6-30-1996

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University of New Mexico

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The University of New Mexico

Academic Support Services

An Overview

February, 1997
ACADEMIC SERVICES UNITS

Reporting to
Associate Provost Janet Roebuck

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ACADEMIC SERVICES UNITS

OVERVIEW

The Academic Services Units which report to the Associate Provost share the responsibility of maintaining and developing the institution-wide infrastructure without which the instructional programs of the University could not operate. Collectively, their activities impact the academic life of every undergraduate student, every member of the teaching faculty, most graduate students and alumni and large numbers of staff members.

The three largest Units, the Office of Admissions, the Registrar’s Office and the Office of Undergraduate Studies perform the functions which are essential to the academic operations of any university.

For example, they are responsible for the administration of the basic academic regulations which govern such fundamental matters as admission requirements, academic standing and graduation; they screen undergraduate applications and establish the personal record of each admitted student; evaluate the transcripts of transfer students and assign UNM credits; schedule classes and produce the Class Schedule and the Catalog; they provide academic management and academic advisement for UNM’s new students; they process grades and maintain the records of every student in the UNM system; they check graduation qualifications and issue diplomas; they maintain the records of thousands of alumni. Every day, they work one-on-one with hundreds of students, and others, to answer questions, provide information and solve individual problems.

The smaller Units, CAPS, the Testing Center and Veterans Affairs, offer more specialized academic support. They provide tutoring for students enrolled in undergraduate classes, academic testing for UNM students and community members and academic certification for student Veterans.

The driving force behind the current activities and long-range plans of all these Units is to provide the most reliable, efficient, and effective academic infrastructure which supports students and faculty in their instructional activities. In the modern electronic database and communications environment, this means working closely with our colleagues at CIRT to ensure that UNM has the most up-to-date database and communications systems possible.
Recent innovations, current activities and future plans of all Units revolve around developing the most appropriate delivery systems for a wide range of services, groups and individuals. For the transactions in which speed, accuracy, and convenience are the primary concerns, we are emphasizing the use of electronic information and communication systems.

For example, these Units continue to use and develop the on-line Student Information System and the Voice Response System (I-TEL UNM), which now handles all student registration transactions and grade information and which is being updated to provide individualized admission and financial aid information. All Units are collaborating with CIRT in the development of the on-line Degree Audit System (Project PROGRESS), which will provide the basis for the highest quality on-line academic advisement system currently available. For the longer term, all Units are exploring the new communications and information opportunities which the World Wide Web offers for their ongoing efforts to improve the quality and effectiveness of UNM’s academic services.

For the transactions in which individualized attention is a key element, all Units strive to provide personal, face-to-face interactions which are timely, convenient, knowledgeable, helpful and friendly.

For example, all Units have customer service areas which are open during normal business hours and which provide extended hours at key times, such as the beginning of the semester. Here, staff members work one-on-one with students and others to answer questions, provide information and solve individual problems. The academic advisement and tutoring Units place their central emphasis on face-to-face meetings and individualized attention provided by skilled, well trained, regular and student staff members.

The ongoing challenge of all these Units is to work together to maintain and improve the quality of services in an increasingly complex and rapidly changing academic environment in which budgetary concerns are of mounting importance. UNM’s student body is a complex one, combining traditional-age students with working parents, new freshmen with college transfers, residents with commuters and returning students with international students. Academic programs are becoming more intricate as disciplines add areas of concentration and specialization to reflect the increasing complexity of knowledge in their fields. Modern technology provides the means, and increases the expectation, for the ever faster and more convenient delivery of services while, at the same time, many of the most urgent and important issues of both individual students and the University as whole can be addressed best only by human effort and one-on-one conversations. All of this requires the Academic Support Units to maintain a constant effort to balance a wide range of forces in order to assist individual students and faculty members while also helping the University reach its goals of academic excellence.
OFFICE OF ADMISSIONS

MISSION

To implement the academic regulations of the University governing the admission of degree-seeking students at all campuses.

To manage all aspects of the admission of undergraduate students including new, transfer, returning, and non-degree students.

To oversee the admission of all foreign students, both graduate and undergraduate.

To work on behalf of the University and its academic programs in the development of State-wide transfer and articulation initiatives.

MAIN FUNCTIONS

• Evaluates the admission applications of all undergraduate students in light of the academic regulations of the University and makes admission decisions.
• Conducts the initial stages of building the academic record of new undergraduate students.
• Evaluates transcripts from other institutions for transfer students to determine the transferability of their academic credits to the University of New Mexico.
• Collaborates with all post-secondary institutions in the State to facilitate the transfer of qualified students to UNM. This includes, for example, developing articulation agreements and publishing and distributing articulation brochures for students.
• Coordinates and oversees admissions functions at the Branches.
• Provides on-site admissions services at the Branches and other 2-year institutions for students who wish to transfer into degree-granting programs at Main Campus.
• Evaluates the transcripts of all foreign students and executes the regulations governing the admission of international students of both the University and the INS.
• Plays a major role in the on-going Statewide initiatives concerning academic transfer and articulation issues. This includes, for example, working with the Commission on Higher Education and its staff in the development of the lower division “common core” and of higher level “transfer modules” of courses.
• Works with High Schools, business, industry and others to facilitate admission, enrollment and continuing educational opportunities for working adult students.

In a typical academic year, this Office reviews almost 20,000 applications, including:

3,800 beginning freshmen
3,500 returning students
2,000 Branch students

2,000 transfer students
1,500 international students
6,000 non-degree students (with Continuing Education)
STAFF

Director (Cynthia M. Stuart)
2 Associate Directors, 1 Branch Campus Admissions Manager.
10 Admissions Officers
9 Communications Staff (customer service and data entry)
9 Support Staff

SERVICE GROUPS

• All prospective students, their parents and family members
• All undergraduate and international student applicants
• Branch Campuses and all other New Mexico post-secondary institutions
• All academic units (colleges, schools, departments, programs)
• The Commission on Higher Education and various other State entities
• Other Academic Services Units, especially Registrar’s Office, Office of Undergraduate Studies and CIRT
• The U.S. Department of Immigration and Naturalization Service

RECENT ACCOMPLISHMENTS

* Developed and published Transfer Brochure for Branches
* Development of articulation agreements in a wide variety of academic disciplines with other post-secondary institutions
* Publication of Transfer Guides for every 2-year institution in the State
  We have published 8 Transfer Brochures which are distributed to students in the appropriate institutions
* Worked with CHE Task Force on development of a Statewide “Common Core” of courses and of “articulations modules”
* Organizing “Transfer Days” which provide a wide range of admission and other services to facilitate the transfer of qualified students

CURRENT INITIATIVES

• Developing the transfer articulation component of Project PROGRESS (automated degree audit)
• Developing an automated admission application on the World Wide Web
• Providing on-site services (specially equipped lap-top computers and technically skilled admissions officers) to facilitate the electronic Financial Aid application of prospective students
CURRENT CONCERNS

- Capabilities of University telephone system
- Limited computing resources
- Impact of rising admission requirements on already declining enrollment
- Implications of the Immigration Reform and Immigrant Responsibility Act of 1996 for international admissions officers
- Implications of Affirmative Action legislation for UNM's programs and practices
- Proliferation of home schooling and private, unaccredited high schools
- Staff safety and security

LONG RANGE PLANS

- Further development of World Wide Web functions
- Use of document imaging, storage & retrieval technologies to improve quality speed and accuracy of admissions services
- Developing video conferencing systems for use with Branches and other two-year institutions
C.A.P.S  
(CENTER FOR ACADEMIC PROGRAM SUPPORT)

MISSION

To provide one-on-one content area, course-specific tutoring for all undergraduates.

To run a nationally-accredited program with well-trained student tutors.

To provide services which are free to students.

To incorporate special learning support services for students with learning disabilities

To have a positive, measurable impact on student success and retention.

MAIN FUNCTIONS

- Walk-in tutoring for high demand areas: algebra, calculus, writing, chemistry, physics
- One-on-one tutoring by appointment for all undergraduate classes
- Tutoring in library skills, study strategies, and math strategies
- Workshops, study groups, and exam review sessions
- Language conversation groups
- English as a Second Language (ESL) tutoring
- The LSS (Learning Support Services) sub-unit provides, for undergraduate and graduate students:
  - Educational Diagnostic testing
  - Assistance in learning strategies
  - Subject-area tutoring
  - On-going academic support
  - Eligibility verification
  - Liaison with faculty and campus services

STAFF

Director (Karen Olson)
9 Professional & technical staff
70-80 student staff

The tutors at CAPS are upper-class undergraduates and graduate students. The tutor training program is certified by the national College Reading and Learning Association.
SERVICE GROUPS
Undergraduate and graduate students
Academic departments, programs and faculty
In 1995-96, about 3,800 students used CAPS. Each student had an average of 4.8 visits for a total of 5.4 hours of tutoring each.

RECENT ACCOMPLISHMENTS & CURRENT INITIATIVES

* Consistent record of having a proven, statistically significant, positive impact on the academic success (grades, retention) of students who use CAPS services
  (For example: For Fall 1995 Beginning Freshmen Cohort, the average retention rate into the third semester for those who used CAPS at least once each semester was 17.6% higher than that of those who did not use CAPS)
* Fall of 1996 - CAPS began tutoring Library Strategies - program will be evaluated during summer of '97
* With efforts of Lynn Trojahn, General Library development officer, CAPS has received from PNM a grant of $40,000 over next three years to purchase computers and related equipment for a Computerized Training Center which will allow us to expand:
  - the library studies program
  - computer-based tutoring
  - computer skills training for students with learning disabilities

CURRENT CONCERNS

- Effect of faculty freeze - will student demand for tutoring expand if class size increases?
- Reaching more students, especially those enrolled in the high drop out, high D/F courses

LONG RANGE PLANS

- To expand library strategies tutoring program
- To begin building Computerized Training Center - remodel a room, design area, buy computers and furniture
- To develop and conduct a bridge program for incoming freshmen interested in health careers. A joint project of CAPS and the Medical School. Funded by a Health Career Opportunity Program grant.
- Increase number of students being served
OFFICE OF THE REGISTRAR

MISSION

To administer the academic regulations of the University which direct all aspects of a student's academic career up to and including graduation.

To maintain the University's records of all instructional programs and all students.

To manage and assign instructional spaces and to produce the Schedule of Classes.

To monitor the curricula of the University and to produce the General Catalog.

To provide all services which impact the instructional activities of the University, including those for registration, grade processing, grade reporting and records monitoring.

To produce the institutional reports required by University, State, and Federal entities.

To provide high quality informational services for prospective students and parents, enrolled students, faculty, staff, and alumni.

MAIN FUNCTIONS

• Schedules all common instructional spaces at the University
• Develops and disseminates the Schedule of Classes
• Manages registration services for all students at the main campus and branches
• Maintains the academic records of all current students and alumni
  *We hold the academic records of about half a million current students and alumni*
• Manages the University's grading system, including issuing grade sheets, processing faculty grade reports, and providing individual student grade reports
• Updates the University's academic regulations and instructional programs as approved by the faculty and producing the University's General Catalog
• Maintains and reports the University's record of enrollment for the purposes of obtaining State financial support and meeting Federal and NCAA requirements
• Produces the University's ID card (LOBO CARD)
• Provides official academic transcripts for students and alumni
• Determines the admission status and eligibility for all student athletes
• Provides special analyses and reports as needed
STAFF

Registrar (Fred M. Chreist), 3 Associate Registrars, 1 LOBO Card Manager.
12 Records and Registration staff
5 Systems and Scheduling staff
3 Special Projects and Branches staff
2 Telephone Registration and other Voice Response systems staff
3 LOBO CARD Project staff
5 Support Staff

SERVICE GROUPS

• All undergraduate and graduate students
• All academic units, including colleges, schools, departments and programs
• All teaching faculty and alumni
• All Academic Service Units and all student service units
• Office of Admissions, Office of Undergraduate Studies, Office of Institutional Research, CIRT, and Office of the Bursar

RECENT ACCOMPLISHMENTS

* Converted registration from walk-in, stand-in-line, system to telephone voice response system (I-TEL-UNM)
  1995-6 the I-TEL System handled 637,000 transactions

* Production of academic transcripts on demand
  1995-6 the Registrar produced 100,000 transcripts

* Conversion of hard copy academic records to optical scan

* Moved production of Schedule of Classes from three to two productions annually to help student do better long range academic planning

* Implemented new university-wide picture ID card (LOBO CARD) for entire campus
  Over 50,000 LOBO Cards were produced in 1995-6

* Remodeled outdated registration area for Office of Undergraduate Studies and LOBO CARD office

* Planning and initiating the automated degree audit project (Project PROGRESS)
CURRENT INITIATIVES

- Continued development and implementation of Project PROGRESS
- New applications for I-TEL-UNM voice response system e.g. admissions and financial aid information; call-back functions
- Reorganization of the Registrar's Office to reflect structural changes necessitated by implementation of new technologies
- Expanding LOBO CARD services available to students, faculty and staff
- Continued improvement of customer service area of Registrar's Office
- Initiating development of an on-line classroom scheduling system to improve efficiency of instructional space allocation
- Increasing efficiency, timeliness and accuracy of delivery of student grade reports by implementing an electronic delivery system using I-TEL instead of mail. This also produced significant savings in cost of supplies, staff time and mailing.

CURRENT CONCERNS

- Adequate electronics infrastructure for the University
- Mainframe Computer capacity – processing speed; network capacity and efficiency
- Physical security of student records and legal issues of FERPA
- Staff safety and security
- Adequate remuneration for staff and appropriate career tracking

LONG RANGE PLANS

- Implement computerized classroom scheduling
- Explore new opportunities for the use of new technologies to continue to update the academic infrastructure and improve service
- Provide grade and other information on World-Wide WEB for students and faculty
- Produce academic diplomas in-house for immediate delivery to students
1995-1996

ANNUAL REPORT

The University of New Mexico

OFFICE OF THE REGISTRAR

Fred M. Chreist, Jr.
Registrar
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VI. Appendix  

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   * General Enrollment Statistics - Main Campus  
   * Beginning Freshmen Experience  
   * Degree Summary  
   * General Enrollment Statistics - Graduate Centers/Branches
The mission of the Registrar's Office is guided by the concepts presented in UNM 2000 and the Mission Statement of the Provost's Office. With the belief that students at the University of New Mexico are "poised for intellectual and personal development", the Registrar's Office strives to enhance this development. Service to prospective students and parents, enrolled students, faculty and staff is central to our mission. Our mission is to assure all our constituencies and our employees that the Office of the Registrar provides the best service available.

The following overall goals provide the foundation by which the Registrar responds to the needs of the students, faculty and staff of the University. This response also reflects the basic commitment to the general community, which includes prospective students, parents, and the many publics of the institution.
DEPARTMENT OVERALL GOALS AND OBJECTIVES

* Service

* To provide efficient, high quality student services for prospective and enrolled students in credit programs for all UNM campuses.

* To project a positive and professional attitude as employees in representing the University of New Mexico to our many publics in order to improve our service to the citizens of the State of New Mexico.

* To continue to develop, interpret and implement applicable University policies and procedures.

* To continue to provide professional assistance to UNM branches in the development, interpretation, and implementation of relevant policies and procedures.

* Staff Development and Training

* Continue cultural awareness sessions and experiences for professional and clerical staff.

* Encourage staff to continue to take advantage of formal education opportunities within and outside of UNM.

* Continue monthly training and information sessions.

* Continue participation in Management Development and Training Workshops on campus.

* Continued participating in National, Regional and State professional conferences.

* Hosting regional conferences.

* Increase Participating of Underrepresented Groups

* To provide opportunities within the Registrar's area for role model experiences.

* To continue to enhance publications which emphasize opportunities for prospective and current minority students.
CULTURAL AWARENESS/AFFIRMATIVE ACTION

Cultural awareness training in The Registrar's Office was both informal and formal. Staff participated in various activities at the University which focused on incoming minority students. Some of these programs included the Minority Student Reception, African American Student Day, American Indian Student Day, and video conferences which addressed issues which impact all minorities and their attendance at post-secondary institutions.

STAFF DEVELOPMENT

For the Registrar's staff, the management group placed a high priority on staff development. Efforts in staff development included, but were not limited to, attending professional conferences, taking advantage of individual workshops and short courses outside of the University, utilizing formal classes offered by UNM, and making use of professional sessions offered by The College Board, The American College Testing Program and others.

INPUT FROM CONSTITUENTS

The Registrar's Office uses the traditional methods of receiving input from our constituents. These include questionnaires, sampling of opinions verbally, discussions in group settings, and individual consultations. Because we hire many students in our office we use them frequently as sounding boards in one way or another. Finally, students are represented on our standing committees which is particularly important in policy and procedural issues. These committees also have faulty representation, which further expands our opinion base, especially involving processes affecting the entire university community.
The major goals of the Registrar's Office for 1995-96 are listed below. In addition to these important efforts, each of the departments in the office have maintenance goals which will impact the office and our service areas.

1. To continue implementation an Automated Degree Audit System.

2. Continue to implement Student Photo I.D. System (LOBO Card) in cooperation with the Office of Business Services.

3. To continue to expand Voice Response to include other functions such as:
   a. Financial Aid information
   b. Incorporate Branch Campuses
   c. Implement grade inquiry

4. To continue work on Staff Development and Cultural Awareness Programs.

5. Improve services to students by:
   a. Continuing technical improvement.
   b. Continuing to expand services
   c. Continuing to modify processes to respond to community needs, especially at UNM branches.

For further details on goals of the Registrar's Office for 1995-96, the reader is referred to the individual sections of this report.
**REGISTRAR'S OFFICE FUNCTIONS**

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<th>SCHEDULING</th>
<th>REGISTRATION</th>
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<td>✓ Catalog</td>
<td>✓ Registration</td>
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<td>✓ Schedule of Classes</td>
<td>✓ Student Information Center</td>
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<td>✓ Special Events Scheduling</td>
<td>✓ Enrollment Certifications</td>
</tr>
<tr>
<td>✓ Classroom Assignments</td>
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</tbody>
</table>

**SYSTEMS TEAM**

- Enrollment Reporting
- CHE Reporting
- Surveys & Questionnaires
- System Development and Maintenance
- Special Request Programming

**RECORDS**

- Grade Processing
- Transcripts
- Graduation Processing
- Athletic Eligibility
- University of Albuquerque Transcripts
REGISTRAR

• NM Residency
• CHE Data Coordination
• Committee Assignments
• FERPA/Student Right-to-Know/ADA
  • ID Cards
  • Organizational Development
  • Management of Areas
• Staff Achievement and Recognition
• Staff Training and Development

SPECIAL PROJECTS

★ Project Progress
★ Registrar's Office
★ Branch Coordination
Improvement in student service, staff development, and technical development were the main focal points for 1995-96.

The Records Office continues to improve its service to students. The procedure of printing unofficial transcripts on an immediate basis has been very well received by our clientele. Students are able to obtain an unofficial transcript simply by producing a photo ID to our reception personnel. This has proven to be a great public relations vehicle and has vastly improved the service of our office.

Staff development is an on-going goal in the Records Office. In 1995-96, staff participated in the following:

- Courses in Mirada and World Wide Web
- Computer training courses
- E-Mail instruction
- FERPA workshops
- Customer Service workshops
- Telephone Skills workshops

In addition, various staff participated in the following conferences and professional meetings:

- NCAA Compliance Conference
- RMACRAO (Rocky Mountain Association of Collegiate Registrars and Admissions Officers) annual meeting
- AACRAO National Meeting
Maureen Miller, Associate Registrar, completed her second term as President of RMACRAO. She currently serves as past-President.

The Records Office primary areas of responsibility include the following:

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<th>Academic Renewal</th>
<th>Name Changes</th>
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<td>Records Clearing</td>
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<td>Extension/Correspondence Grades</td>
<td>Social Security Number Changes</td>
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<td>Grade Petition Process</td>
<td>Suspension Processing</td>
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<tr>
<td>Grade Processing</td>
<td>Student Athletic Eligibility</td>
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<tr>
<td>-University of New Mexico</td>
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<tr>
<td>-UNM/TVI Developmental Courses</td>
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<tr>
<td>-All Branch Campus processing</td>
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<tr>
<td>Graduation Processing</td>
<td>Transcript Services</td>
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<td>-University of New Mexico</td>
<td>-University of Albuquerque</td>
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<td>Graduation Verification</td>
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<tr>
<td>Incomplete/Challenge Grade Processing</td>
<td>Vault Services</td>
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<tr>
<td></td>
<td>-Maintenance of Academic Records</td>
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Following is a breakdown by areas of responsibility for 1995-96:

✓ ACADEMIC RENEWAL

Academic Renewal has been more widely advertised this year, and advisors are using renewal more frequently as an option for returning undergraduate students.

The Records Office has streamlined the procedure for processing Academic Renewal petitions. A student no longer needs an appointment with a staff member unless they wish to discuss their academic record. This change in process is quicker and more efficient, and the response from students has been positive.

A total of 219 requests were processed. The vast majority of the requests are approvals, and continue to be a great benefit for returning students.
✓ COURSE REPEAT POLICY

A student may repeat up to 12 hours for improvement of grade. The policy was effective with courses taken Spring 1991 or after. It is not retroactive to any semester prior to that date. The number of repeats recorded for the past year:

2179 approvals
28 denials

✓ EXTENSION/CORRESPONDENCE GRADES

Academic courses taken through the UNM Division of Continuing Education are processed through this office and placed on the UNM record.

✓ GRADE PETITION PROCESS

A total of 618 grade petitions were processed. This is the process by which a student may seek academic record changes involving exceptions to rules regarding course registration. This process does not cover academic grade disputes.

✓ GRADUATION

4,434 graduates were processed during the academic year 1994-95. This procedure involves data entry, records verification of all graduates, and the ordering and distribution of diplomas. We have experienced a positive reaction to the addition of a second commencement ceremony in December, after the completion of the Fall semester.

✓ INCOMPLETE GRADE AND EXAMINATION TO ESTABLISH CREDIT

INCOMPLETE GRADE PROCESSING:

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<tr>
<td>SUMMER 1995</td>
<td>714</td>
</tr>
<tr>
<td>FALL 1995</td>
<td>1,633</td>
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<tr>
<td>SPRING 1996</td>
<td>1,746</td>
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</table>
\textbf{\checkmark NAME CHANGES}

589 requests for a change of name to the academic record were processed. These requests are usually a result of marriage or divorce.

\textbf{\checkmark SUSPENSIONS}

The University suspension policy has three suspension levels. A student suspended for the first time will serve a one semester suspension period. A student suspended for a second time will serve a one year suspension period. A student suspended for the third time serves a five year suspension. At the end of the five year period, the student is eligible to apply for academic renewal and raise their cumulative grade point average. The following figures reflect the number suspended at the end of the semester noted:

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<tr>
<td>Summer 1995</td>
<td></td>
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<tr>
<td>One Semester</td>
<td>45</td>
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<tr>
<td>One Year</td>
<td>12</td>
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<tr>
<td>Five Year</td>
<td>2</td>
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<tr>
<td>TOTAL</td>
<td>59</td>
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<tr>
<td>Fall 1995</td>
<td></td>
</tr>
<tr>
<td>One Semester</td>
<td>221</td>
</tr>
<tr>
<td>One Year</td>
<td>90</td>
</tr>
<tr>
<td>Five Year</td>
<td>12</td>
</tr>
<tr>
<td>TOTAL</td>
<td>323</td>
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</table>
TRANSCRIPT SERVICES

Please refer to attached report for details.

