Julia C. Barker, M.A. 4600-A Montgomery, NE Suite 102 Albuquerque, NM 87109</td>
<td>883-0100</td>
<td>Clinical Associate</td>
</tr>
<tr>
<td>Patricia Boham, Ph.D. 1502 Harvard Ct. NE Albuquerque, NM 87106</td>
<td>848-5122</td>
<td>Clinical Associate</td>
</tr>
<tr>
<td>Samuel G. Charlton, Ph.D. 1215 Fruit Ave NW Albuquerque, NM 87102</td>
<td>848-5122</td>
<td>Adjunct Assistant Professor</td>
</tr>
<tr>
<td>Charles Cofer, Ph.D. 3600 Vista Grande NW Albuquerque, NM 87120</td>
<td></td>
<td>Professor (PT)</td>
</tr>
<tr>
<td>Lee Davis, Ph.D. Psychotherapist Student Health Center University of New Mexico</td>
<td>277-4537</td>
<td>Assistant Professor (PT)</td>
</tr>
<tr>
<td>Phillip W. Day, D.V.M. Director, Animal Resource Facility University of New Mexico School of Medicine Basic Med. Sci. Bldg. G32 Albuquerque, NM 87131</td>
<td>277-3936</td>
<td>Assistant Professor (PT)</td>
</tr>
<tr>
<td>Peter DiVasto, Ph.D. Family Practice/ Psychiatry 307 Albuquerque, NM 87131</td>
<td>277-4257</td>
<td>Clinical Associate</td>
</tr>
<tr>
<td>Susan Eissele, Ph.D. 4300 Carlisle NE, Suite 1 Albuquerque, NM 87107-4811</td>
<td></td>
<td>Clinical Associate</td>
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<tr>
<td>Charles H. Elliott 403 Dartmouth SE Albuquerque, NM 87106</td>
<td>843-2190</td>
<td>Clinical Associate Professor</td>
</tr>
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<td>Name and Address</td>
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<tr>
<td>Roger Enfield, Ph.D.</td>
<td>884-2302</td>
<td>Clinical Associate</td>
</tr>
<tr>
<td>4300 Carlisle NE, Suite 1</td>
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<tr>
<td>Clara Farah, Ph.D.</td>
<td>881-8666</td>
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<td>Al Fedoravicius, Ph.D.</td>
<td>265-1771</td>
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<td>Behavioral Medicine</td>
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<td>2100 Ridgecrest Drive SE</td>
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<tr>
<td>Gail Feldman, Ph.D.</td>
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<td>2920 Vista Grande NW</td>
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<td>Joe Flippo, Ph.D.</td>
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<td>William E. Foote, Ph.D.</td>
<td>255-9494</td>
<td>Clinical Assistant Professor</td>
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<tr>
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<td>James Franklin, Ph.D.</td>
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<td>Thelma Giomi, Ph.D.</td>
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<td>Kathleen Haaland, Ph.D.</td>
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<td>Ruth Shore Mondlick, Ph.D.</td>
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<td>Doris Sahd, Ph.D.</td>
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### APPENDIX K