UNIVERSITY OF ALBUQUERQUE

A total of 870 official transcripts were issued from the University of Albuquerque. We continue to receive requests for degree verification, attendance dates, course descriptions and requests for information from the student folder, which is now on microfiche.
## UNIVERSITY OF NEW MEXICO
### OFFICE OF REGISTRAR
#### MONTHLY UNOFFICIAL & OFFICIAL TRANSCRIPTS PROCESSED
##### ACADEMIC YEAR 1995-1996

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<th>MONTH</th>
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<td>June</td>
<td>4439</td>
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</table>

| YEARLY TOTALS | 59502 | 39538 |

**TOTAL UNOFFICIAL TRANSCRIPTS** ............................................. 59,502
**TOTAL OFFICIAL TRANSCRIPTS** .............................................. 39,760
**TOTAL TRANSCRIPTS PRODUCED** ............................................ 99,262
The Scheduling Office produced the Schedules of Classes for the year 1995-96, with over 60,000 schedules printed for the Fall and over 50,000 for the Spring. These publications were for the first time made accessible via the World Wide Web or by goper-server this year. It is the intention of the office to increase accessibility via these mediums, and to continue to improve the quality of the product.

In the Spring of 1996 it was decided to move ahead with the automation of the room scheduling and schedule production processes. Vendors were contacted for product information, and the entire schedule production process was flow-charted.

Also in the Spring the Scheduling Coordinator position was vacated by Kaye Reeves, who made a lateral transfer to the Records Office. A search for her replacement was implemented shortly thereafter. Deb Serna temporarily assumed the responsibilities of the Scheduling Coordinator.
The 1995-96 year proved to be very productive for the Registrar’s Systems Team. Below are some of the highlights:

* The Official Enrollment Reports was expanded to include even more branch campus details for the 1995-96 academic year.

* The Integrated Post-Secondary Educational Data System (IPEDS) Enrollment and Completions reports were produced for the Main Campus and the Branches.

* Reports for the Commission on Higher Education (CHE) - the Course, Student, Student-Course, Degree, the Registrar’s Reports - were produced for Summer, Fall and Spring. Cluster Total reports, essential for formula funding from the State, were produced for Summer, Fall and for Spring. The CHE Audit of the Main Campus occurred in the Fall, and for the Branches in the Spring. These audits verified that UNM is complying with CHE policies. No significant problems were found during the audits.

* The NCAA Graduation Rates Disclosure form was completed in March 1996. The full-time, baccalaureate degree-seeking graduation rate for beginning freshmen who began in Fall 1989 and graduated within six years was at 37%.

* The Team wrote or modified from 200-300 programs.

* The office continued to produce a large number of reports for the Budget Office.

* The office continued to function as a hardware/software resource for the Registrar's Office and Admissions.
* Jep and Lois continued in their roles as Business Security Administrators, and dealt with numerous security issues.

* A new Programmer III, Robert Ohman, and a new Staff Assistant, Susan Mailander, were added to the staff.
The evolution of the Lobo Card and its uses across campus continued to progress at a rapid pace. Developments resulted in changes from acquiring new funding sources for the I.D. card operation to a complete remodel of the I.D. card facility. In addition, the Office of Undergraduate Studies moved to the remodeled Student Services Center. The Lobo Card continues to be an integral part of services provided and focused on the new UNM student. The alignment of this office with the I-TEL-UNM registration function and close partnerships with the Office of Undergraduate Studies and the Dean of Students Office (new student orientation) provides a foundation for preparing our new students for success at the university.

Funding

The Student Fee Review Board decided against providing funds for the Lobo Card operation for the 1995/96 school year. This provided added impetus for marketing offerings from our corporate sponsors: MCI and First Security Bank. Revenue dollars were derived from an agreement with First Security Bank for a monthly stipend for the use of the Lobo Card as a debit and ATM card and from sales commissions from MCI calling card and long distance services. First Security Bank’s generosity also produced an informational and recruitment video to be used by Outreach Services to entice prospective students to UNM with student benefits and the safety/security aspects afforded by new card technologies. Appropriated funds from Robert Schulte’s Business Services directorate provided the remainder of monies needed to cover expenses for Lobo Card Office operations.

Future offerings will target staff and faculty personnel to augment earnings from students by affording them corporate sponsors’ State of New Mexico and UNM contract rates and services.

Facility Remodel

A vibrant, spacious Lobo Card processing center was built from our “old” registration center and I.D. card facility. The first floor west wing of the Student Services Center was completely remodeled to incorporate the Lobo Card, I-TEL-UNM student registration operation and Undergraduate Studies. Built-in carding stations provide optimal lighting and an aesthetically pleasing, roomy interior for our carding facility.
Policy

University Business Policy (UBP) for the Lobo Card, not yet formally adopted, is written to accommodate carding for all affected populations at UNM and incorporates regulations for current and future card applications. New developments will be incorporated as card use progresses.

Operations and Card Production

A new campus I.D. office organization was created in the 95/96 year and named the Lobo Card Office. Stewart Nelson, the mainstay of UNM I.D. card operations with over 20 years of experience, joined Todd Eddy in operations, Robert Nocella as the system architect/programmer and Minerva Carrera as Project Manager. Overall direction of the Lobo Card Office is shared by Business Services and the Registrar's Office.

In an effort to keep the student Lobo Card as a multi-year I.D., student card records are valid for the current and two previous semesters. Cards are activated/deactivated according to a student’s enrollment status.

Faculty and staff account for approximately 7,000 of a total of 55,000 cards currently on the I.D. computer system. Health Sciences Center Lobo Cards are distinguished by an additional gradient turquoise strip and the words "Health Sciences Center" under the Lobos logo. (About 3,100 staff and faculty cards are from UNM’s HSC.)

Close working relationships with Human Resources and Faculty Contracts organizations from both main and north campuses helped to augment current I.D. card issuance procedures and redesigned processes to incorporate authorization and production of Lobo Cards for new UNM employees.

Plans for the 96/97 year include carding UNM Retirees and other populations as appropriate and as system capacity allows.

Card Applications

Validation

Lobo Cards, coupled with university benefit eligibility (verified via current student and employee databases), comprise “validation” applications. These were the first card applications implemented at UNM. Programming by Alex Estrada, manager of the I-TEL-UNM registration system, ensures up-to-the-minute data integrity in the Lobo Card database for university students. Robert Nocella, who worked on the conversion to the on-line validation applications, oversees the data repository on the I.D. card system and monitors computing functions on a day-to-day basis.
Lobo Cards validate eligibility for student government elections, discounted athletic event tickets, identification/entrance to La Posada Dining Hall, the Student Health Center, and the Student Union Building. Validation is also used at UNM libraries, golf courses, the UNM bookstore, Popejoy Hall, and other entities.

These applications will migrate from their current, interim implementations to direct, online system validation via the computing server which houses I.D. cardholder records.

Access

The Industrial Security Office, under the direction of Greg Hallstrom, and the UNM Police Department with Chief Kathy Guimond, have worked with the Lobo Card Office to implement applications in which the Lobo Card is used as an access mechanism "key." The card is used to access buildings and the parking facility in the Research Park, the Santa Clara women's residence hall and the "clean room" at the Center for High Tech Materials. Access via magnetic stripe readers and authorization can also be used in the Biomedical Research Facility, the Basic Medical Science Building and University Hospital in the Health Sciences Center campus.

Card access will be integrated into plans for the Johnson Center remodel.

Debit Card

The Lobo Card is accepted as a debit card by all First Security Bank merchant establishments and at all UNM entities that process financial transactions. The Lobo Card can be used to access cash at First Security Bank ATM’s.

Long Distance Calling Card

Students on campus and students, faculty or staff at home who use MCI as their long distance provider can utilize their Lobo Card I.D. to access discounted calling card services when away from their residence hall, apartment or home. Access to this service is via an 800 number (800-320-4UNM), their Lobo Card number and a personal identification number or PIN. MCI business derived from this calling card service provides the Lobo Card office with revenues used to defray operational expenses on a monthly basis.

The Lobo Card’s state-of-the-art technology, which is a sweeping trend and a model currently being introduced in major universities, is the basis for a service-oriented, multifaceted card. Today's card applications at UNM provide improved services to university cardholders and a better quality of life on campus. The Lobo Card leaves us poised to take advantage of future card applications and technologies as they evolve.
Project PROGRESS

Project PROGRESS - This project was the primary focus for Kathleen Sena, Assistant Registrar. The main goal for this year was to have the necessary screens developed by CIRT to enable the encoding of the undergraduate degrees in Biology. Significant work was required in order to do a pilot for the students who had declared a degree in Biology. The pilot took place the first week in April. For the pilot, 300 letters were sent to the students selected. The criteria was any declared degree students in Biology, having 26 or more earned hours, and students which were either UNM native students or had only transfer work from Albuquerque Technical-Vocational Institute. The students who did not respond to the letter were contacted by telephone to determine if they would be interested in participating. Of the students targeted, 89 students scheduled themselves for an information session and, of those 64 participated in the information sessions. Five different sessions were scheduled. Numerous staff involved in the project (Office of the Registrar, Office of Admissions, College of Arts and Science, CIRT, and the Provost Office) participated in the information sessions to interact with the students and receive feedback.

Kathleen attended an encoders workshop and the users conference hosted by DARS at Miami of Ohio University in Oxford, OH. Rose Bennett was hired in February as the primary degree programs encoder. She also attended an encoder training session hosted by DARS.

Jack Southard, Director of the DARS project at Miami of Ohio University provided consulting services to UNM in March, 1996. He spent two and a half days on campus meeting with academic advisors and college administrators. He also worked with staff from the Office of Admissions, Office of the Registrar, and CIRT to assist in the understanding of the complexity and functions of the automated degree audit computer system.

Work on this very large project is steadily moving forward with major milestones set for the next year.

Branch Campus Liaison

Beginning August 1995 a monthly meeting was arranged for the branch campus registrars or their designee to meet and discuss issues with staff from the Office of the Registrar of main campus. During these meetings numerous issues from the main campus perspective and those concerns of the individual branch campuses were discussed. Issues such as the change in the challenge fee structure, CHE reporting needs, I-TEL-UNM registration at the branches, academic, administrative holds, and transcript requests were discussed.
During the first year this group attended on a regular basis to determine common concerns regarding their process, structures, and findings. The largest undertaking for this assignment was to bring all the branch campuses on to the I-TEL-UNM system. The other system which played a big factor on whether a branch campus could utilize I-TEL-UNM was the billing and receivables system of the Bursar’s Office. When negotiations and training were completed, we could move ahead with telephone registration. Los Alamos Undergraduate and Graduate branches joined the system for Fall 1995, Valencia campus and Santa Fe Graduate, and Taos Upper Division became active Summer of 1996. The Taos Education Center is scheduled for Fall 1996 and the branch time table Gallup is unknown at this time.

Scheduling Office

Beginning with the Fall 1995 semester the university Schedule of Classes was put out on the Gopher Services to eventually link in with the World Wide Web. To keep up with current technology and the changing environment of information dissemination it was important to place the Schedule of Classes on Gopher. Although the format is very simplistic, its availability on the service brought customer service up one more level. For those people who would call the Registration Center for a schedule to be mailed, our staff also informed them that it was available immediately via gopher.

Staffing changes occurred this year when Kaye Reeves (Scheduling Specialist) moved to become office manager of the Records Office. Deborah Serna assumed the scheduling specialist responsibilities temporarily in order to guide the office processes through the end of the Spring 1996 Semester and the Summer 1996 Session.

Miscellaneous
Catalog Review

1995-96 was an “off” year for publishing the Undergraduate Catalog. This allowed time to review the document against the databases and compare it to the Graduate Bulletin. The major goal was to enhance consistency among all three pieces of data. Staff worked closely with staff from the Office of Graduate Studies to do the comparison between the two catalogs.

The Faculty Senate Curriculum Committee took a more active role in the course information submitted by the academic units. A memo was sent to all departments by the chairperson of the Faculty Senate Curriculum Committee (Henry Shapiro from Computer Science) requiring that they submit a course description for all courses. Although department response has been slow, it is expected to increase with 1996-97 being a publication year.
The Faculty Senate Sunset Law continued to be a topic of discussion throughout the year. Numerous computer revisions were made to accommodate the process in a more efficient way. The curriculum committee decided to review all requests by departments for granting exceptions for courses not taught in 8 consecutive semesters, (excluding summer sessions). Starting for 1996-97 the request for the exception is not automatic.

**Dane Smith Hall (New General Classroom Building)**

Activity continued on the development and planning of the new general classroom building. Kathleen attended a seminar in California with representatives from the Provost Office, Facility Planning, and Physical Plant to learn more about concepts being presented for classrooms of the future. Close work and communication has continued with the outside architect, Caster-Basarich, Ltd., hired by UNM to design the building.

In April the office assisted with an open house for Dane Smith Hall along with the Provost Office and Faculty Planning. This function was an opportunity for faculty and students to review the plans and the structure and share their thoughts, concerns, and ideas about the faculty. November of 1996 we hope to break ground and be ready for occupancy in Spring, 1998.
New Applications:

UNM withdrawal processing was implemented in the Fall of 1995. This process allows any student who has registered for courses to be able to completely withdraw from those classes by phone. Students no longer have to come onto campus to withdraw. The telephone process incorporated the information survey which was utilized by the Dean of Students Office for students previously withdrawing by the walk-in process.

UNM Admissions Inquiry was implemented in the Spring of 1996. This process allows any undergraduate/non-degree applicant to the University to check their admission status by phone. Graduate and international students are referred to their respective departments for any admissions questions. I-TEL-UNM will inform the undergraduate/non-degree applicants of their acceptance and of the status of their application. However, students who do not qualify for admission are informed by letter.

Grade Processing was added as an option to the CTT applications in the Summer of 1996. This option will allow students to obtain a hard copy of their grades for the semester just ended.

A call out feature was created and implemented in conjunction with the closed class reporting the I-TEL-UNM office is doing for Dr. David Stuart. (See Reporting Section). This call out feature will call students and inform them of newly created sections or increased section capacity. This is only one of many applications which this feature makes available. We could place calls to any group of students for any purpose. Calls can be placed to remind students that tuition is due, or to inform them of upcoming events such as elections, graduation etc...

Graduate Student elections were added to I-TEL-UNM in the spring semester. This is a special event application which is only available during the election period. This application will allow graduate and professional students to vote for GPSA President, constitutional amendments and budget issues via I-TEL-UNM. The results from the election are available almost immediately and are delivered the GPSA election committee the first business day following the election, which is much quicker than the previous process.
Branch Campuses:

Los Alamos came onto the I-TEL-UNM system for the Fall of 1995. Valencia and the Santa Fe Branches came onto the system for the Summer of 1996, and the Taos Educational Center came onto the system this summer for Fall of 1996. Gallup is expected to come on board next spring (1997) for the Fall of 1997.

New Reporting Process

Each call which is placed to I-TEL-UNM is tracked and stored. From the call information we are able to track each selection a caller makes, what data was input, what data was being output and what information was spoken back to the caller.

In the Spring of 1996 several reports were written to extract registration transactions from I-TEL-UNM. These reports show how many students tried to register for closed classes, which classes had the highest number of students closed out (highest demand), which students were able to enroll in other sections of the same class, etc... Dr David Stuart has been using these reports in conjunction with the academic departments to assist in academic planning and subsequent scheduling of classes.

We have also built our own MS Access database to which we can download this call information and track any call by student ID number rather than having to do searches by day of call.

Miscellaneous

With the remodel of the Registration Center we now have a secure and climate controlled computer room to house all the I-TEL-UNM computers and equipment. Also due to the remodel, but more because of the success of I-TEL-UNM we have added 4 outside lines and decreased our in-house phone bank to just 6 lines.

Projects for academic year 1996-97

We are currently working a Financial Aid application which will allow callers to obtain information on their financial aid application status, whether it be missing documents or actual aid awarded.

We are also planning some script code enhancements which will not affect any of the current applications, but they will make it easier to maintain the system.

New applications will be designed as they are requested.
Fred Chreist, Jr.
Registrar
1993-95, Chair, College Scholarship Council
1993-95, Trustee, The College Board
Consultant with Commission on Higher Education
UNM Representative, CEEB, CSS
Member, AACRAO, NASPA, NASFAA
Member various Regional and State Associations

Maureen Miller
Associate Registrar
AACRAO - member, presenter at national conference
RMACRAO - Executive Committee - 1994-96 Regional President
- 1994 Program Committee Chair
- 1993-94 President-Elect
- 1990-93 Treasurer
- 1990 Local Arrangements Committee
NMACRAO - member, past Vice President
ARMA - American Records Managers Association
State Coordinator "FAX" for Transcripts

Jep Choate
Enrollment Research Analyst
Member, AACRAO
Member, AIR (Association of Institutional Researchers)
Attended AIR 1995 Annual Forum, Boston
Registration co-chair, AIR 1996 Annual Forum, Albuquerque

Lois Griesbaum
Analyst Programmer
Member, CUMREC (College and University Computer Users)
Pursuing MBA at UNM
Attended SAS Programming Workshop
Kathleen Sena
Assistant Registrar

Professional Activities
DARS Basic Encoders Training Session - October 1995
Pacific Coast Association of Physical Plant Administrators
   Education Conference - September 1995
EPOS Users Conference - June 1996
DARS Users Conference - June 1996
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<td>Programmer III</td>
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**PROMOTED/RECLASSIFIED WITHIN REGISTRAR'S OFFICE:**

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**TRANSFERRED/PROMOTED ELSEWHERE AT UNM:**

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<td>08/10/95</td>
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<td>Assistant Director, Student Exchange Program</td>
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1. Continue implementation of UNM Degree Audit System (Project PROGRESS).

2. Continue LOBO CARD Project, with the badging of all students, faculty, and staff for the entire Albuquerque campus. Expand services available under the new LOBO CARD.

3. Continue expansion of I-TEL-UNM. New applications include Admissions, Financial Aid, Dean of Students, and others.

4. Plan, organize, and implement the Records and Registration Office remodeling.

5. Continue to work on Professional Development, Staff Development, and Cultural Awareness Programs.

6. Improve service through staff training and the use of new technology and new processes.

7. Plan, organize, and implement the reorganization of Registrar’ Office.

8. Continue to expand on-line such as On-line Scheduling Project.

9. Implement print-on-demand diploma production in-house to improve student service.

10. NCAA Reporting (Develop software apps to implement NCAA reporting requirements).
# APPENDIX

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- Definitions
- General Enrollment Statistics - Main Campus
  - Headcount, Student Credit Hours & FTE - 1991 - 1995
  - Headcount by Classification - 1991 - 1995
  - Headcount by Ethnicity and Gender - Fall 1991 to Fall 1995
- Beginning Freshmen Experience
  - Beginning Freshmen - Headcount & Ethnic - Fall 1991 to Fall 1995
  - Beginning Freshmen - 20 year comparison by county
- Degrees Awarded - Main Campus
  - UNM-Main Campus 10 year Comparison
- General Enrollment Statistics - Graduate Centers/Branches
  - Headcount, Student Credit Hours, FTE & Avg. Load
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<td>American Association of collegiate Registrars and Admissions Officers</td>
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<td>National Association of Student Financial Aid Administrators</td>
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**VRU Statistics Academic Year 95-96**

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<td>0</td>
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<tr>
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<td>0</td>
<td>4,138</td>
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<td>3,623</td>
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<td>56,341</td>
<td>317,710</td>
<td>262,524</td>
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**calls and transactions for April 1996 include those calls and transactions made during the Summer 96 & Fall 96 pre-registration period**
UNM Main Campus
Enrollment Statistics

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<th></th>
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<td>24,537</td>
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Additional information about the enrollments for the semesters depicted above may be obtained from the Official Enrollment Reports for the given semesters by contacting the Registrar's Systems Team Office at 277-6419.
## UNM MAIN CAMPUS HEAD COUNT ENROLLMENT
### By Race/Ethnicity and Student Classification

#### Fall 1980

<table>
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<tr>
<th>Student Classification</th>
<th>American Indian</th>
<th>Black Non Hispanic</th>
<th>White Non Hispanic</th>
<th>Foreign</th>
<th>Total</th>
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<tbody>
<tr>
<td>Undergrad/Non-Degree</td>
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<td>516</td>
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<tr>
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<tr>
<td>Med School</td>
<td>6</td>
<td>10</td>
<td>4</td>
<td>60</td>
<td>218</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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<td><strong>209</strong></td>
<td><strong>428</strong></td>
<td><strong>4,858</strong></td>
<td><strong>15,611</strong></td>
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#### Fall 1985

<table>
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<th>White Non Hispanic</th>
<th>Foreign</th>
<th>Total</th>
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#### Fall 1990

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<tr>
<td>Undergrad</td>
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<td>342</td>
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<td>10,548</td>
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<td>Non-Degree</td>
<td>96</td>
<td>73</td>
<td>80</td>
<td>608</td>
<td>3,029</td>
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<tr>
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<td>57</td>
<td>48</td>
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<tr>
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<td>6</td>
<td>88</td>
<td>204</td>
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<tr>
<td>Med School</td>
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<td>3</td>
<td>47</td>
<td>214</td>
</tr>
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#### Fall 1991

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<tbody>
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### UNM MAIN CAMPUS HEAD COUNT ENROLLMENT

By Race/Ethnicity and Student Classification (cont.)

#### Fall 1992

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<th>Foreign</th>
<th>Total</th>
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<td>3</td>
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<td>2.1%</td>
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<th>Total</th>
<th>Foreign</th>
<th>Total</th>
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<td>391</td>
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#### Fall 1995

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# Headcount by Ethnicity & Gender

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</tr>
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<td>328</td>
<td>362</td>
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</tr>
<tr>
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<td>538</td>
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<td>664</td>
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<tr>
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<td>8,773</td>
<td>8,615</td>
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<tr>
<td>Total Headcount</td>
<td>16,934</td>
<td>16,801</td>
<td>16,553</td>
<td>15,729</td>
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<tr>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Male</td>
<td>424</td>
<td>462</td>
<td>455</td>
<td>441</td>
<td>436</td>
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</tr>
<tr>
<td>Female</td>
<td>225</td>
<td>250</td>
<td>280</td>
<td>242</td>
<td>251</td>
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<tr>
<td>Total Headcount</td>
<td>649</td>
<td>712</td>
<td>735</td>
<td>683</td>
<td>687</td>
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</tr>
<tr>
<td>No Response</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Male</td>
<td>26</td>
<td>34</td>
<td>72</td>
<td>133</td>
<td>205</td>
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<tr>
<td>Female</td>
<td>30</td>
<td>36</td>
<td>82</td>
<td>146</td>
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<td>70</td>
<td>154</td>
<td>279</td>
<td>414</td>
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<tr>
<td>Total</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>11,604</td>
<td>11,559</td>
<td>11,516</td>
<td>10,864</td>
<td>10,784</td>
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<tr>
<td>Female</td>
<td>13,405</td>
<td>13,576</td>
<td>13,818</td>
<td>13,480</td>
<td>13,647</td>
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<td>25,135</td>
<td>25,334</td>
<td>24,344</td>
<td>24,431</td>
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</tbody>
</table>

Comment: All ethnic groups experienced enrollment increases in Fall 1995 except White, Non-Hispanic. The "No Response" category is on the increase.
## Beginning Freshmen Class Profile

### Headcount

<table>
<thead>
<tr>
<th>Year</th>
<th>Fall 1991</th>
<th>Fall 1992</th>
<th>Fall 1993</th>
<th>Fall 1994</th>
<th>Fall 1995</th>
</tr>
</thead>
<tbody>
<tr>
<td>Count</td>
<td>1,792</td>
<td>1,758</td>
<td>1,926</td>
<td>1,819</td>
<td>1,819</td>
</tr>
<tr>
<td>% Change prior Fall semester University College</td>
<td>-3.19%</td>
<td>-1.90%</td>
<td>9.56%</td>
<td>-5.56%</td>
<td>0.00%</td>
</tr>
</tbody>
</table>

**Comment:** No change in headcount in Fall 1995 compared to Fall 1994. Fall figures include summer beginning freshmen who returned in the fall. Phase One of the increased admission requirements were implemented Fall 1995.