#### DEPARTMENT OF PSYCHOLOGY COLLOQUIA

**AY 1989 - 1990**

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<th>Colloquium Presented By</th>
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<tr>
<td><strong>Dr. Tom Nelson</strong>&lt;br&gt;Professor of Psychology&lt;br&gt;University of Washington&lt;br&gt;Seattle, Washington</td>
<td><strong>Metacognition and Human Memory</strong></td>
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<td><strong>Dr. Janet Metcalfe</strong>&lt;br&gt;Visiting Associate Professor of Psychology&lt;br&gt;University of California - San Diego&lt;br&gt;San Diego, California</td>
<td><strong>A Composite Holographic Associative Recall Model (Charm) and Blended Memories in Eyewitness Testimony</strong></td>
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<td><strong>Dr. Daniel Bernstein</strong>&lt;br&gt;Department of Psychology&lt;br&gt;University of Nebraska&lt;br&gt;Lincoln, Nebraska</td>
<td><strong>Discovering Motivation in Ordinary Behavior</strong></td>
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<td><strong>Dr. Daniel B. Willingham</strong>&lt;br&gt;Assistant Professor of Psychology&lt;br&gt;Harvard University&lt;br&gt;Cambridge, Massachusetts</td>
<td><strong>Memory Systems and Mechanisms of Motor Skill Learning</strong></td>
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<td><strong>Dr. Kristina Ciesielski</strong>&lt;br&gt;Assistant Professor of Psychology&lt;br&gt;University of Alberta&lt;br&gt;Edmonton, Canada</td>
<td><strong>Mechanism of Selective Attention in Autism: Event-Related Potentials Studies</strong></td>
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<td><strong>Dr. Gordon H. Bower</strong>&lt;br&gt;A.R. Lang Professor of Psychology&lt;br&gt;Stanford University</td>
<td><strong>A Connectionist Model of Classification Learning</strong></td>
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<td><strong>Sheri D. Pruitt</strong>&lt;br&gt;Benjamin F. Haught Memorial Research Lecture&lt;br&gt;University of New Mexico&lt;br&gt;Albuquerque, New Mexico</td>
<td><strong>The Development of Assessment and Mood Induction Strategies Suitable for Determining the Effects of Mood on Pain</strong></td>
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<td><strong>David Greenway</strong>&lt;br&gt;Benjamin F. Haught Memorial Research Lecture&lt;br&gt;University of New Mexico&lt;br&gt;Albuquerque, New Mexico</td>
<td><strong>Transfer of Reinforcement and Punishment Functions Through the Establishment of Stimulus Equivalence Classes</strong></td>
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APPENDIX L
ANNUAL REPORT
1989 - 1990

DEPARTMENT OF PSYCHOLOGY CLINIC

Daniel Matthews, Ph.D., Clinic Director

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 Clinic's client load of 127 therapy cases and 127 assessments (increases of 19% and 10% respectively over last year) are the equivalent of a reasonable workload for a clinic with six or seven full-time staff. Here, however, these services are provided by 51 clinicians all of whom must follow normal standards of practice. 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, educational preparation, 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, but our referrals from other agencies and practitioners, the Court, and self-referrals provide a cross-section of the community. Because of a sliding fee scale ($25 to $60 per hour),
we do have a selection factor toward low-income individuals, but even this factor is not universal.

Assessment services put our students in contact with about as many cases as therapy. In general, assessments take place in the context of agency contracts, but increasingly we have also provided formal assessment of our clients for purposes of facilitating therapy. Piayadasa Kodituwakku served in an advanced role this year both providing neuropsychological assessment services for the Bernalillo County Mental Health Center's inpatient unit and coordinating and mentoring the work of Marina Amaya. Under Ron Yeo's supervision, these students provided a service that was well received by Mental Health Center professionals.

The contract with the Metropolitan Court Probation Department for dispositional assessments was carried out this year by Jill Nelson and Laura Little under Dan Matthews' supervision. The employee assistance program with American Furniture has resulted in fewer assessments for substance abuse but increasing numbers of self- or supervisor referrals for individual therapy. In an informal agreement with the the Bernalillo County Family Court Clinic, Sheryl Kern conducted alcohol use assessments in domestic relations cases in which alcohol use was a concern. These services were paid for by clients on a sliding scale basis. We hope that in the future a contractual arrangement can be established to supplement client fees, or that a student-clincian can be placed on site at the Family Court Clinic.

Personnel

The fiscal year began with an end: the Clinic Faculty Director, which has been the primary leadership position throughout the Clinic's history, was phased out as planned and the running of the Clinic turned over to Dan Matthews (who served as a co-director during a transition year) and his staff. Dr. Matthews continued to be ably assisted by Staff Assistant Elizabeth Nance, now in her fifth year in that position. John Gluck served as the last Clinic Faculty Director, and his more frequent contact and co-leadership are missed. He continues to conduct his weekly group supervision at the Clinic, providing a welcome presence. In Dr. Matthews' metaphor, the Clinic now runs with the Clinical Committee serving as a Board of Directors, Dr. Roll as Chairman of the Board, and Clinic Director as CEO responsible to the Board, providing information and input to it and carrying out its directives.

We were fortunate to have continuity in our work-study positons, as our two excellent students, John Lagrave and Melinda Harris helped in the running of the Clinic throughout the year. In addition, we were able to share a position with the Department, and were pleased to find Melissa Humphries for this slot. They have each carried
out projects with the addition of their own ideas and initiative and the Clinic is a better place because of their efforts, interest and attitudes. At the end of the school year, John left the Clinic in preparation for leaving Albuquerque for graduate school in California. He has been a helpful resource, a motivated worker, a funny and warm contributor to the Clinic's atmosphere, and a good friend for over a year. We miss him greatly.

Graduate students Piyadasa Kodituwakku, Marina Amaya, Jill Nelson, Laura Little and Sheryl Kern have been mentioned above as carrying out the duties of fulfilling our assessment commitments. Erik Augustson helped out with neuropsychology assessment when we were in need, and his help and flexibility are appreciated. Tom Dominguez set up and ran a service-oriented thesis project, the Concerned Others Program, which was a valuable service at the Clinic for many women who are in close contact with a family member who has a drinking problem. Several faculty members—Judy Arroyo, Michael Dougher, Dan Matthews, Eligio Padilla, and Jane Smith saw individual clients at the Clinic, both helping out the Clinic caseload and providing a model of clinical service. Martha Tincom renewed a case here post-internship, providing a welcome presence and a help to the mission of the Clinic. Bill Dorman, an AAMFT approved supervisor, minister, and Clinical Adjunct Professor, provided special consultation to Dan Matthews on administrative/organizational issues and to Judy Arroyo and Holly Waldron in their supervision of students.

Several important people left the Clinic this year, in addition to those already mentioned. Harold Burke, Steve Kubacki, Sherri Pruitt and Lynn Vranes will start their internships this fall. They have each contributed importantly to the efforts of the Clinic and to the growth of others beyond their specific clinical work. Radka Toscova began this fiscal year at the Clinic, specifically organizing and implementing our American Furniture contract. She left last fall for internship at UNM Student Mental Health. She contributed significantly to the Clinic, and represents the value provided by our occasional students from other departments.

Although not yet gone from the Clinic, Piyadasa Kodituwakku (whom we all know as Kodi) completed his Ph.D. this year and will be taking employment in Albuquerque soon. His role for the last two years has been a special one in three different ways. First, his high level of knowledge and skill has allowed us to maintain the neuropsychology assessment contract at BCMH/MRC. He has provided direct service, coordinated assessments by others, and provided mentorship to the students interested in this area. Second, he has loved to teach and has supported others' degree efforts in direct and general ways. Finally, he has been a calming and gentle presence (except, perhaps in the anxious period just before his defense) and we all feel blessed to know him.
Special attention must be given to the departure of Douglas Ferraro from his position as department chair. Although not trained primarily as a clinician, he has provided unfailing support for the Clinic in terms of financial arrangements, direction and guidance and an encouraging attitude toward the staff and the educational and service missions of the Clinic.

Finally, the quality of our services depends critically on the efforts of our clinical faculty and adjunct faculty who supervise 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).

Finances

The Clinic will end this fiscal year having added to a modest surplus accumulated last year. We have used some of these funds to continue to upgrade our neuropsychology and personality testing materials such that we have very up-to-date assessment capabilities in these areas. The major expense here was the acquisition of MMPI-2 materials and installation of computer programs for scoring. We have also added a movable videotape setup, a new copier, and a shredder, as well as some minor improvements to increase the attractiveness and comfort of the Clinic.

Physical Setting

Owing to the remodelling when the Clinic moved to its present location eight years ago plus the furniture and fittings provided by American Furniture, the Clinic is a comfortable and pleasing environment for clinicians, clients and staff. Four pleasant therapy rooms are used, and there is office/work space for the students, the Staff Assistant, and the Clinic Staff Director.