### Ethnic Distribution

**Excludes Beginning Non-Degree**

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Fall 1991</th>
<th>Fall 1992</th>
<th>Fall 1993</th>
<th>Fall 1994</th>
<th>Fall 1995</th>
<th>Percent Change From Fall 1994</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
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<td></td>
<td></td>
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<td>Headcount</td>
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<td>72</td>
<td>86</td>
<td>93</td>
<td>68</td>
<td>-26.88%</td>
</tr>
<tr>
<td>Percent</td>
<td>4.58%</td>
<td>4.10%</td>
<td>4.47%</td>
<td>5.11%</td>
<td>3.74%</td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>Headcount</td>
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<td>45</td>
<td>59</td>
<td>54</td>
<td>59</td>
<td>9.26%</td>
</tr>
<tr>
<td>Percent</td>
<td>2.12%</td>
<td>2.56%</td>
<td>3.06%</td>
<td>2.97%</td>
<td>3.24%</td>
<td></td>
</tr>
<tr>
<td>Asian</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>47</td>
<td>75</td>
<td>70</td>
<td>78</td>
<td>11.43%</td>
</tr>
<tr>
<td>Percent</td>
<td>2.34%</td>
<td>2.67%</td>
<td>3.89%</td>
<td>3.85%</td>
<td>4.29%</td>
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</tr>
<tr>
<td>Hispanic</td>
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<td></td>
</tr>
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<td>604</td>
<td>606</td>
<td>636</td>
<td>591</td>
<td>611</td>
<td>3.38%</td>
</tr>
<tr>
<td>Percent</td>
<td>33.71%</td>
<td>34.47%</td>
<td>33.02%</td>
<td>32.49%</td>
<td>33.59%</td>
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</tr>
<tr>
<td>White, Non-Hispanic</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Headcount</td>
<td>998</td>
<td>960</td>
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<td>969</td>
<td>954</td>
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</tr>
<tr>
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<td>54.61%</td>
<td>54.05%</td>
<td>53.27%</td>
<td>52.45%</td>
<td></td>
</tr>
<tr>
<td>Foreign</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Headcount</td>
<td>25</td>
<td>27</td>
<td>19</td>
<td>26</td>
<td>21</td>
<td>-19.23%</td>
</tr>
<tr>
<td>Percent</td>
<td>1.40%</td>
<td>1.54%</td>
<td>0.99%</td>
<td>1.43%</td>
<td>1.15%</td>
<td></td>
</tr>
<tr>
<td>No Response</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Headcount</td>
<td>3</td>
<td>1</td>
<td>10</td>
<td>16</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Percent</td>
<td>0.17%</td>
<td>0.06%</td>
<td>0.52%</td>
<td>0.88%</td>
<td>1.54%</td>
<td></td>
</tr>
</tbody>
</table>

**Total Headcount**

<table>
<thead>
<tr>
<th>Count</th>
<th>1,792</th>
<th>1,758</th>
<th>1,926</th>
<th>1,819</th>
<th>1,819</th>
<th>0.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent</td>
<td>100.00%</td>
<td>100.00%</td>
<td>100.00%</td>
<td>100.00%</td>
<td>100.00%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

**Comment:** Asian, Black and Hispanic beginning freshmen headcount increased in Fall 1995. All other ethnic groups declined.
UNM BEGINNING FRESHMEN BY COUNTY
COUNTY
~LILLO

@RON
CHAVES
CIBOLA
COLFAX
CURRY
DEBACA
fOONAANA

FA~~

FA~L

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IOUAY
RIO ARRIBA
ROOSEVELT
SANDOVAL
SANJUAN

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FALL
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36
3

•Beginning Freshmen in University College or General College FR •Beginning Freshmen in University College or General College FROMNM ONLY
Source: UNM- Registrar's Office/Systems Team

FA~L

FA~~

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1995
891
3
10
13
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42
1 423

49
. 1330


Preparation of Beginning Freshmen at UNM Has Improved

Percent Entering by Preferred Rigorous High School Curriculum

<table>
<thead>
<tr>
<th>Year</th>
<th>American Indian</th>
<th>Black Non Asian/PI</th>
<th>Black Non Hispanic</th>
<th>White Non Hispanic</th>
<th>Total</th>
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</tr>
<tr>
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<tr>
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<tr>
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<td>56.1</td>
<td>27.1</td>
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<td>43.7</td>
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<tr>
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</tr>
<tr>
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<td>65.1</td>
</tr>
<tr>
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<td>58.5</td>
<td>64.9</td>
<td>71.7</td>
</tr>
<tr>
<td>1991</td>
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<td>70.7</td>
<td>61.1</td>
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<td>72.9</td>
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<td>1992</td>
<td>74.3</td>
<td>91.7</td>
<td>60.0</td>
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<td>75.9</td>
</tr>
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<td>1993</td>
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<td>74.7</td>
<td>66.7</td>
<td>80.9</td>
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<tr>
<td>1994</td>
<td>68.9</td>
<td>78.6</td>
<td>64.0</td>
<td>83.1</td>
<td>82.0</td>
</tr>
<tr>
<td>1995</td>
<td>68.2</td>
<td>81.1</td>
<td>72.9</td>
<td>82.1</td>
<td>82.1</td>
</tr>
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</table>

Average Number of "Plan A" High School Units

<table>
<thead>
<tr>
<th>Year</th>
<th>American Indian</th>
<th>Black Non Asian/PI</th>
<th>Black Non Hispanic</th>
<th>White Non Hispanic</th>
<th>Total</th>
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<tbody>
<tr>
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<td>13.9</td>
<td>12.1</td>
<td>13.3</td>
<td>13.9</td>
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<tr>
<td>1984</td>
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<td>13.8</td>
<td>12.4</td>
<td>13.7</td>
<td>13.8</td>
</tr>
<tr>
<td>1985</td>
<td>13.8</td>
<td>15.3</td>
<td>13.7</td>
<td>13.8</td>
<td>14.2</td>
</tr>
<tr>
<td>1986</td>
<td>14.0</td>
<td>15.4</td>
<td>13.3</td>
<td>14.0</td>
<td>14.3</td>
</tr>
<tr>
<td>1987</td>
<td>14.5</td>
<td>15.5</td>
<td>13.5</td>
<td>14.7</td>
<td>14.9</td>
</tr>
<tr>
<td>1988</td>
<td>14.7</td>
<td>15.1</td>
<td>14.0</td>
<td>14.9</td>
<td>15.0</td>
</tr>
<tr>
<td>1989</td>
<td>14.9</td>
<td>15.3</td>
<td>14.6</td>
<td>14.9</td>
<td>15.1</td>
</tr>
<tr>
<td>1990</td>
<td>14.4</td>
<td>14.7</td>
<td>14.2</td>
<td>14.3</td>
<td>14.7</td>
</tr>
<tr>
<td>1991</td>
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<td>14.7</td>
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<tr>
<td>1992</td>
<td>14.2</td>
<td>15.1</td>
<td>14.1</td>
<td>14.5</td>
<td>14.6</td>
</tr>
<tr>
<td>1993</td>
<td>14.9</td>
<td>15.3</td>
<td>14.6</td>
<td>15.1</td>
<td>15.1</td>
</tr>
<tr>
<td>1994</td>
<td>14.4</td>
<td>14.9</td>
<td>13.9</td>
<td>15.0</td>
<td>15.0</td>
</tr>
<tr>
<td>1995</td>
<td>13.5</td>
<td>13.5</td>
<td>13.5</td>
<td>13.7</td>
<td>13.5</td>
</tr>
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</table>

Source: Comparison of Characteristics of Beginning Freshman Cohorts With Respect to the 1983 Admission Policy, Planning and Policy Studies
Preparation of Beginning Freshmen at UNM Has Improved

Average High School Grade Point Average

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Source: Comparison of Characteristics of Beginning Freshman Cohorts With Respect to the 1983 Admission Policy, Planning and Policy Studies
Preparation of Beginning Freshmen at UNM Has Improved

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Source: Comparison of Characteristics of Beginning Freshman Cohorts With Respect to the 1983 Admission Policy, Planning and Policy Studies
# Degree Summary - Main Campus Only

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* Includes Foreign and No Response

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* Includes Foreign and No-Response
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### White/Non-Hispanic

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Note: The degrees awarded in the tables above include retroactive changes up to September 10, 1993. Prior to 1988 certificates were not entered on the database and are excluded from the tables.
### Graduate Centers/Branches

**Headcount, Student Credit Hours, FTE & Average Load**

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<th>Total Grad Centers and Branches</th>
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### Grand Total

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<td>30,930</td>
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TESTING CENTER

MISSION

To provide standardized academic testing services for UNM students, faculty and staff.

To provide standardized testing services for the community as a whole.

MAIN FUNCTIONS

• Manages the standardized tests which are required by many students in the course of their academic programs for such purposes as admission and placement.
• Provides the standardized tests required by some community groups (e.g. teachers) for their continued education, certification or accreditation.

In 1996, the Center offered services for 53 different tests, including, for example, ACT, GRE, LSAT, MCAT, Miller Analogy, NTE, PPST, and GMAT.

STAFF

Director (Archie Grine)
5 Technical and Support Staff
35 “on-call” staff (part-time, temporary)

SERVICE GROUPS

• Students
• Faculty
• Staff
• Community Members

In 1996 the UNM Testing Center served over 7,000 examinees.
RECENT ACCOMPLISHMENTS & CURRENT INITIATIVES

* Restructuring unit and its functions to maximize efficiency and make savings:
  • some functions transferred (e.g. to CIRT)
  • some positions combined
  • technical training of staff upgraded
* Implemented Computer Adaptive Testing (CAT) for Math Placement Test
* Developed a Web Page to provide up-to-date information on test dates, etc.
* Developed an on-line training module for on-call proctors

CURRENT CONCERNS
Testing nationally is in the midst of a major transition from the traditional paper-&-pencil mode to computer-based testing (CBT). This combines with the internally imposed mandates to improve quality and efficiency while making budget cuts to drive major changes in the Center. These include, for example, the purchase of hardware and software and the upgrading of the technical skills of staff members.

Tests which will move to an exclusively CBT mode in the immediate future are: GMAT (1997); TOEFL (1998); GRE (1999).

LONG RANGE PLANS
• Purchase at least 5 more computers
• Offer some evening as well as week-end testing
• Explore the opportunities offered by CBT for revenue generation
THE OFFICE OF UNDERGRADUATE STUDIES

MISSION

To apply the academic regulations of the University concerning eligibility, probation and suspension for all degree seeking undergraduates who have been admitted to the University, but not yet met the qualifications for admission into a degree granting program.

To advise students on their course of study as they work toward meeting the requirements for admission into their degree programs.

To assist undecided students as they explore academic options in search of a major that is compatible with their life goals and abilities.

To provide special assistance for students in academic difficulties and to help them become successful.

MAIN FUNCTIONS

- Provides reliable, personalized academic advisement for undergraduate students
- Helps undecided students focus on a major
- Prepares students to transfer to a degree granting college in a timely manner
- Applies the University regulations in regards to probation, suspension and eligibility
- Individual management of the academic programs of students in academic difficulty (probation and suspension)
- Provides individualized academic advisement for new freshmen
- Assists advanced standing students and Non-traditional students in meeting the admission requirements for their degree granting college
- Manages and advises all students required to take Introductory Studies courses

STAFF

Manager, Academic Advisement (Andrea C. Padilla)
5 full-time academic advisors, 1 part-time academic advisor
2 clerical/support staff
5 student staff positions
SERVICE GROUPS

• Degree seeking undergraduate students admitted to UNM but not yet admitted to a College
  * In the Fall Semester of 1996-7 there were 5,286 students in this category
• All undergraduate academic units: Colleges, Schools, Departments and programs
• Other Academic Service Units, especially the Registrar’s Office, the Admissions Office and CIRT
• Freshmen Orientation Office
• Student Services Centers
• Potential transfer students at Branches and two-year institutions

RECENT ACCOMPLISHMENTS

* Reorganization – focus on personalized service, student success, staff accountability
* Development of paperless advising system to allow more advisor time for individualized attention
* Developed new Transfer process – more efficient for students and staff
* Moved into same building as other Academic Service Units – student convenience
* Developed WEB Page
  * In the two months following its introduction (Nov. 1996) it had over 1,000 “hits”
* Developed Probation/Retention project
  * (Fall ’96 probation rate 6%)
* Participation in Transfer Day, Evening and Weekend Special Inf./Admissions sessions, UNM scholarship selection committees, selection and training of New Student Orientation leaders, Special admissions committees, on-site advisement at UNM Branches, T-VI and Santa Fe Community College
* Development of New Student Guide to assist with retention and recruitment
* Development of Advisor Training Manual and Student Services Manual
  * In 1996, this staff in this unit conducted over 14,000 individual, face-to-face academic advisement sessions with students.

CURRENT INITIATIVES

• Implementation of new categories for managing students & their individualized review and management
• Participation in infrastructure development e.g. Project PROGRESS, SIS
• Continued development of Web Page – e.g. on-line new student handbook, study-guide
• Assisting other colleges with advisor training and paperless office development
• Assisting other colleges and departments in the development of retention projects
• More realistic advisement approaches in major choice/selection
• Emphasizing student and staff accountability in advisement issues
CURRENT CONCERNS
• Student preparedness for college
• Student retention
• Effect of Financial Aid/Scholarships on academic scheduling
• Electronic infrastructure – having a paperless office and using student on-line records as the main resource means acute dependence on central and office computing capacity and network speed and reliability
• Efficiency of College transfer process, College deadlines and information systems
• Reliable system of communication with students – problems with paper mail
• Impact of Core Curriculum on availability of classes, student schedules & retention
• Staff safety and security

LONG RANGE PLANS
• Distance advising using face-to face Web links
• Consolidation of advisement efforts
• More cross-training with closely related Academic Services Units (Admissions and Registrar)
• Training of Branch Advisors
• Development of college requirement manuals for advisors including at Branches.
• Development of special project to catch students on a “downward trend” before they are put on probation.
VETERANS AFFAIRS

MISSION
To provide the services required by UNM students who are eligible for Veterans Benefits.
To act as liaison between UNM and the various local, State and Federal entities which provide Veterans benefits and services.
To assist UNM’s student Veterans in their transactions with these entities.

MAIN FUNCTIONS
• Certifies student eligibility for VA educational benefits
• Provides orientation for student Veterans
• Evaluates military credits
• Advises students about Federal regulations concerning VA educational benefits
• Provides general information and referrals for student Veterans about campus services and programs

STAFF
Administrator (Lucille C. Hill)
4-6 Student Veteran staff

Ms. Hill recently received an Award from the VA for UNM’s low error rate.

SERVICE GROUPS
• UNM student Veterans
• Local, State and Federal entities involved with VA programs and services
• UNM’s Academic Services Units and other campus offices

Average number of students served each year is 750-800

RECENT ACCOMPLISHMENTS & CURRENT INITIATIVES
* Improved relationships with certifying officers and Branches and T-VI
* Faster processing of paperwork for students transferring from Branches and T-VI
* 90% of student files now classified as “auditor-friendly” by VA
* Electronic transfer of VA educational benefit information to Financial Aid Office
* Securing approval to initiate VA Electronic Certification Program

CURRENT CONCERNS
• Keeping up-to-date with constantly changing Federal Regulations
• Providing open, available, personalized services for student Veterans

LONG RANGE PLANS
• Implementing the VA Electronic Certification Program to provide better service:
  • shorten turn-around time for receipt of VA funding for students
  • reducing errors in certification process
• Goal: 100% of student files classified as “auditor friendly” by VA by end of 1997
COLLEGE OF ARTS AND SCIENCES

ANNUAL REPORT

July 1, 1995 - June 30, 1996

MICHAEL R. FISCHER, INTERIM DEAN
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<td>III. Recent Major Developments in the College of Arts and Sciences</td>
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I. OVERVIEW

The 1995-96 academic year in the College of Arts and Sciences saw slight decreases both in the head count of students enrolled and in student credit hours recorded, contrary to the trend of the past three years.

Three departments (English, Mathematics and Statistics, and Psychology) successfully completed external reviews of their graduate programs and several other departments began preparing for similar reviews scheduled for completion during the 1996-97 Academic Year.

The ranks of the tenure-stream faculty in the College increased by a net of twenty as twenty-seven new faculty were hired and seven resigned or retired. Funds budgeted for the College in the Spring of 1996 were sufficient to yield only a 2.00% average salary increase for faculty returning in 1996-97. Although all funds available to the College for 1996-97 exceed funds available in 1995-96, this increase is insufficient to support other aspects of the College's operations which remain seriously underfunded.

II. ADMINISTRATION

The College's administration in 1995-96 remained essentially the same compared to 1994-95. William C. Gordon, Dean, appointed Kathryn Vogel, Peter White and Kenneth Frandsen as Associate Deans. Associate Deans of the College accepted individual responsibilities similar to those identified in annual reports covering the previous two years.

Associate Dean Peter White assumed responsibility for the College's student advisement effort and for validation of curriculum changes and graduation requirements. He continued to serve as the College office's liaison with the College's Undergraduate Education Committee and with the College's Graduate Education Committee, and provide oversight of the various scholarly publications that the College supports.
Associate Dean Kenneth Frandsen continued to provide assistance and information concerning Affirmative Action and Equal Opportunity policies and data sources, liaison with the Equal Opportunity Programs and Faculty Contracts offices, and oversight of search and screening efforts in conjunction with the appointment of regular and temporary part-time faculty in the departments of the College, in the Women Studies Program and in the General Honors Program. Also, he served as Area Coordinator for the College’s participation in the University United Way Campaign.

Associate Dean Kathryn Vogel assumed responsibility for various aspects of College administration related to faculty, particularly oversight of the process by which files of individuals being considered for promotion and tenure are prepared, received and reviewed at the College level. Also, she administered requests for sabbatical leaves, the allocation of College funds to support special faculty travel and the allocation of funds to support visiting lecturers and the expenses of professional publications. Christine Kozojet continued to serve as Development Officer in the College of Arts and Sciences.

New Chairpersons were appointed for AY 1995-96 in Anthropology (Marta Weigle), Biology (Terry Yates), Geography (Paul Matthews), History (Richard Robbins) and Linguistics (Garland Bills). At the beginning of Semester II of the 1995-96 AY, William C. Gordon was appointed Provost/Vice President for Academic Affairs and Michael R. Fischer was appointed Interim Dean. Also at mid-year a new Chairperson was appointed in Chemistry (Fritz Allen) and an Interim Chairperson was appointed in English (Robert Fleming).
III. RECENT MAJOR DEVELOPMENTS IN THE COLLEGE OF ARTS AND SCIENCES

Teaching Enhancement Initiatives

Working closely with David Stuart, Associate Vice President for Academic Affairs, Arts and Sciences departments have begun trying to make course schedules more responsive to student demand. We now can track students who attempt to enroll in closed course sections but fail. To accommodate these students, departments are raising class caps and adding course sections when appropriate; trying to schedule classes at the most advantageous times; finding larger rooms for popular class sections; eliminating underenrolled classes and reassigning faculty to courses more in demand. These scheduling adjustments result from meetings that include Dr. Stuart, the Dean, the department Chair, and anyone else involved in scheduling (such as an Associate Chair or staff assistant). The aim is to make Arts and Sciences scheduling more accountable to enrollment pressures.

Research Enhancement Initiatives

Our College continues to support faculty and student research programs by providing equipment and computer funds to newly hired faculty, by providing matching funds for faculty who submit research grant proposals, and by supporting the establishment of collaborative research centers and institutes within the College. The College also supports several professional journals involving disciplines within the Arts and Sciences, it regularly sponsors regional and national research meetings on the campus, and it provides travel funds for faculty attending professional research meetings elsewhere. In addition, the College’s Research Semester Program continues to support the research activity of some of our most capable researchers in a variety
of disciplines. Through a highly-competitive proposal process, the College grants a research semester to two or three faculty each semester. These faculty are released from all formal teaching and service responsibilities during the designated semester and are expected to devote their time exclusively to their research activities and to the mentoring of undergraduate and graduate students who are themselves engaged in research. The program not only fosters the research programs of the faculty selected, it also to increases the involvement of our students in sophisticated research.

Major Research Developments

The creativity and productivity of Arts and Sciences faculty in combination with the College’s support for research efforts has produced a significant increase in highly visible research activities and programs over the past year. In fiscal year 1995, for example, Arts and Sciences faculty members received grant and contract awards totalling $18,967,823. This figure represents a 37% increase over total awards received in fiscal year 1993. It is notable that the total awards for fiscal year 1995 cited above include only those awards to support work carried out exclusively within the College. Additional awards totalling more than 20 million dollars were garnered by Arts and Sciences faculty conducting research in cross-college, interdisciplinary research units. Thus, Arts and Sciences faculty were responsible for obtaining approximately 39 million dollars in grant and contract awards during fiscal year 1995.

Enhancement of Undergraduate Educational Programs

Over the past few years the College has made significant progress in enhancing the quality of the educational experience it offers to its undergraduate students. Our efforts in this area have
focused on the improvement of undergraduate teaching, the expansion of educational and advisement programs and the enhancement of the instructional and laboratory equipment that is available to our students. Our efforts to improve undergraduate instruction have been described above. What follows are some of the steps we have taken in the development of programs and in the improvement of instructional and laboratory equipment.

New Academic Programs/Curriculum Enhancement

The College continues to work on strengthening its disciplinary Honors programs. In Spring 1996, Associate Dean Peter White reviewed the Honors programs in the College, detailing their prerequisites, their criteria for awarding Honors, and their goals. His report should help us better coordinate departmental Honors programs and enable different departments to be a resource for one another. In addition, we have begun working with Rosalie Otero, Director of the General Honors Program, to see how we can improve collaborations between General Honors and disciplinary honors programs.

Enhancing Graduate Educational Programs

One of the College's highest priorities remains strengthening its graduate programs. In addition, the following initiatives have been undertaken. Toward this end, 16 new TA lines were allocated to the College and all GA/TA salaries recorded a 7% increase.

IV. AFFIRMATIVE ACTION

The College continued its efforts to increase the cultural and gender diversity among its faculty during the 1995-96 AY. Consistent with Regents' policy concerning diversification
of search committee membership, several of the members of search committees were from ethnic groups currently underrepresented in the faculty and many of the search committee members were female.

Appointments resulting from conventional searches, conducted during AY 1995-96, added twenty-five new faculty to the College of Arts and Sciences ranks for AY 1996-97, twelve females and thirteen males, including one Hispanic female, and two Hispanic males. Of the seven separating faculty, none are female and none are members of protected groups. Special recruiting efforts, outside the framework of conventional searches, identified one Hispanic female and another male who will begin their appointments during AY 1996-97.

During AY 1995-96, the College continued efforts to ensure equity within the faculty salary structure for members of underrepresented groups and to provide support to those faculty for the purpose of career development at the individual level. These efforts to nurture and develop faculty already at UNM will continue during AY 1996-97.