Due to the efforts and grant support of Judith Arroyo, we have full videotape equipment in two rooms and third movable unit. The system allows observation of sessions by supervisors who prefer this mode, increased compatibility of equipment through use of VHS format, and greater taping capability when work is complete. By decision of the clinical committee, one room has been left free of equipment for those therapists and supervisors who adhere to the notion that recording is an intrusion on the therapeutic space.
Future Plans

A major change this year in the overall status of the Clinic is the realization that the budget as revised under Dr. Ferraro's leadership, is attainable by the revenues generated by clients and contracts; that is, the Clinic is solvent. This has allowed some much needed improvements in the building, equipment and materials this year, and allows us to plan for more in the future. As affordable, we want to continue to expand our assessment capabilities as well as some basic reference books to aid our clinical efforts. An observation room has been proposed, and will be built when it can be comfortably afforded.

Some caution is warranted, as the neuropsychological assessment contract may not continue after Kodi leaves the Clinic. Other contracts have been explored (Family Court Clinic, personality assessment for BCMH/MRC), and it is hoped these will be realized and other possibilities will arise in this year.

A goal for the year that is shared by others on campus is the better coordination of effort among the various mental-health-related agencies and departments on campus. It is envisioned that a better working relationship with Student Mental Health will develop this coming year.

Finally, we hope to continue in the development of a goal that has seen considerable success. We have all--director, staff, faculty and students--worked together to create an environment that is supportive and accepting, the kind of situation in which the difficult work of psychotherapy can take place and be nurtured. We anticipate the continuation of this spirit and its contribution to our missions into the coming years.

Prepared by

Dan Matthews, Ph.D. Clinic Director
and his assistant
Elizabeth Nance
APPENDIX M

SUPPORT STAFF

DEPARTMENT OF PSYCHOLOGY

1989 - 1990

ADMINISTRATIVE AND INSTRUCTIONAL SUPPORT STAFF:

Administrative Assistant: Robyn Santillanes
Assists the Department Chair; administers all personnel and budgetary decisions necessary to execute University policies and policies set by the Department Chair. Has fiscal responsibility for all budgetary activities in the Department and related matters. Assists in hiring and supervision of all staff, student, and technical personnel. Coordinates with various administrators on a variety of complex matters, including faculty contracts, student financial aid, staff compensation, and related matters. Drafts policies, procedures, correspondence, etc. for the Chair.

Administrative Assistant: Rhonda Fuller
Works in support of Department Chair and top level administrators. Assists in the formulation of Departmental policies and procedures, particularly in the areas of graduate and undergraduate instructional programs. Has a broad range of responsibilities in a variety of areas, including office management; supervises office clerical and student employees. Responsible for preparation of a variety of administrative and instructional documents.

Editorial Assistant: Mary Hungate
Edits and word processes complex manuscripts for publication in professional journals and textbooks, according to scientific format, and grant proposals primarily to extramural funding agencies, as well as related materials. Provides word processing backup for Department office staff during times of peak workloads. Also produces Department's weekly newsletter, Psychology This Week.

Student Advisor II: Lois Kennedy
Serves as Department's graduate student and graduate admissions advisor; 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 programs regarding policies, requirements, academic standing, and related matters. Maintains all graduate student files and records, coordinates and schedules various comprehensive exams and defenses.
SUPPORT STAFF
Continued

Interfaces with Graduate Studies Office in policy areas. Coordinates with Scheduling Office, Continuing Education Office and Evening and Weekend Degree Program 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 and Curriculum Change Committee regarding revisions for University catalogs.

Department Secretary: Wanda Sharts
Represents the Department as first point of public contact. Directs telephone callers and foot traffic as appropriate. Has responsibility for maintaining supplies inventory, security of classroom equipment inventory, maintenance of office copier and building key security. Backup to Editorial Assistant for typing of syllabi, exams and correspondence.

RESEARCH SUPPORT STAFF:

Shop Supervisor II: Patrick Sharp
Supports faculty, staff and graduate students with computer needs. Responsible for electronic design, fabrication, troubleshooting, installation, computer upgrades, consulting and repair, and preventive maintenance for mainframe computer and a multitude of microcomputers; also designs experimental and peripheral research equipment. Fabricates wood and metal products using a variety of equipment. Responsible for annual Department equipment inventory. Supervises a Work Study Assistant. Works under general supervision of Department Chair and Administrative Assistant.

Laboratory Animal Technician IV: 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 Work Study Assistants. 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.

Laboratory Animal Technician IV: 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. Backup for senior Laboratory Animal Technician IV.
SUPPORT STAFF
Continued

Veterinarian: Michael Richard, DVM (and Adjunct Assistant Professor of Psychology and Biology)
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.

CLINIC SUPPORT STAFF:

Clinic Director (Psychology Clinic): 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.

Staff Assistant (Psychology Clinic): Elizabeth Nance
Works under general supervision and in support of Psychology Clinic Director, Psychology Department Chair, and Administrative Assistant. 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 para-professional level. Supervises Work Study Office Assistant.
APPENDIX N

NEW REQUIREMENTS FOR
UNDERGRADUATE PSYCHOLOGY MAJORS

I. Requirements for a B.A. Degree

1) All majors must complete a one-semester Introductory Psychology course (Psych 105) along with the associated Introductory Lab (Psych 105L). This course and lab will replace the two-semester course and lab sequence currently offered (Psych 101, 102, 103L and 104L).

2) All majors must complete the Undergraduate Statistics course (Psych 200).

3) Additionally at the 200 level all majors must complete two courses from each of the two course categories listed below:
   - Category I: Psych 240; 260; 265
   - Category II: Psych 220; 232; 271

4) All majors must complete three Psychology courses (9 hrs.) at the 300 level or above, as well as one, 2 hour advanced laboratory.

5) All majors must complete an additional 3 hour elective course in Psychology, so that a total of 34 credit hours in Psychology are completed.

II. Requirements for a B.S. Degree

The requirements for a B.S. Degree will be the same as those for the B.A. with the two following exceptions:

1) All B.S. Degree majors must complete the Undergraduate Experimental Methods Course (Psych 302) as one of their 300 level or above courses. This course will replace Psych 202 which is currently offered.

2) All B.S. Degree majors must complete their minor requirements in one of the Science departments.
I am pleased to submit this report covering the fifth year of my term as department chair.

A. Significant Achievements

The department continued to make progress in making state-of-the-art technology available to Sociology faculty and students. Each faculty member has been provided with a computer and a printer to support his or her instructional and research activities. The department also acquired several new computer work stations for the microcomputer laboratory and a mobile computer display unit for use in classroom demonstrations.

New procedures for tenure and promotion review were developed, which the department will follow in reviewing Sociology faculty members for tenure and/or promotion. Nine steps have been set forth by the Chair to guide the voting faculty in making recommendations on tenure and/or promotion cases.
Chairman Coughlin established a policy on course buy-outs and other reductions in teaching loads. This will help guide Sociology faculty in future course planning.

Professor Patrick McNamara was one of the Arts & Sciences Participatory Seminars Program faculty offering a seminar in Introductory Sociology. Each seminar gives students the opportunity to learn course content in an active forum of group discussion along with individual attention toward development of writing, speaking, and thinking skills.

To allow graduate students to have more of a voice in department decisions, the faculty approved several changes in the departmental Rules of Governance. Faculty meetings will now be open to graduate students, with full rights of participation in the discussion. The Departmental Graduate Committee composed of three full-time faculty will now include one graduate student. A proposal to give graduate students two votes on the faculty failed to pass.

Undergraduate program

Professor Philip May received funding to establish a Minority Access to Research Careers (MARC) in Sociology at UNM. The MARC grant, which is funded for a minimum of five years, will enable minority honors undergraduates to
obtain accelerated training in research on alcohol, drug abuse and mental health. The program will include six minority honors students. Professor May was successful in negotiations with the University to match funds for one non-minority student also.