V. RESEARCH AND SCHOLARLY ACTIVITY

The scholarly and creative achievements of Arts and Sciences faculty that resulted in published works during 1995 are thoroughly documented in the annual volume of Faculty Publications and Creative Works issued by the Office of the Associate Provost for Research. The level of activity both in grant expenditures and new grant awards increased in AY 1995-96 compared to AY 1994-95 as detailed in Table 10.
VI. TEACHING

Summary data on various aspects of the College’s teaching efforts are presented in Tables 5, 6, 7, 8, and 9. Although classrooms with a better profile of capacities continue to be a requisite for improved efficiency of instructional delivery, the College’s numerical productivity has declined only slightly, especially with respect to enrollments in courses offered during evening and weekend hours. This decline is particularly notable in view of only a slight increase in the total FTE budgeted faculty for AY 1995-96 compared to AY 1994-95, as detailed in Table 4. However, our analysis indicates that, in the context of student demand, the College instructional efforts are seriously understaffed, especially in the category, graduate teaching assistants.

VII. SPECIAL PROJECTS AND FUNCTIONS

Advisement and Record Center

Under the supervision of the Associate Dean for Student Academic Affairs, Peter White, the College Advisement Center admits students to the College, advises them and monitors their academic performance (including placing students on probation or suspending them if necessary), and certifies them for graduation. Each year, advisors conduct 20,000 personal advisement sessions and handle another 15,000 telephone inquiries.

The Center is open from 8 am until 5 pm Monday through Friday, including the lunch hour. In addition, advisors assist with new admittees and transfer students on Saturdays and after hours. For the coming academic year, the Advisement Center will offer appointments with individual advisors before 10 AM and after 3 PM. Additionally, all Arts and Sciences athletes will now be required to make an appointment with an advisor in Arts and Sciences and report to athletic advisement to confirm that the appointment was kept.
In addition to routine matters, the Center handles all student petitions for waivers and the first steps in grievance procedures. Advisors are responsible for all pre-professional advisement. The Health Sciences Advisory Committee screens dossiers and interviews candidates for admission to medical and dental school. This committee, consisting of two professional advisors, a faculty member each from Chemistry, and the Associate Dean, writes official College letters of recommendation for those applicants who request them. This year, the Associate Dean wrote 68 such letters. With the advice of the Dean of Arts and Sciences and in consultation with the Provost and chairs in the science departments, the Associate Dean has decided to discontinue the Health Sciences Advisory Committee because the College office can no longer afford to expend so much time and energy on this endeavor, which had grown from 8 students in the late 1980’s to 68 by 1995-96. Instead, the Associate Dean plans to make greater efforts in advising pre-med students, including conducting some mock interviews and meeting regularly with the pre-med club.

Two major initiatives have involved the College Advisement Center this year. The advisors are assisting Kathleen Sena, Assistant Registrar, in implementing the Computerized Degree Audit System--DARS. Each week for one hour the advisors meet with Ms. Sena to clarify the rules and academic regulations in the College of Arts and Sciences so that Ms. Sena may encode the DARS project for our College. Second, the Advisement Center received ten 386 computers from Jan Roebuck, Associate Provost and Director of Undergraduate Studies, which were installed in the Arts and Sciences Advisement Center to help us make the transition to a so-called "paperless" advising system. This system will be slowly introduced into Arts and Sciences beginning in the summer of 1996, which means that perhaps by the following year all Arts and
Sciences students will have their records on the computer and not in paper files. The advisors will be using the computers to provide more consistent and efficient advising. The same computers will also modernize Freshman Orientation advising.

The advisors in Arts and Sciences took a greater role in Summer Freshman Orientation this year by training the group leaders to advise students and by observing their presentations to Freshmen in the evenings before the actual registration and advisement sessions. The Freshman students were brought over to Ortega Hall by the group leaders on the morning of registration. An advisor in Arts and Sciences addressed them as a group in the morning, and then throughout the morning the students were brought to the Advisement Center where they met individually with the advisors in the advisors' offices. There, the advisor used the computer to check on availability of courses and then the advisor assisted the student in actually registering for classes using I-TEL UNM. In this way we have greater control over the student's first university schedule.

Ida Padilla, the new receptionist, has also helped in the record keeping in advisement by computerizing all the changes in College Curriculum which have been approved and which will be added to the next university catalog.

This year, the Associate Dean, at the request of the Dean, asked Jep Choate in the Records Office to do a computerized study of our recent graduates in Arts and Sciences to see typical patterns of enrollment for fulfilling group requirements and electives. The report, which was sent to the Provost and which will be distributed to the departmental chairs, illustrates that most of our graduates are taking a predictable spectrum of basic, core courses in seven of the eight areas of distribution. The study shows that students are getting a good, general, basic education in Arts
and Sciences courses. It also shows that they are weak in math and most often omit the math group, then the language group, followed by the fine arts group.

The Associate Dean also requested that the Records Office print out a list of all students’ GPAs in Arts and Sciences, and then he requested that the advisors call all students who are below 2.0 and offer special advisement in an effort to retain students through pro-active advisement. The Associate Dean then visited every undergraduate advisor in the various departments in Arts and Sciences and asked the departmental advisors to follow up by also writing or telephoning the students who have low GPAs. Overall, 220 students were identified as in academic trouble; the advisors in Arts and Sciences contacted 104 and helped at least 20 students to find avenues by which they could stay in school and improve their academic standing.

Additionally, this year the Arts and Sciences Advisement Center produced two newsletters and designed a brochure for the College of Arts and Sciences to be used in recruitment efforts.

One or more advisors and the Associate Dean participated in the following extra-mural or campus wide advising activities this year:

Welcome Back Days
Senior Day
New Faculty Orientation
Evening and Weekend Orientation Advisement
High School Visitation Day
African American Student Day
American Indian Student Day
Pre-Dental Reception
Spring Orientation for Freshman
Transfer Day
Star Scholar Reception
American Indian Graduation Ceremony
Advisors Networking Group
Academic Retention Meeting
American Indian Retention Meeting
College Enrichment Program
This year the advisors made multiple trips to the following campuses for advisement:

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

The advisement staff this year consisted of:

Peter White, Associate Dean  
Ida Padilla, Receptionist  
Julie Bustamante, Advisement Co-ordinator  
Monique Denzler, Advisement Co-ordinator  
Carolyn Beske, Advisor  
Mary Lawton, Advisor  
Leonor Lucero, Advisor  
Mary Lou Wilkerson, Advisor  
Susanna Sprague, Advisor

College of Arts and Sciences Graduate Committee

The College Graduate Committee consisted of the following individuals by department:

A&S Chair--Peter White  
American Studies--Ruth Salvaggio  
Anthropology--Carole Nagengast  
Biology--Howard Snell  
Chemistry--Tom Niemczyk  
Communication and Journalism--Ken Frandsen  
Communicative Disorders--Mary Oelschlaeger  
Earth & Planetary Sciences--John Geissman  
Economics--Stu Burness  
English--Gary Harrison  
Foreign Languages & Literatures--Walter Putnam  
Geography--Brad Cullen  
GPSA--Dawn Kaufman  
History--Daniel Feller  
Linguistics--Alan Hudson  
Mathematics & Statistics--K. Galicki
The Graduate Sub-committee on Curriculum, consisting of Ruth Salvaggio, Stu Burness, and Bernd Bassalleck, approved an Engineering and Math Certificate Program and has begun the approval process for a Masters Degree and Ph.D. in Latin American Studies. The committee also approved 13 Form Bs at the graduate level. Additionally Walter Putnam of Foreign Languages and John Lipski of Spanish and Portuguese surveyed graduate programs in Arts and Sciences in an effort to provide more and better channels for graduate students to complete the foreign language requirements.

The Graduate Sub-committee on Students, composed of Alan Hudson, Daniel Feller, and Florence Goulesque (student rep.), did not meet this year.

The Graduate Sub-committee on Faculty, composed of Gary Harrison, John Geissman, and Beverly Burris, met in the Fall and Spring Semesters and approved 36 sabbatical requests.

College of Arts and Sciences Undergraduate Committee

The College of Arts and Sciences Undergraduate Committee was composed of the following individuals by department:

A&S Chair--Peter White
American Studies--Charles Biebel
Anthropology--Jeff Froehlich
Biology--Don Natvig
Chemistry--Mark Ondrias
Communication and Journalism--Bob Gassaway
Communicative Disorders--Elayne Kessler
The Arts and Sciences Undergraduate Committee reviews requests from departments both within and outside the College for curricular degree changes that may impact one or more A&S departments. The Committee also discusses issues of undergraduate curriculum and concerns with instructional support and effectiveness. This year the Committee discussed a statistical study of the typical undergraduate's education in Arts and Sciences with Jep Choate, a program analyst with the University. Mr. Choate completed that study in June and it will be discussed with the Undergraduate Committee in the Fall of 1996. The Undergraduate Committee also discussed the Core Curriculum, the Computerized Degree Audit System, a proposal for a joint major in Latin American Studies and Computer Engineering, and approved giving elective credit to Psychology majors for Human Services 101. The Associate Dean also spoke with the Undergraduate Committee about problems which arise from giving credit for C minus work and from having GPA standards which vary from the university standard of 2.0.

The Sub-committee on Curriculum, composed of Charles Biebel, Steve Gregory, Cheryl Fresch, and Maya Elrick, approved 12 form Bs, a BA track in Psychology, a BA in Physics and
Astronomy, and minor revisions of several programs.

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

The criteria for inclusion on the Dean's List are a semester GPA of 3.75 or higher while enrolled for 12 or more credit hours with letter grades, and a cumulative GPA for UNM coursework of at least 3.25. In Fall 1995, 367 students achieved this honor; in Spring 1996 the number of students was 352. Students who met the criteria for inclusion on the Dean's List received a letter of appreciation and congratulations signed by Dean Fischer and Associate Dean White.

Human Subjects Committee

The College of Arts and Sciences Institutional Review Board (IRB) is one of the three IRBs at the University of New Mexico empowered by the U.S. Department of Health and Human Services and UNM to approve and certify all research using human subjects conducted by, for, or with faculty and students; the Arts and Sciences IRB is responsible for all human research conducted under the auspices of the Colleges of Arts and 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 while ensuring that subjects receive proper care and protection from research risk. 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.

The Arts and Sciences IRB, consisting of Mike McKee (Chairperson, Economics), Fall 1995 and Spring 1996, Beatrice Vigil (Secretary, Arts and Sciences), Hank Jenkins-Smith
(Political Science), Shannan Carter (Medical Center Counsel), and Edward Gilliland ISR), Harold Delaney (Psychology), Hillard Kaplan (Anthropology), and Richard Harris (Psychology) reviewed a total of 124 proposals from the following units: American Studies (5), Anthropology (9), Biology (3), Communication/Journalism (13), Communicative Disorders (8), Economics (11), History (1), Political Science (4), Psychology (55), Sociology (9), and other institutions (15). The majority of proposals were either ruled to be exempt from IRB review or received expedited approval from individual board members within two weeks of submission. Minutes of monthly meetings and records of the actions of the IRB are available in the Office of the Dean, College of Arts and Sciences.

**Summer Session**

The 1996 Summer session allocation to the College was only slightly more than that of 1995, as detailed in Table 12. Our support of unique summer programs - intensive language institutes, study abroad programs and field schools - continued.

**Travel and Special College Funds**

The College disbursed about $25,687 to faculty in the College for travel expenses to supplement the support provided by departments. It also distributed $13,036 to individual faculty to defray the costs of reprints of their scholarly work. In addition, the College provided $14,103 to departments to support honoraria for guest speakers. A summary of these distributions appears in Tables 13 and 14.

**Research Semester and Special Research Fund**

The College supported faculty research during 1995-96 through two programs. The
Research Semester Program permits faculty selected on a competitive basis to be relieved of formal teaching responsibilities for one semester. Faculty proposals are evaluated according to the merit of the proposed research as well as its potential benefit for graduate students. The A&S Special Research Fund provides funds to support the research and scholarly activities of individual faculty members. Faculty members may apply for up to $3,000, which may be spent over the course of a 12-month period.

Five faculty members received research semester awards during the 1995-96 academic year. Anthony Cardenas (Spanish and Portuguese) and Deborah Sulsky (Mathematics and Statistics) were selected from a pool of 11 applicants to receive this award for Fall semester, 1995; Byron Dieterle (Physics and Astronomy), Byron Lindsey (Foreign Languages and Literatures) and Erik Trinkaus (Anthropology) were selected from among 18 applicants to receive the award during Spring, 1996.

During 1995-96, the College expended $58,209 to support faculty research through the Special Research Fund. Of the 30 faculty members who applied for research support, 24 received funding for their projects. $18,200 was allocated to faculty in Anthropology; $4,000 to Communication and Journalism; $2,680 to Earth and Planetary Sciences; $4,630 to English; $2,000 Foreign Languages and Literatures; $9,330 to History; $5,500 to Mathematics and Statistics; $8,979 to Psychology; and $2,890 to Sociology.

<table>
<thead>
<tr>
<th>Department</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthropology</td>
<td>$18,200</td>
</tr>
<tr>
<td>Communication/Journalism</td>
<td>4,000</td>
</tr>
<tr>
<td>Earth &amp; Plan Sciences</td>
<td>2,680</td>
</tr>
<tr>
<td>English</td>
<td>4,630</td>
</tr>
<tr>
<td>For Lang &amp; Lit</td>
<td>2,000</td>
</tr>
<tr>
<td>History</td>
<td>9,330</td>
</tr>
<tr>
<td>Mathematics/Statistics</td>
<td>5,500</td>
</tr>
<tr>
<td>Psychology</td>
<td>8,979</td>
</tr>
</tbody>
</table>
As a joint mentoring effort of the Caucus and A&S, Kathryn Vogel (A&S, Biology) invited all recently hired women faculty to an early fall meeting designed to welcome them to the College and to provide a forum for expressing their concerns. Five of the eight new women faculty attended the meeting. Two senior women (Diana Robin, Chair, Foreign Languages and Literatures; Susan Tiano, Associate Chair, Sociology) were also invited to share their perspectives and experiences. After a lively discussion of such topics as publishing, the tenure process, departmental and university politics, and juggling professional and family commitments, the new women faculty were encouraged to attend the monthly meetings of the A&S Women’s Caucus as an ongoing route for addressing their concerns.

Under the leadership of Louise Lamphere (Anthropology), the Caucus enjoyed an active and successful year, while expanding its membership to encompass 64 women faculty representing the spectrum of A&S departments. The well-attended monthly meetings featured a variety of topics of interest to A&S women, including UNM 2000, Affirmative Action, family leave, partner hiring, the core curriculum, and the small number of faculty women in upper-level administrative positions. Invited speakers included Provost Mary Sue Coleman, President Richard Peck, and Dean Michael Fischer. The Caucus took pride in the fact that its nominee for the UNM Annual Research Lectureship, Kathryn Vogel, received this honor. A second achievement was that Dean Michael Fischer agreed to work with the College to establish a college-wide family leave policy.
Development Efforts

In 1995-96 the College development program set out to accomplish three goals.

1. Increase giving in the $1,000 - $50,000 range (special gifts).
2. Increase gifts for a) undergraduate student support, b) graduate student support and c) educational tools.
3. Increase the college endowment.

In each area we were very successful.

With the annual giving program for the most part being taken over by the UNM Foundation, the development officer had more time to cultivate and solicit special gifts. Our efforts were successful and gifts in this range increased by $200,000 up from $123,000 in 1994-95 to $323,000 this year.

In the area of increased scholarship funding we were rewarded with new gifts or pledges of $241,000 for undergraduate scholarships and $162,000 in graduate aid. Of this $275,000 was in new endowment funding. Endowments are critical in building a perpetual base of support for the College. While some departments received greater support than others, all departments did receive private support during the year.

Annual giving was changed significantly over the past year and the final results did have an impact on the College. The UNM Foundation took over the annual giving fund drive and created a new giving opportunity for alumni—the UNM fund. Donations to the UNM fund are unrestricted to the university as compared to a College or department. All A&S alumni were contacted in the fall by an outside telemarketing firm and solicited for a gift to the UNM fund. In the Spring, alumni were contacted a second time and asked for a gift to the College. As a result of this change in strategy, College unrestricted funds decreased by $40,000. The College did continue its mail campaign solicitations and the final results of the mail and phone efforts
brought in a total of nearly $20,000 in College unrestricted funds. These funds have traditionally been used to support students and this emphasis will continue into 1996-97.

Finally, the grand total of private support to the College of Arts and Sciences in 1995-96 was $956,503 an increase of $300,000 over the 1994-95 fiscal year.

VIII. DEPARTMENTAL REPORTS

Detailed reports on activities in the twenty departments comprising the College of Arts and Sciences are forwarded along with this College report.
**TABLE 1**

**CHAIRPERSONS AND INTERDEPARTMENTAL PROGRAM DIRECTORS, 1995-96**

<table>
<thead>
<tr>
<th>Department</th>
<th>Chairperson</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AMERICAN STUDIES</strong></td>
<td>Vera Norwood</td>
</tr>
<tr>
<td><strong>ANTHROPOLOGY</strong></td>
<td>Marta Weigle</td>
</tr>
<tr>
<td><strong>BIOLOGY</strong></td>
<td>Terry Yates</td>
</tr>
<tr>
<td><strong>CHEMISTRY</strong></td>
<td>Fritz Allen</td>
</tr>
<tr>
<td><strong>COMMUNICATION/JOURNALISM</strong></td>
<td>Everett Rogers</td>
</tr>
<tr>
<td><strong>COMMUNICATIVE DISORDERS</strong></td>
<td>Linda Riensche</td>
</tr>
<tr>
<td><strong>EARTH &amp; PLANETARY SCIENCES</strong></td>
<td>Barry Kues</td>
</tr>
<tr>
<td><strong>ECONOMICS</strong></td>
<td>David Brookshire</td>
</tr>
<tr>
<td><strong>ENGLISH</strong></td>
<td>Robert Fleming</td>
</tr>
<tr>
<td><strong>FOREIGN LANG &amp; LITERATURE</strong></td>
<td>Diana Robin</td>
</tr>
<tr>
<td><strong>GEOGRAPHY</strong></td>
<td>Paul Matthews</td>
</tr>
<tr>
<td><strong>HISTORY</strong></td>
<td>Richard Robbins</td>
</tr>
<tr>
<td><strong>LINGUISTICS</strong></td>
<td>Garland Bills</td>
</tr>
<tr>
<td><strong>MATHEMATICS &amp; STATISTICS</strong></td>
<td>Alex Stone</td>
</tr>
<tr>
<td><strong>PHILOSOPHY</strong></td>
<td>Russell Goodman</td>
</tr>
<tr>
<td><strong>PHYSICS &amp; ASTRONOMY</strong></td>
<td>David Wolfe</td>
</tr>
<tr>
<td><strong>POLITICAL SCIENCE</strong></td>
<td>Neil Mitchell</td>
</tr>
<tr>
<td><strong>PSYCHOLOGY</strong></td>
<td>Michael Dougher</td>
</tr>
<tr>
<td><strong>SOCIOLOGY</strong></td>
<td>Gary LaFree</td>
</tr>
<tr>
<td><strong>SPANISH &amp; PORTUGUESE</strong></td>
<td>Erlinda Gonzales-Berry</td>
</tr>
</tbody>
</table>
INTERDEPARTMENTAL PROGRAMS

ASIAN STUDIES (minor, major)
   Noel Pugach

COMPARATIVE LITERATURE (minor, major)
   Diana Robin

ECONOMICS-PHILOSOPHY (major)
   Russell Goodman

EUROPEAN STUDIES (minor, major)
   Charles McClelland

ITALIAN STUDIES (minor)
   Rachele Duke

MEDIEVAL STUDIES (minor)
   Helen Damico

PEACE STUDIES (minor)
   Donald Lee

QUATERNARY STUDIES (minor)
   Roger Anderson

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

SOCIAL WELFARE (minor)
   Tomas Atencio

BIOCHEMISTRY (major)
   Robert H. Glew

CRIMINAL JUSTICE (major)
   Tomas Atencio

ENGLISH-PHILOSOPHY (major)
   Barbara Hannan

IBERO-AMERICAN STUDIES (Ph.D.)
   Kenneth Coleman

LATIN AMERICAN STUDIES (minor, major)
   Linda Hall

PALEOECOLOGY (minor)
   Roger Anderson

PERIOD STUDIES (minor)
   Helen Damico

RELIGIOUS STUDIES (minor, major)
   Andrew Burgess

SCIENCE, TECHNOLOGY & SOCIETY (minor)
   Ron Reichel

WOMEN STUDIES (minor)
   Karen Foss
TABLE 2

STANDING & SPECIAL COMMITTEES
COLLEGE OF ARTS AND SCIENCES, 1995-96

A&S Graduate Committee

Peter White, Arts and Sciences, Chairperson
Ruth Salvaggio, American Studies
Carole Nagengast, Anthropology
Tom Niemczyk, Chemistry
Kenneth Frandsen, Communication/Journalism
Mary Oelschlaeger, Communicative Disorders
John Geissman, Earth & Planetary Sciences
Stuart Burness, Economics
Gary Harrison, English
Walter Putnam, Foreign Lang & Lit
Brad Cullen, Geography
Dawn Kaufman-GPSA
Daniel Feller, History
Alan Hudson, Linguistics
Krysztof Galicki, Mathematics & Statistics
John Bussanich-Philosophy
Bernd Bassalleck, Physics & Astronomy
William Stanley, Political Science
Ronald Yeo, Psychology
Beverly Burris, Sociology
John Lipski, Spanish & Portuguese

A&S Undergraduate Committee

Peter White, Arts and Sciences, Chairperson
Charlie Biebel, American Studies
Jeffery Froelich, Anthropology
Don Natvig, Biology
Mark Ondrias, Chemistry
Bob Gassaway, Communication and Journalism
Elayne Kessler, Communicative Disorders
Maya Elrick, Earth & Planetary Sciences
Phil Ganderton, Economics
Cheryl Fresch, English
Monica Cyrino, Foreign Lang & Lit
Rod Snead, Geography
Charlie Steen, History
Eduardo Hernandez-Chavez, Linguistics
Ronald Schrader, Mathematics & Statistics
Barbara Hannan, Philosophy
Steve Gregory, Physics & Astronomy
Mark Peceny, Political Science
Harold Delaney, Psychology
Tomas Atencio, Sociology
Susan Rivera, Spanish & Portuguese

A&S Junior Faculty Promotion and Tenure Committee

Helen Damico, English, Chairperson
Oswald Baca, Biology
Vincent Ortiz, Chemistry
Karen Foss, Communication & Journalism
Alok Bohara, Economics
Peter Pabisch, Foreign Lang & Lit
Wojciech Kucharz, Mathematics & Statistics
John Bussanich, Philosophy
Harjit Ahluwalia, Physics & Astronomy
Christine Sierra, Political Science
Steven Gangestad, Psychology
Susan Tiano, Sociology

A&S Senior Faculty Promotion and Tenure Committee

Carla Wofsy, Mathematics & Statistics, Chairperson
Louise Lamphere, Anthropology
Eric Toolson, Biology
Robert Paine, Chemistry
Jan Schuetz, Communication & Journalism
Rodney Ewing, Earth & Planetary Sciences
Minrose Gwin, English
Warren Smith, Foreign Lang & Lit
Ferenc Szasz, History
George Schueler, Philosophy
Samuel Roll, Psychology
Patrick McNamara, Sociology
Diana Rebolledo, Spanish & Portuguese
TABLE 2 (continued)

A&S Human Subjects Committee

Fall 1995

Mike McKee, Economics, Chairperson
Beatrice Vigil, A&S, Secretary
Shannan Carter, Medical Center Counsel
Harold Delaney, Psychology
Hank Jenkins-Smith, Political Science
Hillard Kaplan, Anthropology
Edward Gilliland, Inst Social Research

Spring 1996

Mike McKee, Economics, Chairperson
Beatrice Vigil, A&S, Secretary
Shannan Carter, Medical Center Counsel
Hank Jenkins-Smith, Political Science
Harold Delaney, Psychology
Richard Harris, Psychology
Hillard Kaplan, Anthropology
Edward Gilliland, Inst Social Research
TABLE 3

Changes in status of tenure-stream faculty in the College of Arts and Sciences: Decisions reached in AY 1994-95 to take effect in AY 1995-96.