The Faculty Senate approved a new undergraduate course, Soc. 398 (Special Topics). The Faculty Senate also approved allowing undergraduate Sociology majors to minor in Home Services and Allied Health Science at the Medical School, north campus.

The Sociology faculty approved an extensive reform of the curriculum in the Criminal Justice degree program. The new curriculum will allow the department to offer fewer sections to support this major and minor, focusing our student enrollments at the lower division level, and restricting upper division course work to create smaller classes and thus produce a better academic program and consequently improving the quality of education. This reform is in keeping with the department's quality enhancement goal instituted last year.

Sociology organized its own commencement program for the second year in succession, co-hosting the reception/luncheon with the Economics Department. Professor Coughlin asked graduating seniors Linda Menon and Lori Arnold to coordinate the planning of this commencement and reception.
supervision they organized the program arrangement/printing for the ceremony which was held on May 12 in Woodward 101, and assisted in the planning of the 1:00 reception/luncheon with Economics which was most successful. This separate department ceremony and reception is a plus for students, enabling their families and friends to meet with faculty on a more personal level.

Graduate Program

The graduate program in Sociology continued to make progress with 13 new admissions, and the awarding of both Ph.D. and Master's degrees. Theresa A. Martinez was a spring graduate with the Ph.D. Theresa has accepted a position of assistant professor at the University of Utah beginning Fall 1990.

Manual F. Pino and Patrick M. O'Day were spring Master's Degree graduates.

Heidi Ballard, Carlos Cazali, Dawn Clark, Paul E. Guerin, and Karen Ho were summer Master's Degree graduates. Dawn Clark has accepted a position as a county social welfare counselor in Cortez, Colorado.

In May 1990, Sociology Graduate Student Ilene M. McCan received the Opportunity Fellowship Program Award in the amount of $7,500 for the academic year of 1990-91.
In April 1990, Sociology Graduate Student Alexis Padilla received the Graduate Achievement Award sponsored by the Graduate School in the amount of $1000,00 for the academic year of 1990-91.

B. Significant Plans and Recommendations

On December 1, 1989, the department held a half-day retreat in the Sociology Commons. Results of the department activity ratings, covering teaching, research and service activities, were discussed by the Executive Committee and distributed to faculty. These ratings will serve as a general guide for faculty decisions regarding which activities they pursue and which will be rewarded or otherwise recognized at the departmental level.

Professor Steele entered into successful negotiations with the Santa Fe Graduate Center which had requested that departments participate more in future course offerings. Reimbursement to the department is $2500 to possibly $3000 per course and these courses can be taught on an overload basis.

The department continues to emphasize its obligations in both quality enhancement and quantity production by careful screening in hiring of part-time faculty and hiring experienced graduate teaching assistants.
student advisement, because students may obtain a Sociology degree with an emphasis in several areas, i.e., social welfare, criminal justice, etc., the Chairman has instituted a policy whereby more faculty members will be available at certain hours for advisement as a service to the department, thus reducing the advising load for the designated undergraduate and graduate advisors.

C. Appointments

Dr. Edward Gilliland was hired as full-time assistant professor Fall 1989 to fill the line vacated by Richard McCleary, and will be teaching primarily in the methods area.

Dr. Tomas Atencio joined the department as a full-time Lecturer III Fall 1989. He will be teaching primarily in the social welfare area.

Eighty-four applications were received in response to the department's national advertisement for two tenure track positions, the vacant lines of David Montejano (comparative) and Pedro David (comparative/criminology). The Sociology Recruitment Committee narrowed the list of applicants to nine finalists and the Dean of Arts & Sciences gave approval to invite three of those applicants for interviews. Christopher Birkbeck, University of the
Andes, Merida, Venezuela, was offered the comparative/criminology position. Professor Birkbeck accepted the offer and will begin teaching the Fall 1990 term. Miguel Korzeniewicz, Duke University, was interviewed and offered the comparative position, which he accepted. He will begin teaching in the Spring 1991 semester.