**Promotions to Full Professor**

- Eric Loker
- Mark Hampden-Smith
- Karen Foss
- Patricia Clark-Smith
- Walter Putnam
- Bradley Cullen
- Paul Hutton
- Thomas Hagstrom
- Neil Mitchell

**Promotions to Associate Professor and Award of Tenure**

- Bradford Hall
- Maya Elrick
- Jay Epperson
- Barbara Hannan
- Teresa Cordova

**Positive Mid-Probationary Reviews**

- Louis Scuderi
- Vladimir Koltchinskii
- Wendy Hansen

**Positive Third-Year Reviews**

- Mark Kirk
- Diana Rios
- Yemane Asmerom
- Susanna Baackmann
- Monica Cyrino
- Timothy Moy
- William Isham

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TABLE 3 (continued)

Positive Third-Year Reviews

Amy Schmitter  
Patricia Henning  
Mansoor Sheik-Bahae  
Kathy E. Stansbury  
John Roberts  

1996-97 New Appointments

David Dinwoodie  
Gretchen Hofmann  
Scott Carroll  
Ignacio Villegas  
Patrick Mariano  
Debra Dunaway-Mariano  
Deborah Evans  
Dirk Gibson  
Richard Schaefer  
Peter Fawcett  
Catherine Krause  
Gail Houston  
Pamela Cheek  
Lorraine Piroux  
Theresa Mulhern  
David Farber  
Jill Morford  
Todd Kapitula  
Aparna Huzurbazar  
Maria Cristina Pereyra  
Sergio Tenenbaum  
Robert Duncan  
Brad Johnson  
Richard Rand  
Joseph Stewart  
Margo Milleret  
Mary Iribarren  

Philosophy  
Physics & Astronomy  
Psychology  
Sociology  

Anthropology  
Biography  
Chemistry  
Communication & Journalism  
Earth & Planetary Sciences  
Economics  
English  
Foreign Languages & Literatures  
Geography  
History  
Linguistics  
Mathematics & Statistics  
Philosophy  
Physics & Astronomy  
Politics Science  
Spanish & Portuguese  
Spanish & Portuguese
TABLE 3 (continued)

Resignations/Retirements (effective 1996-97)

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Date Source: College of Arts and Sciences Instructional Budget, 1995-96
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Data Source: Arts and Sciences Registered Students Listing - 21 day report
### TABLE 6

**DEGREES AWARDED**

**COLLEGE OF ARTS AND SCIENCES**

| Year Inc. | Bachelor's Degrees | | | | | | Advanced Degrees | | | |
|-----------|-------------------|---|---|---|---|---|---|---|---|
|           | No. | % Inc. Over Prev. Yr. | | No. | % Inc. | No. | % Inc. | No. | % |
| 1987      | 595  | 1.4 | | 153  | 20.5 | 66  | -13.2 | 229 | -0.9 |
| 1988      | 665  | 11.8 | | 164  | 7.2 | 62  | -6.1 | 226 | -0.9 |
| 1989      | 732  | 10.1 | | 170  | 3.7 | 63  | 1.6 | 233 | 3.1 |
| 1990      | 763  | 4.2 | | 155  | -8.8 | 63  | 0.0 | 218 | -6.4 |
| 1991      | 837  | 9.7 | | 159  | 2.6 | 73  | 15.9 | 232 | 6.4 |
| 1992      | 856  | 2.3 | | 226  | 42.1 | 74  | 1.4 | 300 | 29.3 |
| 1993      | 905  | 5.7 | | 205  | -9.3 | 75  | 1.4 | 280 | -6.7 |
| 1994      | 1020 | 12.7 | | 236  | 15.1 | 82  | 9.3 | 318 | 13.6 |
| 1995      | 1133 | 11.1 | | 229  | -2.5 | 85  | 3.7 | 314 | -1.3 |
| 1996      | 1005 | -11.2 | | 275  | 20.1 | 96  | 10.6 | 371 | 18.2 |

10 Year Change 410 68.9 122 79.7 30 45.5 142 62.0

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

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

1
Includes Optical Science Ph.D.s

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

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

* Includes summer, fall and spring graduates.

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

ACADEMIC PROBATIONS, SUSPENSIONS AND RELEASES

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<td>155</td>
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<tr>
<td>Suspended</td>
<td>60</td>
<td>-16.7</td>
<td>101</td>
<td>68.3</td>
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<tr>
<td>Released</td>
<td>72</td>
<td>125.0</td>
<td>57</td>
<td>120.8</td>
<td>78</td>
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Number of Students Enrolled in Arts and Sciences

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Semester I, 1995-96</td>
<td>4195</td>
</tr>
<tr>
<td>Semester II, 1995-96</td>
<td>4166</td>
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TABLE 9

DEGREES GRANTED WITH HONORS*

<table>
<thead>
<tr>
<th>Honors in General Studies</th>
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<tbody>
<tr>
<td>Summa Cum Laude</td>
<td>17</td>
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<tr>
<td>Magna Cum Laude</td>
<td>13</td>
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<tr>
<td>Cum Laude</td>
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<table>
<thead>
<tr>
<th>Departmental Honors</th>
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<tbody>
<tr>
<td>Anthropology</td>
<td>2</td>
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<td>Biology</td>
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<tr>
<td>Chemistry</td>
<td>1</td>
</tr>
<tr>
<td>Classics</td>
<td>1</td>
</tr>
<tr>
<td>Earth &amp; Planetary Sciences</td>
<td>2</td>
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<tr>
<td>Economics</td>
<td>1</td>
</tr>
<tr>
<td>English</td>
<td>4</td>
</tr>
<tr>
<td>German</td>
<td>1</td>
</tr>
<tr>
<td>History</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy</td>
<td>1</td>
</tr>
<tr>
<td>Political Science</td>
<td>5</td>
</tr>
<tr>
<td>Psychology</td>
<td>8</td>
</tr>
<tr>
<td>Sociology</td>
<td>1</td>
</tr>
</tbody>
</table>

Initiated into Phi Beta Kappa | 48 |
Initiated into Phi Kappa Phi   | 43 |

* Requirements completed Semester I, 1995-96; Semester II, 1995-96; Summer 1995
TABLE 10

NEW RESEARCH AND TRAINING GRANTS, 1995-96

<table>
<thead>
<tr>
<th>Department</th>
<th>Dollars</th>
<th>Number of Faculty</th>
<th>Number of Grants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthropology</td>
<td>$137,868</td>
<td>6</td>
<td>9</td>
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<tr>
<td>OCA</td>
<td>2,067,402</td>
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<tr>
<td>Biology</td>
<td>4,183,879</td>
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<td>58</td>
</tr>
<tr>
<td>Chemistry</td>
<td>3,470,606</td>
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<td>26</td>
</tr>
<tr>
<td>Communication &amp; Journ</td>
<td>274,269</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Comm Disorders</td>
<td>17,500</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Earth &amp; Pl Sciences</td>
<td>1,466,681</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>IOM</td>
<td>388,288</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Economics</td>
<td>59,600</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Geography</td>
<td>40,000</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>History</td>
<td>351,082</td>
<td>1</td>
<td>2</td>
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<tr>
<td>Linguistics</td>
<td>246,425</td>
<td>3</td>
<td>6</td>
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<tr>
<td>Mathematics &amp; Stats.</td>
<td>923,581</td>
<td>15</td>
<td>17</td>
</tr>
<tr>
<td>Physics &amp; Astronomy</td>
<td>18,614,116</td>
<td>18</td>
<td>45</td>
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<tr>
<td>CAS</td>
<td>190,227</td>
<td>3</td>
<td>4</td>
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<tr>
<td>Political Science</td>
<td>902,225</td>
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<td>10</td>
</tr>
<tr>
<td>Psychology</td>
<td>439,252</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Inst Soc Research</td>
<td>705,148</td>
<td>5 (does not include DiVasto)</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$34,478,149</strong></td>
<td><strong>112</strong></td>
<td><strong>254</strong></td>
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</table>

35
TABLE 11

BUDGETED GAs/TAs, RESEARCH AND PROJECT ASSISTANTS, 1995-96

<table>
<thead>
<tr>
<th>Departments</th>
<th>GAs &amp; TAs</th>
<th>RAs &amp; PAs</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Studies</td>
<td>19</td>
<td>1</td>
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<tr>
<td>Anthropology</td>
<td>36</td>
<td>3</td>
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<tr>
<td>Biology</td>
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<tr>
<td>Chemistry</td>
<td>40</td>
<td>38</td>
</tr>
<tr>
<td>Communication/Journalism</td>
<td>23</td>
<td>8</td>
</tr>
<tr>
<td>Communicative Disorders</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>Earth &amp; Planetary Sciences</td>
<td>23</td>
<td>22</td>
</tr>
<tr>
<td>Economics</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td>English</td>
<td>71</td>
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<tr>
<td>Foreign Lang &amp; Lit</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>Geography</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>History</td>
<td>27</td>
<td>9</td>
</tr>
<tr>
<td>IOM</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>ISR</td>
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<td>35</td>
</tr>
<tr>
<td>Linguistics</td>
<td>10</td>
<td>6</td>
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<tr>
<td>Mathematics &amp; Statistics</td>
<td>47</td>
<td>6</td>
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<tr>
<td>Philosophy</td>
<td>12</td>
<td>2</td>
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<tr>
<td>Physics &amp; Astronomy</td>
<td>40</td>
<td>59</td>
</tr>
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<td>Political Science</td>
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<td>15</td>
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<tr>
<td>Psychology</td>
<td>20</td>
<td>14</td>
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<tr>
<td>Sociology</td>
<td>31</td>
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</tr>
<tr>
<td>Spanish &amp; Portuguese</td>
<td>50</td>
<td>2</td>
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<tr>
<td>Women Studies</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>570</strong></td>
<td><strong>293</strong></td>
</tr>
<tr>
<td>Department</td>
<td>Final 1995 Figures Allocation</td>
<td>%</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-----------------------------</td>
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<tr>
<td>American Studies</td>
<td>$11,982</td>
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<tr>
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<td>Communicative Disorders</td>
<td>26,166</td>
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<td>Earth &amp; Plan Sciences</td>
<td>28,354</td>
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<td>75,387</td>
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<td>German</td>
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<tr>
<td>French</td>
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<td>0.00</td>
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<td>Philosophy</td>
<td>11,647</td>
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<tr>
<td>Physics &amp; Astronomy</td>
<td>32,907</td>
<td>3.79</td>
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<td>Political Science</td>
<td>29,507</td>
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<td>Sociology</td>
<td>32,555</td>
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<tr>
<td>Spanish &amp; Portuguese</td>
<td>36,291</td>
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<tr>
<td>International Programs</td>
<td>42,900</td>
<td>4.95</td>
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<tr>
<td>Admin</td>
<td>27,206</td>
<td>3.14</td>
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<tr>
<td>Contingency</td>
<td>2,257</td>
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<tr>
<td>Women Studies</td>
<td>12,800</td>
<td>1.48</td>
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| TOTAL                               | $867,121                    | 100.00| $884,120                     | 100.00|
## TABLE 13
A&S TRAVEL DISBURSEMENTS, 1995-96

<table>
<thead>
<tr>
<th>Department</th>
<th>General/Departmental Allocations</th>
<th>Special Request Allocations</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Studies</td>
<td>$3,195</td>
<td>$800</td>
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<tr>
<td>Anthropology</td>
<td>10,650</td>
<td>0</td>
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<tr>
<td>Biology</td>
<td>15,975</td>
<td>2,945</td>
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<tr>
<td>Chemistry</td>
<td>10,650</td>
<td>0</td>
</tr>
<tr>
<td>Communication &amp; Journalism</td>
<td>8,520</td>
<td>500</td>
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<tr>
<td>Communicative Disorders</td>
<td>2,130</td>
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<tr>
<td>Earth &amp; Planetary Sciences</td>
<td>5,325</td>
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<td>Economics</td>
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<td>History</td>
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<td>Linguistics</td>
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<td>14,900</td>
<td>1,800</td>
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<tr>
<td>Philosophy</td>
<td>5,325</td>
<td>1,625</td>
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<td>Physics &amp; Astronomy</td>
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<td>575</td>
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<tr>
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<td>11,610</td>
<td>1,900</td>
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<tr>
<td>Sociology</td>
<td>9,585</td>
<td>2,341</td>
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<td>Spanish &amp; Portuguese</td>
<td>7,455</td>
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<td>Tenure Promotion Committee members</td>
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<td><strong>TOTAL</strong></td>
<td><strong>$183,465</strong></td>
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### TABLE 14

**A&S DISBURSEMENTS OF SPECIAL COLLEGE FUNDS**  
**1995-96**

<table>
<thead>
<tr>
<th>Department</th>
<th>Reprint Funds</th>
<th>Speakers' Honoraria</th>
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</thead>
<tbody>
<tr>
<td>Arts &amp; Sciences</td>
<td>$0</td>
<td>$0</td>
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<tr>
<td>American Studies</td>
<td>893.59</td>
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<tr>
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<tr>
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<td>150.00</td>
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<td>Communicative Disorders</td>
<td>60.00</td>
<td>0</td>
</tr>
<tr>
<td>Earth &amp; Planetary Sciences</td>
<td>300.00</td>
<td>0</td>
</tr>
<tr>
<td>Economics</td>
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<td>0</td>
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<tr>
<td>English</td>
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<td>Foreign Lang &amp; Lit</td>
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<td>150.00</td>
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<tr>
<td>Latin Amer Inst &amp; Sales</td>
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<td>Mathematics &amp; Statistics</td>
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<td>Philosophy</td>
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<td>Physics &amp; Astronomy</td>
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<tr>
<td>Political Science</td>
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<td>Psychology</td>
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<tr>
<td>Sigma Xi</td>
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<td>500.00</td>
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<tr>
<td>Sociology</td>
<td>584.89</td>
<td>252.78</td>
</tr>
<tr>
<td>Spanish &amp; Portuguese</td>
<td>291.17</td>
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</tr>
</tbody>
</table>

**TOTAL**  
$13,035.62  
$4102.78
The American Studies Department added two new faculty to our ranks this year. The faculty continued to operate as a committee of the whole in guiding the graduate and undergraduate programs. Continuity in supervision of the graduate program was provided by Professor Ruth Salvaggio, who served as graduate advisor for the year. Professor Charles Biebel headed a growing undergraduate program by serving throughout the year as undergraduate advisor.

A. Significant Developments

Professor Gerald Davis joined the faculty in spring 1996. Professor Davis teaches courses in Race, Class and Ethnicity, Gender Studies and Folklore. He designed and taught a new course, "Race Matters," at the graduate level and will be teaching two new courses in 1996-97: "African American Film," and "Masculinity in America." In addition, Assistant Professor James Treat was hired on a joint appointment with Native American Studies. Professor Treat teaches courses in Race, Class and Ethnicity and Culture Studies. In spring, he taught "Indigenous World Views," which was cross-listed with Native American Studies. In future, he will be developing a new course, "Native American Critical Theory," at the graduate level.
The faculty as a whole maintained a high level of professional activity. Professor Charles Biebel was awarded continuation of his grant from the Lilly Endowment, entitled "Evaluating Leadership Education." Professor Jane Caputi published an essay in The Oxford Companion to Women's Writing in the United States and gave several keynote addresses as well as a paper at the Popular and American Culture Conference in Philadelphia. Professor Gabriel Melendez had his book accepted for publication by the University of New Mexico Press as well placing a chapter in Recovering the U.S. Literary Heritage Project. He also gave a number of papers, including a talk, "Resistance, Refutation and Resurgence: Poetics and Self-Representation in Neo Mexico Print Discourse," at the national American Studies meeting in Pittsburgh. Professor Vera Norwood published an article, "Women in American Conservation and Environmentalism," in the Magazine of History. Professor Ruth Salvaggio co-edited Women Critics, 1660-1820, published by Indiana University Press, and presented a paper on queer theory at the meeting of the Group for the Study of Early Modern Culture at the University of Dallas. Professor M. Jane Young published a chapter in Coming to Light: Contemporary Translations of Native American Literatures of North America and wrote a major portion of the exhibition catalogue, The Potters of Mata Ortiz. Professors Biebel, Melendez and Young, with the help of several graduate students, developed a textbook for introductory Southwest Studies courses. The text will be tested and revised in 1996-97 and then submitted to UNM Press for possible publication.
Under the guidance of Professor Biebel, the undergraduate program continued to grow. Guidelines for earning honors in the major were developed and several students attained honors during the year. The department graduated 14 majors and minors from summer 1995 through spring 1996.

We continued to attract many more applicants for the graduate program than could be admitted. On average, we have been admitting about 15% of our applicants. We have paid attention to affirmative action in the past year, with the result that almost half of our incoming class was minority students. Although we do not have sufficient financial aid for our students, we and they have had much success in gaining awards from the Office of Graduate Studies. The department graduated 6 masters students and 8 PhDs last year.

Professor Salvaggio developed a formal series of workshop meetings for teaching assistants in 1995-96. Members of the faculty also attended these workshops which were aimed at improving instruction in our 100-level courses.

In consultation with the graduate students, the faculty revised and updated the ACS reading list, the list of required texts for our preliminary exams. The faculty also developed procedures which allow graduate students to attend faculty meetings on a routine basis.

B. Significant Plans and Recommendations for the Future

The addition of two new faculty offers great potential for developing our offerings in Race, Class and Ethnicity, particularly
in African American Studies and Native American Studies. Professors Davis, Melendez and Treat will be working together in the next year to develop our course offerings in this area. We also plan to improve the diversity of our graduate student applicant pool. Professors Davis, Melendez and Salvaggio are developing a plan for improved minority recruitment. Professor Biebel and a graduate student will be working on a student outcomes assessment plan which we hope to have in place in 1997.

C. Appointments to Staff

The department hired Professor James Treat and Professor Gerald Davis; both appointments began in spring 1996. Iana Iatsyk held the work study position on a temporary basis in spring/summer 1996. Barbara Ritter joined the office staff in August 1996 as the work study student.

D. Separations from Staff

Michelle Martinez left her work study position in spring 1996 due to health problems.

E. Sponsored Research

Professor Biebel continued his multi-year grant from the Lilly Endowment.
DEPARTMENT OF ANTHROPOLOGY

UNIVERSITY OF NEW MEXICO

ANNUAL REPORT

1 July 1995

to

30 June 1996

MARTA WEIGLE
Chair
Significant Developments during the Academic Year, 1995-96

In this first year of Marta Weigle’s service as Chair, the Department has received several honors. Bioarchaeologist Jane Buikstra came to the UNM from the University of Chicago and was given a Distinguished Professorship here. A member of the National Academy of Sciences, she brought with her one of the foremost archaeological field schools, the Center for American Archeology at Kampsville, Illinois, in the lower Illinois River Valley. In April 1996 Professor Erik Trinkaus was elected to the National Academy of Science, and in May he was named University Regents Professor. Professor Louise Lamphere was awarded the SANA Prize for Critical Study of North America by the Executive Board of the Society for the Anthropology of North America in 1995. Carole Nagengast received the Bridge Award for Fostering Understanding Between Cultures and Ethnic Groups in Pursuit of Universal Human Rights from the City of Albuquerque in 1995.

Two setbacks darkened the Fall semester. The state-mandated budget cutback in the Fall precipitated much work on the part of staff and Advisory Council to work out more stringent ways of allocating supplies and expenses monies. The omission of sixteen UNM research-doctorate programs, including Anthropology, from the National Research Council rankings published in September 1995 was a blow to the Department, which had expected to equal or better its 1982 tenth-place ranking.

The five subfields (Archaeology, Biological Anthropology, Ethnology, Human Evolutionary Ecology, Linguistic Anthropology) worked together productively on the three key Department committees with representation from all subfields: Advisory Council (Marta Weigle, Chair), Graduate Committee (Carole Nagengast, Chair), and Undergraduate Committee (Jeffery Froehlich, Chair). The Graduate Committee completed the first Department-wide Graduate Handbook, an important step toward improving Department graduate student integration across the subfields.

The Computer Use Committee (Robert Leonard, Chair) has done admirable work developing procedures, acquiring equipment, educating Department members, and planning for computers throughout the Department. Hardwiring for all Department facilities was completed.

The Anthropology Annex was remodeled and a number of moves thereby facilitated. As of summer 1996, Professor Jeffery Froehlich has been assigned a long-awaited primate paleontology lab in Bandelier Hall West.

The 1996 Summer Field School in Archaeological Research was led by Associate Professor W. H. Wills at the James Young Ranch, UNM’s research property on the
eastern flanks of the Jemez Mountains in north-central New Mexico between Bandelier National Monument and the Pueblo of Cochiti. The 29th Annual Bioarcheological Field School, the first under the aegis of UNM, was led by Professor Jane Buikstra at Kamps ville, Illinois, during the summer session. Associate Professor Robert D. Leonard led summer cooperative fieldwork and student exchange between UNM and Instituto Nacional de Antropología y Historia, Chihuahua, at Galeana Site, Nuevas Casas Grandes, Mexico.

Significant Plans and Recommendations for the Near Future

The Department will undergo an External Review in October 1996. Much of the Spring semester, the committees and subfields discussed their programs. The mandated Self-Study was underway throughout the summer. Future strategic plans, hiring decisions, and resource allocation will depend on the reviewers' site visit report and campus response to it.

As of Fall 1996, there will be four subfields: Archaeology, Biological Anthropology, Ethnology, and Human Evolutionary Ecology. Linguistic Anthropology will become part of Ethnology. The intellectual articulation of the two will be discussed in Spring 1997, when Professor Basso is in residence.

Appointments

Faculty

There were two new faculty appointments: Distinguished Professor Jane Buikstra from the University of Chicago and Assistant Professor Joseph F. Powell, a Texas A&M University Ph.D. Buikstra participates in both the Archaeology and the Biological Anthropology subfields. Powell is .60 in the Department, participating in the Biological Anthropology subfield, and .40 in Maxwell Museum of Anthropology, where he is Curator of Human Osteology.

Assistant Professor Magdalena Hurtado had been half-time in the Department and half-time the Research Director, New Mexico MEDTEP Center for Ethnic Populations, UNM School of Medicine. In Fall 1995 she became a full-time member of the Department, participating in the Human Evolutionary Ecology subfield.

Visiting Assistant Professor Daniel S. Lefkowitz, a University of Texas at Austin Ph.D. who joined the faculty in Spring 1995, continued to serve as a linguistic anthropologist who also participated in the Ethnology subfield. A search for a tenure-track assistant professor was conducted, and David W. Dinwoodie, a
University of Chicago Ph.D. who had been Visiting Lecturer at Indiana University, will join the faculty in August 1996 and participate in the Ethnology/Linguistic Anthropology subfield.

Visiting Assistant Professor Joel D. Irish, an Arizona State University Ph.D., joined the faculty in 1995-96, temporarily occupying the position vacated in June 1995 by Associate Professor Jeffrey Long in the Biological Anthropology subfield. A search for a tenure-track assistant professor was conducted but no hire could be made due to budget constraints. Irish will continue as Visiting Assistant Professor in 1996-97 and a new search be conducted.