Promotions

Associate Professors Richard Coughlin and Gary LaFree were promoted to the rank of Professor. Assistant Professor Robert Fiala was promoted to Associate Professor and granted tenure.

E. Awards

Professor H. Laurence Ross was selected as the winner of the Widmark Award by the International Committee on Alcohol, Drugs and Traffic Safety, 1989, for his contributions to research on drinking and driving and traffic safety.

Professor Ross was also named as Senior Science Advisor for the National Institute on Alcohol Abuse and Alcoholism, 1989.
F. Distinguished Department Visitors

Dr. Ernie Stringer of Curtin University of Technology, Perth, West Australia, delivered a lecture to Sociology faculty and graduate students on "Community Development in Applied Sociology: The Australian Aboriginal Context" January 22, 1990, at 3:30 in the Sociology Commons.

Professor James Jacobs, New York University Law School and author of DRUNK DRIVING: AN AMERICAN DILEMMA, gave a public lecture on "Drunk Driving and Civil Liberties" at Holiday Inn-Midtown, February 7, 1990, at 7:00 p.m., sponsored by Professor H. Laurence Ross's grant on drinking and driving.

Dr. Joshua Fishman, Yeshiva University, New York, spoke to UNM faculty and graduate students on "Reversing Language Shift: Theory and Practice" April 23, 1990, at Humanities 520.

G. Other lectures and presentations

Graduate Assistant Dawn Clark, president of the Sociology Graduate Student Association, was instrumental in coordinating a series of monthly colloquia with the help of the Sociology Graduate Committee.

David Broudy was the first graduate student speaker in early November, 1989, and the Sociology faculty and graduate students listened to his presentation on "Liberation Theory" in the Sociology Commons.
Graduate student Theresa Martínez gave an informal presentation of her dissertation material to Sociology faculty and graduate students November 14, 1989, at 2:00 in the Sociology Commons.

Graduate student Heidi Ballard presented a discussion of applied sociology and her experience at the Denver meetings of the Association for Applied Sociology to Sociology faculty and graduate students November 15, 1989, at 12:00 noon in the Sociology Commons.

On November 10, 1989 two workshops were scheduled in the Sociology Microcomputer Laboratory. Chairman Richard Coughlin demonstrated SPSS-PC+. Professor Jane Hood demonstrated the Showcase software package, an instructional package designed to demonstrate relationships between variables using eye-catching graphics. These two workshops were successful and well attended by both faculty and graduate students.

Professor Jane Hood sponsored an Open House featuring Qualitative Data Analysis (Sociology 570) on May 8, 1990, from 7:00 to 9:00 p.m., consisting of exhibits, software demonstrations, short presentations, and refreshments. This was very well received with over 100 attending.

Professor Laurence Ross, former Grants Officer of NSF and NIAAA, spoke on "Grantsmanship" to Sociology faculty and graduate students February 6, 1990, at 3:30 in the Sociology Commons.
Professor Stephen Fox spoke on "Toxic Exposure and Women Workers" February 15, 1990, at 3:30 p.m. in the Sociology Commons. Professor Fox was a part-time instructor in Sociology during the Spring 1990 term.

Professor Stephanie McEwen spoke on "The Results from a National Study on the Tools of Recovery in Alcoholic Anonymous" April 23, 1990, at 12:00 noon in the Sociology Commons. Professor McEwen was a part-time instructor in Sociology during the Spring 1990 term.

Dr. Robert A. Fiala spoke on "Sociological Approaches to Ethnic Relations in the Modern World" February 14, 1990, at 12:00 noon in Mesa Vista Hall. African-American Studies sponsors this Noon-time Lecture Series.

Dr. Christopher Birkbeck, Centro de Investigaciones Penales y Criminologicas, Universidad de Los Andes, Merida, Venezuela, spoke "On Situational Analysis in Criminology" March 26, 1990, at 12:00 noon to UNM faculty and Sociology graduate students in the Sociology Commons.