Staff

After Mary Kay Day retired from a .50 Department and .50 Journal of Anthropological Research position, the 1.00 Clerical Specialist V position occupied by Erika Gerety was made into a .75 one and the other .25 combined with Day’s .50 to make a second .75 position. Cynthia Gallegos filled this position from July 24, 1995, until November 10, 1995. On April 29, 1996, Carla Sarracino was hired as .75 Clerical Specialist V.

The Office Manager position was reclassified as Accounting Technician after Yolanda Nieto resigned in April 1996. Elma Edwards was hired as 1.00 Accounting Technician on July 8, 1996.

Separations

Faculty

Visiting Assistant Professor Daniel S. Lefkowitz’s contract ended on May 11, 1996.

Staff

Cynthia Gallegos did not successfully complete her probationary period and was dismissed on November 10, 1995. The .75 Clerical Specialist V position was filled temporarily by Victor Joe from November 11, 1995, until April 27, 1996.

Office Manager Yolanda Nieto resigned on April 19, 1996. Temporary staff who served subsequently were Steven Moore (April 14-May 11, 1996) and Lillian Coca (April 28-June 8, 1996).
Sabbatical and Other Leaves

Associate Professor Sylvia Rodríguez was on sabbatical leave for the 1995-96 academic year. Associate Professor Mari Lyn Salvador was on sabbatical leave during the Fall 1995 semester.

Publications

There were neither Department nor staff publications during this time. However, the faculty continued its notable productivity. According to the 1995 Merit/Productivity Scoring System forms, twenty-three different faculty members (of twenty-eight) produced three books, three edited volumes, fifty-one book chapters and journal articles, and twenty-four comments/notes/reviews. The 1995 books and edited volumes follow:


Lawrence G. Straus and M. Otte, *Le Trou Magrite: Resurrection d’un Site Classique en Wallonie*, Etudes et Recherches Archeologique de l’Université de Liège 69

Patricia L. Crown and Barbara J. Mills, eds., *Ceramic Production in the American Southwest*, University of Arizona Press

Raymond J. DeMallie and Alfonso Ortiz, eds., *North American Indian Anthropology*, University of Oklahoma Press

Mari Lyn Salvador (with Marta Weigle), ed., *Cuando Hablan Los Santos: Contemporary Santero Traditions from Northern New Mexico*, UNM Press

Outside Professional Activities

In 1995 sixteen faculty members gave one or more meeting papers, five participated in one or more international symposia, four delivered one or more keynote/plenary addresses, and sixteen gave one or more invited lectures. No staff members were professionally active outside the University.
Other faculty professional activities (excluding editorial boards) include:

Basso: Board of Directors, National Museum of the American Indian, Smithsonian Institution; Member, Apache Survival Coalition, San Carlos Apache Indian Reservation, Arizona; Member, Cultural Advisory Committee, White Mountain Apache Tribe, Fort Apache Indian Reservation, Arizona

Buikstra: American Association for the Advancement of Science, Section Chair, Section H; Center for American Archaeology, President of Board; Bioanthropology Foundation, Peru, Board Member

Lamphere: Association for Feminist Anthropology, Chair Elect


Rodríguez: Taos Valley Acequia Association, contract research

Straus: International Quaternary Union (INQUA): Commission for the Paleoecology of Early Man, Secretary, Working Group on the Archeology of the Pleistocene-Holocene Transition

Outside Sponsored Research

James L. Boone, Earthwatch: Rural Settlement and Islamization in Medieval Portugal, $14,000

Kim Hill, Nature Conservancy: The Distribution of Food Resources in the Mbaracaya Reserve (Paraguay) and the Impact of Native Use Patterns, $50,000

Magdalena Hurtado, W. T. Grant: Maternal and Child Health among Mexican Americans: Women’s Work, $35,000

Jane Lancaster and Hillard Kaplan, W. T. Grant: Male Fertility and Parenting in New Mexico: Management of the Data Base for Analysis, $9,800


Lawrence Straus, National Geographic Society: The Tardiglacial Settlement of Belgium and Bois Laiterie Cave, $15,000

Lawrence Straus, L.S.B. Leakey Foundation: Stone Age Adaptations in the Cantabrian Cordiller (Spain)-El Miron Cave, $3,500
Attachments

Public Lectures

*Journal of Anthropological Research* Distinguished Lecture Series:


Keynote Address, Graduate Student Symposium on Culture:

Carol Smith, University of California, Davis, "Maya Intellectuals Reinterpret My Interpretations: Reflexive Anthropology in an Activist Environment," April 26, 1996

Candidates for the Linguistic Anthropology Position:

Daniel S. Lefkowitz, University of Texas, Austin, Ph.D., February 26, 1996

Laura M. Ahearn, University of Michigan Ph.D., February 29, 1996

David W. Dinwoodie, University of Chicago Ph.D., March 5, 1996

Kay Sammons, University of Texas, Austin, Ph.D., March 19, 1996

Frieda D. Butler Memorial Lectures:


Anne Weaver, Biological Anthropology Graduate Student, "Gray Matters: The Evolution of Intelligence," February 13, 1996

Ruth Kennedy Memorial Lecture:

Trenton Holliday, Biological Anthropology Graduate Student, "Cro-Magnon: Out of Africa and into Europe," April 23, 1996

New Mexico Folklore Society Endowed Lecture:

Laura McNamara, Ethnology Graduate Student, "Hearth and Home: The Cold War in Los Alamos," February 5, 1996
Graduate Student Symposium on Culture, April 27, 1996:

Session: Human Rights and Self-Determination (papers by Julia Meredith, Ileana Matamoros and Nancy Burke, Erika Derkas, Moira Murphy Aguilar, Maria Firmino Castillo, David Broudy)

Session: Perspectives on Identity and Power (papers by Christine Ruman, Angelle Khachadoorian, Karen Stocker, Andrea Hoplight, Tom Carter)

Session: Language and Culture in Discourse (papers by Angela Arrey-Wastavino, David Margolin, Carmelita Topaha, Brij Lunine, Joanne Maher, Lisa Hogan)

Session: Ethnography of Place (papers by Clint Hicks, Laura McNamara, Julia Coates Foster, Erik Wilker, Andrew Sussman)

Bachelor of Arts Degrees Conferred

Forty-nine B.A. degrees were awarded in 1995-96. Those graduating with honors are indicated by an asterisk.

Jennifer Achord
Robert M. Arlowe
Rula Asad
Pamela A. Asbury-Smith
Justin Blair
Jesse Bock
Karen Brey
*Celene Bridgford
Ruth A. Callahan
Anna Collingwood
Tiffany Cotlar
Matthew Cowan

Heather M. Craft
Juliet Cummings
Brandon Denton
William Economou
*Charles Everett
Jill Fogerty
Jocelyn Frazier
Ethan Giedraitis
Robin Gill
Allison Grant
Patricia Gunn
Sandra Hammond

Jessica Hill
David Hawley
Diane M. Hooper
Beverlene Johnson
Sarah Jones
Lorraine Keene
Holli Lawrence
Vincent A. Lipinski
James A. Medina
Jesse Murrell
Norihisa Njida
Anne Ogle

Jennifer Oliver
John Patchett
Brandee Perritt
Molly Pollard
Robert Putnam
Elizabeth Quintero
Elizabeth Ratigan
Sarah Recker
William Reichard
Kameron Robbins
Mark Seward
Malinda Stanley
Kelly Jo White

Bachelor of Science Degrees Conferred

Twenty-two B.S. degrees were awarded in 1995-96. Those graduating with honors are indicated by an asterisk.

Connie Sue Adkins
Nelda A. Creager
*Forrest C. Dampier
Jennifer J. Deeds
Amber L. Earley

Julie Ficker
Darryl Harris
Bryan D. Hood
Mark Hungerford
Theresa Kuntz

Shana Lane
Christina Lauter
Catherine Luther
Karen Majors
Sean McCullough
Barbara McKay

*Lezlee Pasche
Jana Ragsdale
Megan L. Rhoade
Sean Squires
Tami Thomas
Chas. VanGelder

Kelly Jo White
Master of Arts Degrees Conferred

Seventeen M.A. degrees were awarded in 1995-96. Those graduating with honors are indicated by an asterisk.

Abigail Adams
Maria Firmino-Castillo
Michele S. Church
Wetherbee B. Dorshow

Marta Henriksen-Dasgupta
Lisa Hogan
Teresa D. Hurt
Sara K. Kuhnle

Ileana Matamoros
Marit Munson
Jo Lynn Petersen
Anna Richardson

Christine Ruman
Victoria L. Saxe
Jnthon. Van Hoose
Kerry Varley
Charles Vaughan

Master of Science Degrees Conferred

Six M.S. degrees were awarded in 1995-96. Those graduating with honors are indicated by an asterisk.

John Anderson
*Kermyt G. Anderson

*Benjamin Connor
Linus Kalvaitis

Julia Powers

David Waynforth

Doctor of Philosophy Degrees Conferred

Eight Ph.D. degrees were awarded in 1995-96. Those graduating with honors are indicated by an asterisk.

John Bock, "The Determinants of Variation in Children's Activities in a Southern African Community" (Hillard Kaplan, Chair)

Charles Carrillo, "Hispanic Pottery as Evidence of Craft Specialization in Late Colonial New Mexico, 1790-1890" (Lewis Binford, Chair)

Howard DeNike, "German Unification and the Jurists of East Germany: A Case Study in Law, Nation and History" (Louise Lamphere, Chair)

Christopher Dore, "Architectural Variability and Community Organization: An Ethnoarchaeological Stud of Sculoc, Campeche, Mexico" (James Boone, Chair)

Andrea Gillespie, "$ign and Signifier in Santa Fe: The History of a Clothing Style" (Philip Bock, Chair)

*Trenton W. Holliday, "Body Size and Proportions in the Late Pleistocene Western Old World and the Origins of Modern Humans" (Erik Trinkaus, Chair)

*Mark Lycett, "Archaeological Implications of European Contact: Demography, Settlement, and Land Use in the Middle Rio Grande Valley, New Mexico" (Lewis Binford)

Michael Robertson, "Strategies on the Streets and in the Shelters: Transactions of Homeless People and Service Providers" (Louise Lamphere, Chair)
Letters of Academic Title

Affiliated Faculty:

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

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

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

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

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

Adjunct Faculty:

Associates in Anthropology:

Glenna J. Dean, Department of Biology
Richard G. Holloway, Department of Biology
Bradley J. Vierra

Adjunct Professor:

Ines Arenas de Hurtado

Adjunct Associate Professors:

John M. Fritz
Daniel Kaufman
David A. Phillips, Jr.

Adjunct Assistant Professors:

Anna Backer
Thomas M. Becker
John A. Bock
Steven N. Byers
Eileen L. Camilli
Anthony B. Falsetti
Michel P. Guilbaud
Ronald R. Kneebone
Nancy Marie Mithlo
Jorg Opherk
Lynne Sebastian
Robert L. Tompkins
Kathryn M. Trinkaus
THE JOURNAL OF ANTHROPOLOGICAL RESEARCH
Report for the Academic Year 1995-96

The Journal of Anthropological Research was founded as the Southwestern Journal of Anthropology in 1945 as a bulletin of general anthropology. Its first Editor was Leslie Spier, who was succeeded in turn by Harry Basehart, Stanley Newman, James Spuhler, Philip Bock and, on January 1, 1995, Lawrence Straus, all professors at the University of New Mexico. The Journal provides an independent forum for the presentation and discussion of all varieties of international anthropological research by scholars from the whole world.

JAR’s Editorial Board (all members of the UNM Anthropology Faculty) currently consists of Professors Jeffery Froehlich, Louise Lamphere and Robert Santley. Its current Associate Editors are Raymond DeMallie (Indiana University), Jane Hill (University of Arizona), Abraham Rosman (Barnard College), Jeremy Sabloff (University of Pennsylvania), Bruce Smith (Smithsonian Institution), Marc Swartz (University of California, San Diego) and Stephen Tyler (Rice University). Editor Emeritus Philip Bock currently serves as Book Review Editor for Ethnology and Linguistics. Jeffery Froehlich is Book Review Editor for Biological Anthropology and Lawrence Straus doubles as Book Review Editor for Archaeology and Paleoanthropology. The Copy Editor is Dr. Patricia Nietfeld, a professional anthropologist and museum curator.

JAR is published by the University of New Mexico and is produced at the university’s Printing Plant. JAR is financially self-sufficient in terms of production and distribution costs, and historically has returned a profit to the College of Arts and Sciences, which annually advances funds to cover JAR expenses. The staff consists of a full-time Business Manager (M. Colclough), a quarter-time professional manuscript processor (M. Day) and a quarter-time student employee (J. Orphal), with offices in the UNM Department of Anthropology.

JAR currently has nearly 1400 subscribers, with active programs of advertising to maintain/increase subscriptions. About 1080 of the subscriptions are institutional and the remainder are to individuals. Fully 385 of the subscriptions are foreign. Subscription rates have been kept very low by US and international standards, but will (after many years) have to be raised in 1997 to US$30 for individuals and US$50 for institutions. In partial compensation, it is our intention to increase the number of pages to ca. 480 per annual four-issue volume, in large part by increasing the numbers of book reviews. In exchange for free advertisements on the back cover of JAR issues, the UNM Press represents the Journal at the Annual Meetings of the American Anthropological Association and Society for American Archaeology.

Since December, 1995, when Prof. Straus assumed control of the manuscript reviewing process, until March 25, 1996, JAR received & reviewed 74 article manuscripts from around the world. Twenty articles were published in Volume 51 (1995), 4 were published in Volume 52, No.1, and 4 more are in press in Vol.12, No.2. More manuscripts are currently under review & others are being revised for possible inclusion in the remaining two issues for 1996. All manuscripts are read by the Editor-in-Chief and by 1 to 4 other reviewers, generally including a member of the Editorial Board or an Associate Editor. Both appropriate members of the UNM Faculty and extra-institutional specialists are used as the “outside” reviewers. In partial contrast to earlier practice, when not rejected outright, many authors are given written guidance as to how to improve their submissions for possible eventual publication based on reviewers’ suggestions. This makes the review process somewhat more elaborate and may lower the ultimate manuscript rejection rate, but is an attempt to work collaboratively with authors to ultimate deliver a high-
quality, diverse intellectual product. It is dependent, of course, on the good-will, patience and conscientious efforts of reviewers, Editor and authors. Generally manuscripts are being reviewed, decisions made, and (when done) revisions made, within 1-4 months. The greatest difficulty is in finding reviewers willing to read and comment on manuscripts in timely fashion, especially given the extreme geographical, topical, disciplinary and paradigmatic diversity of the manuscripts received by JAR. Volume 51 had a total of 416 pages; it is our intention to increase the number of pages per issue for Volume 52 to an average about 120. (Vol. 52, No.1 had 134 pages.)

Occasionally, as in the past, special topical issues will be published under guest editorship, as in the the case of Volume 51, No.2: “The Archaeology of Gender in the American Southwest”, edited by Prof. Katherine Spielmann of Arizona State University. It is JAR’s intention to publish excellent, original, timely, provocative, theoretically interesting and empirically supported works of anthropological research produced by both established scholars and by younger ones from around the world. This mix of authors is reflected in the papers published in 1995 and so far scheduled for publication throughout 1996.

Only 8 book reviews were published in 1995, but reorganization of the book review operations (including establishment of a database) has led to a dramatic increase in book review manuscripts received in timely fashion. There are a dozen book reviews in Volume 52, No.1, with similar numbers planned for future issues. Lengths of both book reviews and articles are now being limited more strictly to provide space for more contributions, while containing costs (30 pages of double-spaced text and 2 pages of endnotes for articles; 750 words for normal book reviews). JAR is continuing its practice of donating unreviewed books to the Clark Field Archive and Library, a joint facility of the UNM Department of Anthropology and Maxwell Museum. Generally books are disposed of in this manner when they are either judged unsuitable for review in JAR or when their review has been declined by some three potential reviewers.

JAR Table of Contents and Abstracts are being placed on the UNM Department of Anthropology Homepage on the World Wide Web.

As of the end of May, 1996, JAR had taken in c. $46,000 in revenue for FY 1996, which is returned to the College of Arts and Sciences. With the increase in subscription rates, JAR should still be able to return more money to A&S that is advanced to cover the Journal’s recently increased budget for printing, postage, supplies, copy-editing, etc.

Beginning in Spring 1996, Straus instituted the JAR Distinguished Lecturers Series to bring dynamic, leading specialists in the various subdisciplines of anthropology to the UNM Campus to deliver timely lectures on critical issues in the field, as well as to interact more informally with students, faculty and interested members of the public. The lectures (revised for publication) are then included in subsequent issues of the Journal. The Inaugural JAR Distinguished Lecturer was Prof. Elisabeth Vrba of Yale University, a leading specialist on hominid evolutionary theory in Africa. She was followed last Fall by Prof. Kathleen Deagan of the University of Florida, who spoke on Spanish Colonial archeology in the Caribbean Basin, and, this Spring, by Professor John Comaroff of the University of Chicago, who discussed the ethnology of recent political developments in South Africa based on the long-term research he and Prof. Jean Comaroff have conducted in their native land. The next scheduled Distinguished Lecturer will be Professor Luca Cavalli-Sforza of Stanford University, who will speak on Genetics, Linguistics and Archeology next Winter. Part of the agenda of this lecture series is to attempt to draw together the disparate interests of the discipline, as reflected in a large department such as that of UNM. It is the hope that especially students will profit from the
broadening experience such lectures and interactions with central figures in anthropological research can bring. This is fully in line with JAR's mission to be a forum for general anthropology as the holistic study of humankind, past, present and future.

Lawrence Guy Straus
Editor-in-Chief, JAR
1996
ANNUAL REPORT OF
THE OFFICE OF CONTRACT ARCHEOLOGY
JULY 1, 1995 - JUNE 30, 1996
by
Joseph C. Winter, Director
Richard C. Chapman, Associate Director
and Patrick F. Hogan, Assistant Director

A. Review of Activities and Achievements

Fiscal Year 1995-1996 was a year of changes and challenges, for the Office of Contract Archeology. We completed our move to our newly refurbished building on Lomas Blvd, which had the mixed blessing of giving us more space and lab facilities, while separating us from the rest of the archeology faculty. However, we continued to use many students as OCA employees and served on a number of graduate thesis committees, thereby maintaining a healthy link with the department. Details of our research programs, accomplishments, and goals are discussed below.

The majority of projects headed by Richard C. Chapman (Associate Director) as principal investigator were in field, analysis or report preparation stages during this year. A Chapter in Early Navajo History: Late Gobernador Phase Pueblito Sites of the Dinétah District by Michael P. Marshall (edited and assembled by Chapman) was published. This monograph summarizes results of two years of survey and excavation testing at 17th and 18th century Navajo Pueblito sites in northwestern New Mexico, and contains the most comprehensive analysis of Gobernador Phase ceramics (Marshall) and faunal assemblages (Brown and Brown) published to date for this phase of Navajo occupation in the Southwest. The research was sponsored by the USDI Bureau of Land Management, Albuquerque District.
Jeanne A. Schutt (project director) with Richard C. Chapman as principal investigator, completed the final survey phase at the Fort Wingate Depot Activity near Gallup, New Mexico sponsored by the U.S. Army Corps of Engineers, Albuquerque District. With the exception of 121 acres containing unexploded ordnance, the entire facility (encompassing over 21,000 acres) has now been surveyed. The survey, which began in 1991 and was completed in October of 1995, resulted in discovery and documentation of 759 sites and 1580 isolated occurrences. The sites represent Archaic, Pueblo II, Pueblo III, and historical Native American use of the area. Pueblo settlement patterns on the FWDA are consistent with results from a geomorphological study (Carol Treadwell, UNM Department of Earth and Planetary Sciences) conducted in 1994 which revealed a volatile history of floodplain deposition beginning in the late Pueblo II period (ca. AD 1100 - 1200).

Excavation of three sites in the Navajo Nation's proposed Church Rock Industrial Park, located on the floodplain of the Rio Puerco of the West immediately north of the Fort Wingate study area, was conducted in the summer and fall of 1995 by Jeanne A. Schutt (project director) with Richard C. Chapman as principal investigator. Two sites date to the early - mid Pueblo II period, with one exhibiting evidence of four occupations beginning with seasonally occupied pit structures. The third site represents a 1930-1940s hobo camp. A preliminary report was submitted in October of 1995, and analysis and final report preparation is ongoing.

Under the direction of Jeanne A. Schutt (project director) with Richard C. Chapman as principal investigator, data recovery was conducted in October of 1995 at LA 101982, a multicomponent Archaic and historical Navajo site on the Fort Wingate Depot Activity near Gallup, New Mexico. The data recovery program included mapping, surface collection and excavation, and was conducted for the U.S. Army Corps of Engineers, Albuquerque District. Navajo use of the site appears to have been residential in nature, dating to the early 1900s. The Archaic occupation was represented by a largely surficial lithic scatter. Analysis is ongoing, with a draft report scheduled for submittal in September of 1996.
Under the direction of Jeanne A. Schutt (project director) with Richard C. Chapman as principal investigator, cultural resource monitoring activities on the Fort Wingate Depot Activity near Gallup, New Mexico, were conducted in 1995 and 1996 for the U.S. Army Corps of Engineers, Albuquerque District. Monitoring activities involved inspection of construction areas associated with installation of a fiber optic cable (November 1995), a borrow pit (March 1996), and a transmission line (May 1996); all related to construction of a missile launch facility by the Ballistic Missile Defense Organization.

William H. Doleman (project director) completed exploratory excavations at the Fernandez Pueblo in the Chupadero Arroyo drainage east of Socorro, New Mexico, with Richard Chapman and Wirt Wills (UNM Anthropology) as co-principal investigators. This final phase of fieldwork emphasized a combined archeological and geomorphological characterization of the prehistoric midden and soils substrate of the 14th century Pueblo IV site, as part of a continued effort to model rates of travel for subsurface dispersal plumes emanating from the midden deposits. The project was sponsored by Sandia National Laboratories, as a joint venture between UNM and New Mexico Tech. Geomorphological studies were undertaken this year by Carol Treadwell and Anthony Garcia (UNM Earth and Planetary Sciences), and were included in a final progress report now in review.

William H. Doleman (project director) with Richard Chapman as principal investigator conducted a Class III inventory of the Trinidad Lake (Colorado) shoreline between 6200 and 6230 feet elevation for the purposes of locating previously recorded and new archeological sites in anticipation of an increase in size of the recreation pool. Eighteen new sites were documented, representing mostly prehistoric (Sopris Phase) and early 20th century occupations. Work was sponsored by the U.S. Army Corps of Engineers, Albuquerque District. A preliminary letter report was delivered in November 1995, and the final report is in preparation.
Tri-Sect Landfill Access Road Project (Safe-Waste, Inc.; Richard Chapman, PI). Report preparation concerning excavation of two sites, and stabilization monitoring of another two sites along the Tri-Sect Landfill access road west of the Rio Puerco in Valencia County, NM was conducted by William Doleman, with Richard Chapman as principal investigator.

Test excavations in the vicinity of the historic presidio town of San Elizarlo, Texas were completed under the direction of Bradley J. Vierra (project director), with Richard Chapman as principal investigator. A draft final report summarizing results of fieldwork and analysis of 18th through early 20th century deposits at the town was submitted in May, 1996. The San Elizarlo plaza and contributing architectural structures were also documented for nomination to the National Register of Historic Places as part of the project, which was sponsored by the El Paso County Lower Valley Water District Authority.

Vierra also directed intensive excavations in the vicinity of the Old Socorro Mission archeological site, historically documented as the first location of Piro Pueblo refugee settlement during the Pueblo Revolt of 1680-81. Analysis of the materials recovered from excavation has been completed, and a draft report preparation is underway. This project was also sponsored by the El Paso County Lower Valley Water District Authority.

Between June and September 1995, OCA crews under the direction of William Doleman (project director) and Patrick Hogan (principal investigator and Assistant Director) completed an archaeological survey of six sections of land in the New Mexico National Guard’s Camel Tracks Training Area near Santa Fe. The survey recorded 99 sites and 430 isolated occurrences evidencing substantial visitation during the Archaic and Early Classic (Pueblo IV) periods. Rock alignments and enclosures -- features generally interpreted as prehistoric agricultural facilities -- were common in the survey area. In his report (Archeological Survey in the Southern Caja del Rio),
however, Doleman proposes that a subset of these features may actually be related to hunting activities.

Work on the cultural resources management program for MAPCO's Four Corners Loop pipeline also continued during FY 95-96 under the direction of Patrick F. Hogan (principal investigator) and Kenneth Brown (project administrator). Excavations at 62 sites impacted by the pipeline were completed between August and December 1995 under the supervision of Janette Elyea and Peggy Gerow (excavation project directors), and analyses of the artifacts and samples began in early January 1996. A second phase of fieldwork involving extensive excavations at an early Archaic residential site near Vaughn, New Mexico is scheduled for the summer, with analysis and reporting continuing through FY 96-97.

Joseph Winter served as principal investigator on a number of medium- and small-sized projects, including the Tomé Hill Phase I and II projects at Tomé, New Mexico; test excavations at Bosque del Apache wildlife refuge near Socorro and the Plaza de Guadalupe in Taos, and various surveys, such as a survey of a 540 acre parcel immediately north of the Mesa del Sol, south of Albuquerque. The results of the Tomé Hill Phase I project were published by Dan Scurlock, Peggy Gerow, and David Kammer, as *The Cultural Resources of Tomé Hill: A Multidisciplinary Investigation*. The reports for the other projects are in preparation or are in draft review form. The Tomé Hill Phase II project represents the continuation of Phase I, with the detailed recording of over a thousand petroglyphs on the hill, and the preparation of an interpretive pamphlet and visitor trail signs. In addition, Winter continued the Huichol Research and Assistance Project, and his other tobacco-related research, described below under "Scholarly Accomplishments".

Table 1 lists the status of all OCA projects, as of 6/30/96.
<table>
<thead>
<tr>
<th>PROJECT</th>
<th>SPONSOR</th>
<th>BRIEF DESCRIPTION</th>
<th>STATUS</th>
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<td>185-372</td>
<td>Office of Military Affairs</td>
<td>Hawk Missile Excavations</td>
<td>Final report in preparation</td>
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<td>Bureau of Land Management</td>
<td>MacBeth Data Recovery Phase I</td>
<td>Completed</td>
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<td>MacBeth Data Recovery Phase II</td>
<td>Completed</td>
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<td>Office of Archaeological Studies, Museum of New Mexico</td>
<td>Alameda Boulevard Data Recovery</td>
<td>Draft report in preparation</td>
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<td>Bureau of Land Management</td>
<td>Phase II Data Recovery Navajo Pueblos</td>
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2. Financial Statement

Most of our effort in FY 95-96 concentrated on completing previous projects with the state-wide U.S. Army Corps of Engineers contract, and the state-wide U.S. Bureau of Land Management Contract. Our work also involved the large El Paso and MAPCO projects. Table 2 lists the direct costs contracted for in new projects and the new indirect costs represented by them.

3. Scholarly Accomplishments

OCA staff continued to make a number of scholarly accomplishments. Ronna J. Bradley completed her Ph.D. degree in Anthropology at Arizona State University. The dissertation title is The Role
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<td><strong>$2,296,553.82</strong></td>
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Ronald Stauber prepared the maps in Mike Hill's Guide to the Hiking Areas of New Mexico, UNM Press. William Doleman (OCA Project Director) presented a paper at the 9th Jornada-Mogollon Conference at the University of Texas, El Paso (November 10-11, 1995) entitled Archeology of an Eolian Landscape: The Border Star 85 and GBFEL-TIE Projects; to be published in conference proceedings in 1996.

Joseph C. Winter continued his research with Native American tobacco, and with the Huichol Indians of Mexico. With regard to the latter, he received an international travel and planning grant from the National Science Foundation, to visit Mexico to develop a larger research grant. He also carried out a research trip to the eastern U.S. and Canada, to collect tobacco from the Iroquois, Wampanoag, Huron, and several other Woodland tribes, as well as a research trip to the western Amazonia, to collect tobacco from the Shipibo and two other tribes. He presented professional papers at the 1996 Navajo Studies Conference and the 1996 Southwest Symposium.
4. Public Outreach

Patrick F. Hogan served as a member of the North-Central Working Group, part of a state-wide network formed by the New Mexico State Archaeologist to formulate recommendations for streamlining cultural resource compliance processes in the state, for improving the quality and cost-effectiveness of contract-funded research, and for more effectively communicating the results of that research to the general public. He was also involved in the New Mexico Archaeological Council's lobbying efforts to prevent the repeal of federal historic preservation legislation and to maintain funding for cultural resources management programs.

Kenneth L. Brown conducted two tours of sites along the MAPCO pipeline route on City of Albuquerque open-space land for the community of Placitas. He also made several presentations for the Hoover Middle School Career Day.

Marie E. Brown also conducted the MAPCO pipeline site tours, while Harding Polk gave several guest lectures at NMSU, Grants Branch, and led a field trip to Chaco Canyon, for one of the NMSU classes.

Richard Chapman (OCA Associate Director) gave talks to the Albuquerque Archeological Society and the Navajo Nation Economic Development Board; led a field trip to the Fort Wingate survey area for the New Mexico Archeological Society; and attended a National Park Service sponsored El Paso Missions workshop. Chapman also served again as Convener of the UNM Board of Archaeologists.

Joseph C. Winter started the Traditional Native American Tobacco Seed Bank and Education Program (TNAT), with the help of Lawrence Shorty, a Navajo student in the UNM Anthropology Department. The seed bank collects, preserves, grows, and distributes sacred tobacco seeds to any Native American requesting them, as long as the resulting tobacco is used only for traditional
purposes. Since January of 1996, when the bank was started, TNAT has given seeds to 82 Native Americans, representing 39 different tribes. Winter and Shorty also taught a 5 day tobacco education course at the Tyendinaga Mohawk Reserve in Canada, emphasizing the negative health effects of commercial tobacco use and the natural and cultural history of traditional tobacco. They additionally presented a talk on these subjects at the Association of American Indian Physicians Cross Cultural Medicine Workshop, in Santa Fe, while Winter served as a mentor in the UNM Health Science Center's Dreamcatcher Science Program for Native American high school students. Winter additionally presented a paper in the U.S. Indian Health Service's National Meeting of Tobacco Control Coordinators.

**B. Plans, Problems, and Recommendations**

The major challenge in FY 96-97 will be to maintain the current level of funding for OCA. We also need to have Anthropology graduate students take on one or more of our projects as dissertation research. Finally, we need to work with the department in developing a cultural resource management faculty position.

**C. Staff Appointments and Separations**

See Table 3 attached.
### CURRENT FULL-TIME OCA EMPLOYEES
**FY 1995-1996**

<table>
<thead>
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<th>NAME</th>
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<td>Arms, George</td>
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<td>Lasusky, Donna K.</td>
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<td>Mudd, Patricia</td>
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<td>Pena, Hugo</td>
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<td>Vierra, Bradley</td>
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<td>Walth, Cherle</td>
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### CURRENT ON-CALL EMPLOYEES
**FY 1995-1996**

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<td>Perlman, Susan</td>
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<td>NEW ON-CALL EMPLOYEES</td>
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<td>Deleo, Gina</td>
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<td>Gevock, Nick</td>
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### WORK STUDY EMPLOYEES

**FY 1995-1996**

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<tr>
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<table>
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<tr>
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<tr>
<td>Barber, Jennifer</td>
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<tr>
<td>Binford, Martha</td>
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<td>Brown, Stanley*</td>
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<td>Gevock-Delahaye, Cecile*</td>
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<td>Lawrence, John</td>
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15
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<td>O'Donnell, Jim</td>
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<td>Persky, Lauren</td>
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<tr>
<td>Yoder, Tom</td>
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</tbody>
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* Employees who were separated in the early part of FY 1995-1996, but were recently rehired near the end of FY 1995-1996
This report summarizes the Maxwell Museum's developments and plans by reference to the three chief areas of its mission: Collections Management, Anthropological Research, and Public Education.

During this year, given the prospect of leaner budgets and a changing national socio-economic context that forecasts less support for museums, especially in their public arenas, the museum staff with the support of the Dean of Arts and Sciences and the active involvement of a facilitator from the Human Resources Division of UNM, initiated a strategic planning process. This process, running through the calendar year of 1996, comprises three working groups, one assessing the Maxwell's role as a research museum in the broader context of current US trends, one assessing the use of the Maxwell's personnel and budgetary resources with a view to suggesting more effective use through internal re-structuring, and one planning a permanent developmental structure to enhance alternative fund-raising capacity. The groups will report their findings in January 1996 after which a related implementation phase commences.
In addition the Maxwell is preparing for its reaccreditation review by a national board of reviewers in 1996. In the 1995-6 year the museum staff conducted the internal self-study, preliminary to visits by the board. We hope that this process will not only reinforce the national quality of the museum but result in realistic suggestions for its greater effectiveness locally and in the wider professional and public arenas.

**Collections Management**

The Museum collections staff and the specially-funded NAGPRA (Native American Grave Protection and Repatriation Act) staff under Brenda Dorr, Curator of Archaeology, have continued the five-year program of inventory, research and compilation of collections data as mandated under the 1990 Act. This project will complete its UNM-funded project in December 1996 but has already been funded by the Department of Interior National Parks Division for a further year. The remaining portion of the process primarily involves consultation with Indian groups and the negotiation/implementation phase for collections impacted by the NAGPRA Act.

The critical long-term storage needs of the archaeological collections detailed in previous annual reports are at last being positively addressed. An existing facility in the old Galles
property is currently being renovated for archaeological collections storage. It is estimated that this will accommodate the next 5 years of growth that will accompany the continuing activities of the UNM Office of Contract Archaeology and the Anthropology Department Field School. Concurrently, plans are being made in collaboration with the National Park Service Chaco Canyon Division to develop a permanent facility to house all of the joint archaeology collections presently stored in the Maxwell Museum. A renewed Memorandum of Understanding signed on behalf of UNM by President Peck in December 1995 advocated this move. A pending large-scale financial gift by a private donor will expedite this solution of the Maxwell's storage problems and also expand the collections research potential of the museum.

On the staff level a hiring freeze of a senior collections management position, resulting from the 1995 campus-wide budgetary cut, stimulated some responsive reorganization. With the help of contingency salary funds made possible by an open junior position, a new position of data operator in charge of all of the computerized collections records has been created. This consolidates duties previously duplicated among the divisions, enhances efficiency and integrates the collections documentation functions. In addition the Museum's Forensic Anthropology program will shortly be supported by a research assistant funded by the Office of Medical Investigation (OMI), the Maxwell's partner in this program, allowing more effective response to the preparation and accession of forensic materials acquired by the OMI.
In terms of long-range organization and planning, the effective management of collections has been promoted by the formation of an active curators group, convened by Dr. Bruce Huckell, Senior Research Coordinator. This group oversees the storage, disposition and research use of all collections and makes suggestions to the Director for policy changes relating to the collections.

Research and Teaching

Several initiatives have promoted the museum's research activity, collections research use and teaching role. The Senior Research Coordinator, Dr. Bruce Huckell is developing a project, to be funded by the National Science Foundation, which will excavate the early palaeolithic Folsom site west of Rio Rancho. He is also planning a collaborative project with Dr. Steve Shackley of the Hearst Museum to investigate McEuwen Cave, another early hunter/gatherer site in eastern Arizona.

The Maxwell Museum, in collaboration with the Office of Medical Investigation, again sponsored its annual Forensic Anthropology training workshop for Pathologists and other forensic investigators in 1995. Also, preparations for the September 1996 Ethnobotanical Meetings at the museum, continued through the year and the planning process for a late 1996 Archaic Southwest symposium are also mostly complete.
Museum personnel with joint appointments in the Anthropology Department taught 7 courses in the Archaeology, Biological Anthropology and Ethnology divisions of the department during the 1995-6 academic year as well as numerous independent study courses.

A new academic prize - the Krisztina Kosse Award - was given for the first time at the commencement exercises in 1996. This award has been created in memory of the late Dr. Krisztina Kosse, long-time Curator of Collections at the museum. It honors a graduating senior in the Anthropology Department with interests in the Old World, the area of Dr. Kosse's research.

Finally, on the organizational level the new Curatorial Committee has as one of its central charges the promotion of research from the Maxwell Museum's collections and records, while a proposed joint standing committee of Museum and Anthropology personnel will commence its existence in October with the mission of identifying and coordinating research and educational initiative of benefit to both departments.

Public Programs

On the public front the chief development was the opening of a new 2280 sq. ft. museum branch in the San Felipe Plaza extension
of Old Town. This comprises a large store and adjacent gallery. The purpose of the expansion is to enhance the public impact of the museum and to create another element of UNM outreach to its general constituencies. The gallery component of the new branch will show small collections of the UNM holdings that might normally not be seen by the public and to make visible their worldwide breadth.

Augmented by the new San Felipe facility, the Maxwell again presented a full schedule of public exhibits (listed below). These were accompanied as usual by a full program of lectures, workshops and children's programs, designed to bring the content of the educational programs to all components of the public constituency.

The classroom teaching program continued to serve the Albuquerque area through its varied programs of human culture. The number of volunteer teachers working for the program increased somewhat this year to 40. Three new programs were introduced: African American Culture, American Indian Beading, and Petroglyphs, the last of these accompanying the Rio Grande Petroglyph exhibit that opened during the year.

1995-6 Exhibits:
- The Beautyway Chant: Navajo Textiles from the Kennedy Collection (San Felipe Gallery).
- Selections from the Maxwell Museum's Ethnological Collections -
Future Plans

During the coming 1996-7 year the chief goals of the museum are 1) to consolidate and refine its plans for the construction of a permanent archaeological research-storage facility, 2) to continue the NAGPRA process 3) to successfully complete the reaccreditation process and 4) to complete its year-long strategic planning process and commence implementation of its resulting suggestions. The former issue involves close cooperation of the Maxwell, the UNM administration and the National Park Service with the support of the major donor. It is to be hoped that the substantial amount already pledged will allow further expansion through matches by the partner institutions and point the way to the realization of a major institutional expansion that will greatly enhance the anthropological status of the university.
The second item involves major consultation of museum NAGPRA staff with interested Indian groups, especially those of the Southwest. These consultancies will identify the magnitude of the requests that UNM must expect for return of anthropological collections to the tribes and clarify the time constraints and mechanisms available for this ongoing process.

The third item involves hosting the national review team in Spring of 1997. This team will meet with museum staff, UNM administrators and professional anthropologists to assess the effectiveness of the Maxwell's programs in relation to their formal educational and public missions. The resulting suggestions will be helpful in developing the overall direction of the museum in the future and hopefully will enhance its ability to be a major player in the national arena of university research museums of human culture.

Finally, the ongoing strategic planning process, due to end in December will generate substantive reorganization suggestions so as to take full advantage of the available and expected resources for at least the next few years. We expect that some staff restructure will occur to allow for better coverage of important but weakly covered areas and new arrangements made to develop a currently-absent development potential. As part of this process the relationship with the Anthropology Department will be strengthened, areas of mutual interest identified, and formal mechanisms devised for their efficient development.
Staff Appointments

Patricia Berry. San Felipe Store Assistant. February 1996
Patricia Cyman. Education Assistant. October 1995
Amy Jameson. San Felipe Store Assistant Manager. March 1996
Lola Neudecker. Accountant. March 1996

Staff Separations

Margaret Duran. December 1995
Elizabeth Lopez Gutierrez. March 1996
Beth Ann McVickers. April 1996
Lola Neudecker. July 1996
Natallie Pattison. April 1996
Francine Stewart. October 1995
Laura Valdez Arena. July 1996

Staff Professional Activities and Publications

Garth Bawden (Museum Director, Professor of Anthropology)
1. Professional
   - Attended invited international conference on Andean
   - Presented paper at Lambayeque Conference "The Crisis of Power
     in Late Moche society."
- Chaired Search Committee for new Biological Anthropologist and Curator of Human Osteology, Anthropology Dept. and Maxwell Museum.
- Presented program on Andean religious symbolism on T.V. Learning Channel "Day of the Dead."

2. Publications

Bruce Huckell (Senior Research Coordinator and Research Assistant Professor of Anthropology)
1. Professional
- Attended Society for American Archaeology Annual Meetings, New Orleans, and presented paper "Style and Substance: Projectile Points, the Cochise Culture and the Archaic Prehistory of the Southern Deserts in the American West."

2. Publications
- "Of Marshes and Maize, Preceramic Agricultural Settlements in the Cienega Valley, Southeastern Arizona." Anthropology Papers of the University of Arizona 59, University of Arizona Press.

Katherine Liden (Public Programs Coordinator)

Professional
- Participant in National Society of Fundraising Executives and Public Relations Society of America.
- Board Member of Keep Albuquerque Beautiful and Scandinavian Club of Albuquerque.
- Recipient of grant from NM Arts Division Master/Apprentice Program to serve as Master folk artist in the area of Swedish fiddling.

Marian Rodee (Curator of Southwest Ethnology)

Professional
- Promoted from Lecturer to Adjunct Assistant Professor, Art Department, UNM
- Attended and presented at N.M. State Museum Annual Meetings, Las Vegas and the Navajo Studies Conference, Durango CO.
Mary Smith (Education Curator)

Professional
- Panelist at UNM Celebration of Differences event.
- Attended American Association of Museums Seminar "Learning in Museums" as a Fellowship Invitee.
- Participant in the accreditation process for UNM College of Education by the National Council for the Accreditation of Teacher Education and New Mexico Department of Education.
- Consultant to NM Natural History Museum for "The Rio Grande Bosque Workbook."
- Consultant for the Bureau of Land Management Video "Mimbres Archaeology."

Ian Wagoner (Director of Exhibits)

Professional
- Consultant for El Camino Real Interpretive Center Project (Cherry and See - Architects).
- Consultant for Chaco Culture National Historical Park Wetherill Centennial Exhibition.
- Consultant for Fort Craig Interpretive Center project with U.S. Department of Interior, Bureau of land Management.
ANNUAL REPORT
of the
DEPARTMENT of BIOLOGY

FY 1995–96
Annual Report
by:

Terry L. Yates, Chair
Department of Biology
The University of New Mexico
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EXECUTIVE SUMMARY

The Department of Biology continued past trends of growth over the past fiscal year in terms of program development, graduate and undergraduate teaching, and research. The number of faculty FTEs, however, actually decreased by two due to the retirement of Drs. Cliff Crawford and Bud Riedesel. Despite this fact, the department experienced increased enrollment, increased extramural funding, continued research productivity, and expanded success in development and enhancement of our core facilities.

The Department of Biology recorded another remarkable year of productivity in virtually all phases of academic endeavor. Research undertaken by one of our faculty members, Dr. Randy Thornhill, attained national visibility in a feature article published in Newsweek. Another colleague, Dr. Kathryn Vogel, was honored to present the 1996 UNM Research Lectureship, the highest award for excellence in research offered by UNM. Dr. Vogel was also the recipient of the prestigious Kappa Delta Elizabeth Winston Lanier Award by the American Academy of Orthopedic Surgeons. Dr. Manuel Molles was a recipient of the 1995-96 Outstanding Teacher of the Year Award. Dr. Terry Yates was the 1995 recipient of the prestigious Robert L. Packard Outstanding Educator Award from the Southwestern Association of Naturalists. The department was also successful in recruiting three new faculty members—ecologist and insect curator Dr. Jennella Loye, ecologist Dr. Scott Carroll, and physiologist Dr. Gretchen Hofmann. In addition, Dr. Louise Lewis and Dr. Paul Lewis, both recruited in the previous year, have joined our faculty, providing a much-needed helping hand.

The number of undergraduate majors in the Department of Biology continues to spiral upwards at a rate of approximately 20% per year. Response by the department has been to continue our efforts to re-engineer undergraduate education by expanding opportunities for biology students in the research arena, thus further integrating formal instruction with hands-on experience. During the past year, major outside funding was acquired by Biology faculty for one new program that involves integration of students into research, in addition to the four already in place. Dr. Ellen Goldberg with biologist John Trujillo and a number of associate investigators on the Main Campus and in the Medical School were successful at getting funding for a new MBRS grant that will involve numerous minority undergraduate and graduate students in research. Funding for this program was acquired from the National Institutes of Health (NIH). Drs. Donald Natvig, Mary Anne Nelson, Margaret Werner-Washburne and Robert D. Miller previously received a three-year NSF award called the "Neurospora Genome Project," which primarily supports undergraduates. These projects, along with the previously awarded Howard Hughes Medical Research grant awarded to Dr. Kate Vogel, programs associated with the Museum of Southwestern Biology, the Sevilleta LTER, and numerous student additions to other existing research grants, all serve to engage our undergraduate students in biological research early in their education.

Outside funding for programs in Biology also maintained an upward trajectory during the past academic year. Total number of grant dollars increased from $4,237,119 to $4,927,390 in FY 96. Of this amount, $1,055,728 was returned to the University of New Mexico in the form of indirect costs; this represents an increase of $690,271 (16.3%) over the previous year. From July 1995 through June 1996, members of the Department of Biology submitted 76 research proposals totaling $13,806,197 (see Appendix G); many of these are still under review.

Products resulting from these research activities were also numerous. During the past year, biology faculty authored, edited or contributed eight chapters to books and published 48 articles in scholarly journals. An addi-
tional nine articles were authored by biology graduate students exclusive of those which involved faculty. In addition, these 32 faculty members authored five popular articles and 56 abstracts, most of which involved presentation of a scholarly presentation at a national or international meeting. Invited seminars and plenary presentations were given by these same scientists at 67 additional institutions during this same time period. Biology faculty also served on the editorial boards of 14 different scientific journals during the past year.

Three departmental core facilities—The Sevilleta Field Station, The Museum of Southwestern Biology, and the Molecular Biology Facility—experienced major new developments during the year beyond the unprecedented productivity all experienced through normal research and teaching activities. The Field Station was awarded a development grant from the National Science Foundation that will greatly enhance the current infrastructure of this facility.

The Museum of Southwestern Biology (MSB) received several major grants in the area of emerging infections and has become the national repository for specimens and tissues resulting from research related to public health issues centered around zoonotic diseases. Collaborative research with the Centers for Disease Control and Prevention, the Indian Health Service, and the state Department of Health resulted in the MSB Division of Mammals accessioning more mammalian research specimens than any North American museum, including the Smithsonian. The MSB also achieved major enhancements to its computer facilities and frozen tissue collections and added two new staff positions.

The Molecular Biology Facility experienced major successes as well, which is detailed in Appendix E. In conclusion, success in recent hiring attempts have done much to strengthen our capacity to meet a seemingly ever-increasing undergraduate and graduate demand for training in biology, but overall numbers of faculty and staff remain inadequate to keep pace with demand. Because of the continuing growth of both modern biological sciences and our own programs, the department urgently needs new space. Also, several recent faculty hires are currently occupying laboratory space requiring renovation. Funds for renovation of existing space have been sought but have not yet been forthcoming from the administration, ultimately posing health and safety hazards and creating an attitude of disquiet among our newest faculty members. Because the number of grant dollars handled by the department has increased many-fold in recent years, the size of the present accounting staff is also inadequate and needs to be increased. Another perpetual problem demanding a real response by the administration is the issue of faculty salaries. Despite repeated appeals to the administration, and despite the strong statement provided by our 1994 Graduate Program Review regarding the salary issue, Biology Department salaries continue to fall below the mean for the College of Arts & Sciences. Accordingly, we will continue to seek salary increases that redress this imbalance as our highest departmental priority. In summary, although the Biology Department has continued to excel as an academic unit, we feel we need the benefit of strong and decisive leadership from the administration regarding the issues of space, renovation of existing space, increased staff, and improved salaries if we are to continue to prosper. Failure to provide leadership regarding these key issues may have grave consequences with respect to retaining the several outstanding programs developed here in recent years.