Dr. Manuel Garcia y Griego, Visiting Research Fellow at Center for U.S.-Mexican Studies, University of California at San Diego, La Jolla, California, spoke to UNM faculty and Sociology graduate students on "Impact of 1986 Immigration Act on Mexico: A Preliminary Assessment" March 28, 1990, at 12:00 noon in the Sociology Commons.
Professor Ian Taplin, Department of Sociology, Wake Forest University, Winston Salem, North Carolina, spoke to UNM faculty and Sociology graduate students on "Business in Fashion: Comparative Comments on the Clothing Industry" April 2, 1990, 3:30, in the Sociology Commons.

Professor Miguel Korzeniewicz, Department of Sociology, Duke University, Durham, North Carolina, spoke to UNM faculty and Sociology graduate students on "The Social Foundation of International Competitiveness: Exports of Footwear in Argentina and Brazil" March 30, 1990, in the Sociology Commons.

H. Invited lectures outside of the continental United States


Professor Valdes delivered a lecture "La filosofia del Dialogo del Instituto de Estudios Cubanos" at the University of Havana, La Habana, Cuba, December 27, 1989.
Professor Gary LaFree was one of 15 criminologists from the United States and Western Europe invited by the Russian Academy of Science to attend a Conference on Criminology in the Soviet Union. The Conference was held in Moscow, April 1990.

Professor LaFree delivered a series of lectures at the University of Hawaii on crime and criminology, April 1990.

Professor LaFree chaired a session and presented a research paper on "Formal and Informal Systems of Social Control" at the meetings of the International Sociological Association in Madrid, Spain, July 1990.

Professor Peter B. Evans was invited to speak on "Key Technologies and Restructuring Trends: The Computer Industry" in workshop on "Technological Change and the Electronics Sector--Perspectives and Policy Options for Newly Industrializing Economies (NIEs)", OECD Development Centre, Paris, France, June 26-30, 1989.

Professor Evans was invited to lecture in India. He spoke on "Steel Frame or Iron Cage: Unraveling the Developmental Role of India's Bureaucracy" at Jawaharlal Nehru University, New Delhi, India, October 1989.
Professor Evans was a Participant in "Directions '90" International Data Corporation's Third Information Briefing Session, Bangalore, India, November 4, 1989.

Professor Philip May delivered a lecture on "Alcohol, Health Problems and Natives" at Simon Fraser University, Burnaby, British Columbia, March 1990.

I. Funded Research

Tomas Atencio: "Sephardim in New Mexico: Columbus' Hidden Legacy" funded by New Mexico Endowment for the Humanities. $8,100.00. Duration: 1987-89. Project part of ongoing "New Mexico’s Sephardic Legacy Project: Crypto-Jews."


J. Sabbaticals, Leaves of Absence

Professor Susan Tiano began a year's sabbatical Fall 1989-Spring 1990 to complete her book on women maquiladora workers in Mexicali, Mexico.

During the 1990 spring semester Professor Patrick McNamara took leave to teach at St. Mary's College in England exchanging with Professor John Fulton who came to UNM to teach. Both Professors McNamara and Fulton were enriched by this successful exchange, as were the students.

K. Joint Appointments

David L. Bachelor (Professor, Ph.D., University of Chicago) Education.

L. Deaths

The Sociology Department and the UNM community were saddened by the death of Emeritus Professor Harold Meier on December 2, 1989. Professor Meier received his B.A., M.A., and Ph.D. degrees from the University of Colorado. He was an assistant professor in Sociology from 1964 to 1970 and an associate professor from 1970 until his retirement from UNM June 28, 1985.
Table 1

Student Credit Hours in Sociology by Course, 1989-90

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<th>Course Title</th>
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*This total based on Eight-Week Enrollment Report. The end-of-the-year report was not yet available.
### Table 3

Degrees awarded in Sociology, 1978-90

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*Includes Criminal Justice majors.

**47 of these are Criminal Justice graduates.

***52 of these are Criminal Justice graduates.
Table 4

Admissions to Graduate Study in Sociology, 1983-90

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