INTRODUCTION

The Department of Biology experienced another exceptional year by almost any measure. The past fiscal year saw high levels of productivity by all sections of the department and major increases in outside funding (Appendix A), core facility development (appendices B, C, D & E), research productivity (Appendix F.3), and graduate and undergraduate education (Appendix F.4, F.5). The department had an exceptional year and FY 97 promises to be even better.

The Biology Department currently employees more than 440 individuals if the student payroll is included, has more than 115 graduate students, more than 100 adjunct faculty, 74 staff, and 1,041 undergraduate majors.
The department again led the College in number of outside grants. Despite these numbers, the department currently employs only 32 FTE faculty, who have salaries that are below the average for the College of Arts and Sciences. These individuals, however, along with the department's exceptional staff and students, managed another incredible year, the details of which are provided below. This narrative provides only the highlights, however, of the diverse and numerous accomplishments achieved and the reader is referred to the appendices for more details.

DEVELOPMENTS & ACHIEVEMENTS

GRADUATE PROGRAM—DEGREES AWARDED (1995–96)

The graduate program, like the undergraduate program, continued to expand during the previous year. We received 117 applications (compared to 81 in 1990) for our graduate program, but were only able to accept 23 (19.7%) into our program. At the same time, the department awarded 16 graduate degrees to the following students:

Master Degrees:
- Marco Altamirano—Dr. H.L. Snell
- Santiago Garcia—Dr. J.H. Brown
- Kelly Gordon—Dr. A. Kodric-Brown
- Virginia Johnson—Dr. C.S. Crawford
- Fiona Jordan—Dr. L.L. Barton
- Elizabeth Milford—Dr. S.J. Altenbach
- Leland Pierce—Dr. H.L. Snell
- Stephen Reed—Dr. T.K. Lowrey
- Sharon R. Tarbox—Dr. B.T. Milne

Doctoral Degrees:
- Max "Tad" Crocker—Dr. M.C. Molles
- Yuemei Geng—Drs. K.G. Vogel & M. Sopori
- Colleen A. Hatfield—Dr. B.T. Milne
- David W. Mehlman—Dr. J.H. Brown
- Michele Merola-Zwartjes—Dr. J.D. Ligon
- James R. Robbins—Dr. K.G. Vogel
- Patricia Wilber—Dr. D.W. Duszynski

GRADUATE STUDENT AWARDS & ACCOMPLISHMENTS

HONORS & AWARDS. Biology graduate students received numerous awards and honors during the past year (Appendix F.4.f). Three students (Michael Scott Burt, Kelly Gordon, and Michele Merola-Zwartjes) were awarded outstanding teaching awards by the department for FY 96. In addition, Dawn Kaufman was awarded the prestigious Shadle Fellowship by the American Society of Mammalogists, making UNM the national winner for the second year in a row.

SERVICE ON COMMITTEES. Graduate students served the department on the following committees during FY 95:
- Daniel Albrecht—Graduate Policy Committee
- Sandra Brantley—Undergraduate Policy Committee & Invertebrate Ecologist Search Committee
- Claire Carpenter—Research Day Committee
- Amy Ditto—Research Day Committee
- Laura Gonzalez-Guzman—Animal Physiology Search Committee
- Jesse Hamilton—Graduate Student Selection Committee

OUTSIDE FUNDING. Several graduate students received outside funding, which is detailed in Appendix F.4.f.

PROFESSIONAL ACCOMPLISHMENTS. In addition to sharing numerous accomplishments with their major professors, our graduate students were again highly productive on their own. During FY 96, our students published an additional nine scholarly papers in refereed journals and gave eight presentations at meetings.
GRADUATE PROGRAM REVIEW

During the Spring semester, 1995, the department underwent an outside review of our graduate program. The outside review committee's full report was included in our 1995 Annual Report. The committee was highly complimentary of the department and rated almost all aspects of our graduate program as nationally competitive. The areas recognized as being most in need of improvement and progress made during the year include:

1) Faculty salary support, especially for associate and full professors: no progress.
2) Faculty were over-burdened: still a problem, but the department hired two new faculty and a new lecturer, all of whom will join the department in January 1997.
3) Lack of space: Still critical, but the department has made significant progress toward acquiring space vacated in the old UNM bookstore.
4) Limited staff support: no progress.
5) Lack of a strategic plan: the department developed a strategic plan at a retreat at the field station during the Fall semester. Major items of this plan are summarized in Appendix P.

UNDERGRADUATE PROGRAM

Enrollment in biology courses and the number of declared majors continued to increase during the past year as did the ratio of students to FTE faculty. Departmental efforts to re-engineer undergraduate education also continued during FY 96. Four major externally funded programs again served to integrate our undergraduates into the mainstream of the biological sciences. Thanks to a Research Improvement in Minority Institutions (RIMI) grant from the NSF, support from the Howard Hughes Medical Institute, an REU site grant from the NSF, and an MBRS grant from the NIH, large numbers of undergraduates have been introduced to basic research as part of the educational experience at UNM. In addition to these specific programs, many additional undergraduates were actively involved in research projects in the department through support from the dozens of regularly funded research projects that were active in the department. Many more gained research experience through the department's core facilities such as the MSB, the Molecular Biology Facility, and the Confocal Microscope Facility.

FACULTY

SCHOLARLY ACTIVITIES. During the past calendar year, Biology faculty authored 60 scholarly works and presented more than 60 papers at scientific meetings. Invited talks were also given at 29 institutions by our faculty, who served as editors for three scientific journals during 1996.

SPONSORED RESEARCH. Departmental success at obtaining outside funding continued during the past fiscal year with FY 96 funds increasing by more than 16.3%. The department registered 4.927 million dollars in outside grant support for FY 96 and, as of September 1996, had more than $30,000,000 in current outside research support.

FACULTY HONORS. Several Biology faculty received special honors during 1996. These are detailed in Appendix F.6.b.
CORE FACILITIES

MUSEUM OF SOUTHWESTERN BIOLOGY (MSB). The Museum of Southwestern Biology, like the department in general, had another productive year (Appendix B). Material from the various museum divisions was used in more than one third of the Department’s classes, and close to that percentage of graduate students used the various MSB facilities in their research. These important facilities formed the basis for literally hundreds of research papers published last year by UNM researchers and those from other institutions worldwide.

During the past fiscal year, the MSB served as a repository for all Sevilleta LTER voucher material and was designated the national repository for the Centers for Disease Control and Prevention. All of these activities have served to solidify the MSB’s position as one of the most significant such university facilities in the world and, in fact, the Division of Mammals accessioned more material during FY 96 than any other similar facility, including the Smithsonian.

The MSB experienced significant success in attracting outside funding during this period (Appendix B). Research grants were received from the NSF, CDC, IHS, Forest Service, Fish and Wildlife Service, Bureau of Reclamation, and BLM, to name only a few. Of particular note was a grant from the NSF by Drs. Tim Lowrey and Terry Yates for more than $300,000 (plus equal matching from UNM) to purchase compactor units for the Museum’s new space in the old bookstore. Museum research teams were active on most continents and were especially active in Latin America. In addition, significant support was provided by MSB divisions to APS, the Zoo, and the State.

LONG-TERM ECOLOGICAL RESEARCH PROGRAM (LTER). The Sevilleta LTER Program received a major financial boost. The LTER, along with the MSB, continued to receive international publicity for its role in better understanding emerging infections.

MOLECULAR BIOLOGY FACILITY. The Department’s newly established Molecular Biology Facility had an outstanding year in terms of education, research and external funding (see Appendix E).

SEVILLET A FIELD STATION. Biology’s new field station in the heart of the Sevilleta National Wildlife Refuge continued to develop and prosper during the past year. Hundreds of students and faculty utilized the station’s facilities including visitors from numerous other countries and institutions (Appendix D). A third facilities support grant was received from the NSF in 1995 to support of the purchase of high-end computer equipment, field vehicles, GPS enhancements, and other station equipment, which now have been added to the station.

FINANCIAL CONTRIBUTIONS

The department owns a variety of restricted and unrestricted accounts at the UNM Foundation. We also have established several endowments there. All did well during the past fiscal year.

PERSONNEL

FACULTY. Drs. Paul and Louise Lewis were hired. Dr. Stephen A. Stricker was promoted from Assistant Professor to Associate Professor.

STAFF. See Appendix H for staff hires and terminations.

ADJUNCT FACULTY. A complete list of Biology adjunct faculty is provided in Appendix I.

MUSEUM ASSOCIATES. A list of museum associates is provided in Appendix J.
CURRICULA

A complete list of Biology course offerings for FY 96, along with a summary of student credit hours, is provided in Appendix K.

SPECIAL EVENTS

Research Day. The department held its fifth Annual Research Day on March 29, 1996. The event was made possible by funding from the MBRS Program, in addition to help from UNM Biology. The day-long event focused on undergraduate and graduate research being conducted at UNM and was attended by hundreds of students and faculty. Biology students presented 49 papers and posters. This year's featured speaker was Dr. C.J. Peters, Chief of the special pathogens branch of the Centers for Disease Control and Prevention.

Departmental Seminar Series. The primary seminar series for the department again featured an outstanding group of scientists. A complete listing of invited seminars for last year is provided in Appendix M. The department also hosted numerous other more specialized series in cell/molecular biology, ecology, botany, and systematics.

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, weight 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.

Job descriptions are periodically reviewed and revised for accuracy in relation to actual functions and duties. Employees are also encouraged to upgrade their skills through participation in university-sponsored seminars and training programs.

CONCLUSIONS

The Department of Biology continued its previous trend of growth in almost all areas of scholarly activity. Given the continuing increases in students requesting access to the Department's programs, both at the graduate and undergraduate levels, the continued lack of parity in faculty salaries relative to other, less productive A&S units, and the difficulty obtaining funds for laboratory renovations, there may be cause for concern. These data strongly suggest that the department may be close to or beyond the limit at which the current faculty and staff can functionally operate. Strong support for the department by the state of New Mexico at this time in terms of human and other resources will help ensure that the Department of Biology at the University of New Mexico continues to be a world leader in this field.
APPENDICES

FY 1995–96

ANNUAL REPORT

DEPARTMENT OF BIOLOGY
APPENDIX A

ACTIVE

CONTRACTS

& GRANTS,

FY 1995–96
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<td>SMITH, SELISA</td>
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<td>Microevolutionary Responses Of Woodrats To Climate Change Since The L</td>
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<td>WAGAF</td>
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<td>3-21931</td>
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<td>USBR</td>
<td>Coop. Agreement: Ichthyofaunal Studies Fed. Listed Species, Pecos River</td>
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<td>Proteoglycan Structure, Metabolism And Role In Tendon. 3/11/96: Suppl.</td>
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**Database Description:**

- **OB Name:** Data Base Description:
- **ACCOUNTS:** LIST OF ALL ACCOUNT ID's
### Biology Department - Chart of Accounts

**Alpha Sequence by P.I. Name & Account #**

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**DB Name:** Data Base Description: ACCOUNTS

**Index Name:** ACCTNAME

**Index Description:** ACCTPI

**Number of Accounts:** 172

**Y=Post Transactions to this acct**

Total Amounts: $21,427,302.98, $6,267,092.09
APPENDIX B

ANNUAL REPORT:
MUSEUM OF SOUTHWESTERN BIOLOGY
INTRODUCTORY COMMENTS

Currently the Insect Collection contains at least 30,000 labelled specimens. Most are insects, but we have an extensive spider collection as well. A large proportion of the specimens have been identified to the family and genus level. Many specimens have been sent out for identification to the species level. In addition, the collection includes a fairly comprehensive unit of insects organized for teaching and demonstration purposes. Finally, there are also voucher collections and special collections that reflect ongoing and completed research and other activities. The assistant curator has been M.J. Mund-Meyerson through the summer of 1996 and Sandra Brantley is the assistant curator for the Fall 1996 semester.

NUMBER OF VISITORS

Approximately 25 individuals from outside the University visited the collection and five individuals within the University made use of the collection. We identified approximately 50 insects and spiders for individuals in the greater Albuquerque community.

ACCESSIONS

Dick Fagerlund donated several drawers of insects, mostly beetles (particularly tenebrionids from New Mexico and western Texas) and macrolepidoptera collected from around the state. M.J. Mund donated the voucher specimens from her dissertation research on insect species fogged from cottonwood and Russian olive trees at several sites along the central Rio Grande valley. Jane Mygatt and Jesse Hamilton donated additional material.

LOANS

One loan was sent out to another institution, six loans were sent out within the University and four loans were sent out within the community. In addition to the loan of insect collection, books, field equipment (nets, killing jars, collection cases, vials) and pinning materials (pins, blocks, labels and pens) were loaned to faculty and staff of the University.

RESEARCH

Several students working on graduate degrees have continued extensive insect collecting and research: M.J. Mund-Meyerson, Sandra Brantley and Fred Heinzelmann. In addition, arthropods have been routinely collected by the ongoing research at the Bosque del Apache National Wildlife
Refuge, the Bosque Biology field class (course 407/507) at the Rio Grande Nature Center and by David Lightfoot from Bandelier National Monument.

LTER

Since 1989 the Sevilleta Long-Term Ecological Research Program (LTER) site has added significantly to the Division of Arthropods. Supervised by Robert Parmenter and Sandra Brantley, the LTER has processed approximately 110,000 specimens, identifying 15 orders, 104 families and more than 800 species. The collection, stored at the Department of Biology Field Station at the Sevilleta, occupies over 50 drawers. Many of the students in the Research Experience for Undergraduates (REU) program have used or added to the collection from their summer projects.

PUBLIC SERVICE

Most of the public service was performed in the way of answering questions about local insects through phone calls. Over 200 calls were returned and five letters answered, primarily by the assistant curator, M.J. Mund-Meyerson. In addition, 12 school groups (four from Head Start, two from Mitchell Elementary, two from Kit Carson Elementary and three from home schools) visited the collection.

CURRENT PROJECTS

Dr. Cliff Crawford's donated books and journals continue to be processed for the reference library in the Museum. Dick Fagerlund is reviewing unlabeled and damaged material for removal from the collection, releasing a large amount of drawer space for recent acquisitions. Sandra Brantley and LTER technician Stacey McCoy continue to work with taxonomists on the identification of Sevilleta specimens. Dick Fagerlund has discovered several new species from the Sevilleta and other areas in the state and is writing species descriptions papers.
The effort continues to repatriate historical New Mexico material. During this reporting year 127 specimens collected by William J. Bennetts in 1903 and 1904 were received in exchange from the North Carolina State Museum, for more recently taken specimens from the state. These include the largest single-site, nesting season sample from New Mexico (from Whitcomb Springs, Sandia Mountains).

The total number of specimens catalogued from the Amadeo M. Rea collection now stands at 3580, with still a scattering of skins and skeletons to be added. It should again be noted that this collection is proving of great valuable in providing well identified and annotated material for use in identifying New Mexico specimens of geographically variable species.

During calendar year 1994, 1,006 specimens were catalogued. Through the efforts of Michele Merola and Patrick Zwartjes all specimens catalogued up to date have been entered into the computerized data base. This resource has been used repeatedly - in curatorial routines and for a few requests from outside researchers for data by taxa or geography. The data base still needs minor revision. Fields have been added for disposition of specimens (exchanges etc.) to pull that information out of the remarks field, and a field has been added for cryogenic tissues, and the single field for date is to be broken into three fields for day, month and year.

As a first step in the integration of the 3100 specimens in the National Biological Survey collection with the MSB collection, the NBS electronic database was converted from Reflex to Paradox, and inserted into the MSB series, occupying nos. 10,001 - 14,000, with NBS specimen no. 1, becoming 10,001 etc. Thus no changes will be made on the NBS labels. This conversion proved to be very easy. Discussions are in progress as to the next stage of the incorporation.

Field collecting during the period included three trips to southern Texas in September, December and April, with salvaged birds and mammals from the National Wildlife Refuges being obtained during the first two of these trips.

Personnel:

Dr. J. David Ligon, Curator of Ornithology
Dr. Robert W. Dickerman, Curatorial Associate MSB; Acting Curator, Ornithology
Ms. Julie Hagelin, Graduate Student
Ms. Michele Merola, Curatorial Assistant
Mr. Scott Norris, Curatorial Assistant
Mr. Patrick Zwartjes, Curatorial Assistant
Ms. Katherine M. Hoff, Student Assistant
Dr. Eleonora H. Trotter, Volunteer

Publications:

ANNUAL REPORT (FY 1995-96)
MUSEUM OF SOUTHWESTERN BIOLOGY
DIVISION OF FISHES

I. COLLECTION ACTIVITY: 28,670 catalogued lots; 1,526,823 catalogued specimens

A. ACCESSIONS: The MSB Division of Fishes continued to accession specimens for various long-term projects. Those projects were: U.S. Bureau of Reclamation, San Juan River Recovery Implementation Program for Seven Years; New Mexico Department of Game and Fish, Secondary Channel Fish Study, Rio Grande Silvery Minnow Habitat and Population Studies, and Pecos River Larval Drift Study. Gifts of specimens included three that required the identification services of the MSB Division of Fishes staff. Likewise, three of the four loans sent to the Division required identification of larval and juvenile fishes. No exchanges of specimens took place this year.

EXPEDITIONS: 23 LOTS, 7029 SPECIMENS
GIFTS: 39 LOTS, 896 SPECIMENS
LOANS IN: 53 LOTS, 36,279 SPECIMENS
EXCHANGES: NONE

B. TRANSACTIONS: Many of the division's transactions involved the loaning of equipment, transfer of tissues for the New Mexico Department of Game and Fish and loans out for verification of species identifications.

LOANS OF SPECIMENS: 60 LOTS, 468 SPECIMENS
LOANS RETURNED TO OTHER INSTITUTIONS: 49 LOTS, 108 SPECIMENS
GIFTS SENT OUT: 89 LOTS, 1081 SPECIMENS
EXCHANGES: NONE
TRANSFERS AS MUSEUM SERVICE: 7 LOTS, 70 SPECIMENS
LOANS OF EQUIPMENT AND BOOKS: 5 TRANSACTIONS

C. VISITORS: Most visitors to the collection this year were students in the UNM Biology Department conducting research involving fishes. Other visitors were from the New Mexico Department of Game and Fish-Endangered Species Program for piscivore studies; U.S. Bureau of Reclamation Pecos River studies; University of Arizona, seminar and ictalurid study; Carnegie Museum, collections management discussions; and a home school tour group.

VISITORS TO THE MSB FISH COLLECTION: 35

D. REQUESTS FOR INFORMATION AND SERVICES: Beyond the normal telephone requests from the public for information on fishes, the staff in the Division of Fishes responded to other professionals' queries regarding the divisions holdings of fishes, locality information for historic sites, and increasingly, curatorial questions and field collecting techniques. This does not include the many hours of specimen identification services provided by staff in the division; those figures are provided in the accessions information (A.) Likewise, this does not include curatorial questions that the Collections Manager answered in her position as Chair of the American Society of Ichthyologists & Herpetologists Subcommittee on Supplies and Resources. This year 18 hours of personal time was necessary to answer all e-mail and letter queries received.

TWELVE REQUESTS FOR INFORMATION AND SERVICES INVOLVING TOTAL OF 7.5 HOURS OF STAFF TIME.
E. VOLUNTEERS: None were available this year.

F. PUBLICATIONS received using MSB specimens: TOTAL 1


II. MSB DIVISION OF FISHES PERSONNEL AND ACTIVITIES


STEVEN P. PLATANIA, M.S. Associate Curator, Program Director. Rio Grande silvery minnow habitat and population studies; Pecos and San Juan Rivers drift studies and larval identifications. Member of the San Juan River Research group and the Rio Grande Recovery team. Member of the American Society of Ichthyologists and Herpetologists Board of Governors.

ALEXANDRA M. SNYDER, B.A. Collection Manager. Processing and cataloguing 1995-96 San Juan River seine and drift net collections received from the U.S. Bureau of Reclamation. Chair of the American Society of Ichthyologists and Herpetologists Subcommittee on Supplies and Resources. Organizer of workshop for the 1997 ASIH meetings in Seattle.


CHRISTOPHER S. ALTENBACH, undergraduate, Biology. Primary responsibility in larval identifications for U.S. Bureau of Reclamation, New Mexico Game and Fish, and U.S.F.W.S. Fisheries Resource Office. Field crew member for Rio Grande silvery minnow habitat and population studies.

JOHN P. LARSON, B.A. Biology Field Assistant. Primary responsibility as field assistant for San Juan River study, June–August 1996. Process and identify adult fishes for Rio Grande study. Field crew member for Rio Grande silvery minnow habitat and population studies.

W. HOWARD BRANDENBURG, undergraduate, Biology. Primary responsibility to San Juan River drift study, June 1996–August 1996. Collecting, sorting, preserving and identifying fishes of the San Juan River.

KATHERINE M. HOFF, Graduate student, Anthropology. Primary responsibility as field assistant for San Juan River drift study, June 1996–August 1996. Curatorial assistant.

ASHLEY CRAMER, undergraduate, Biology. Primary responsibility as curatorial assistant, sort and prepare collections for identification and cataloguing, enter data specific to projects or for catalogue.

MARK JORDAN, Graduate student, Biology. Primary responsibility as computer programmer and assistant database manager for fish collection database. Program development.

CHARLES BUENBAUM, Graduate student, Biology. Primary responsibility as computer programmer and assistant database manager for fish collection database.
MSB Curatorial Associates:

STEVEN P. PLATANIA, M.S. Department of Biology, The University of New Mexico
DAVID L. PROBST, Ph.D. New Mexico Department of Game and Fish, Santa Fe

MSB Research Associates:

ASTRID KODRICK-BROWN, Ph.D. Professor of Biology, The University of New Mexico
BROOKS M. BURR, Ph.D. Professor of Zoology, Southern Illinois University

A. PRESENTATIONS


B. PAPERS AND REPORTS

1. Presentations at Scientific Meetings

   76th Annual Meeting of the American Society of Ichthyologists and Herpetologists, New Orleans, LA, June 1996.


2. Reports and Publications


III. SUMMARY OF FY 1995-96 ANNUAL REPORT

Due to the continuing support of the New Mexico Department of Game and Fish, the U.S. Bureau of Reclamation, and the Fisheries Resource Office of the U.S. Fish and Wildlife Service, the MSB Division of Fishes has continued to grow in terms of its collection size and receive important financial backing from these agencies. The anticipated move to the renovated UNM Bookstore will relieve the critical lack of space for the fish collection and the division’s personnel as well as demonstrate to these contracting agencies the University of New Mexico’s commitment to the fish collection and its programs.

The staff of the Division of Fishes share in the task of assisting biology students in their various projects involving fishers; design and technique being two areas in which information is sought. Students requested loans from the small divisional library, received help in selecting specimens for lab exercises, and borrowed equipment necessary for the field or lab.

Transfer of the database to a new Pentium computer was successful. The database program was upgraded to Paradox 7 for Windows95 and more rapid data retrieval is now possible.
UNM HERBARIUM ANNUAL REPORT (FISCAL YEAR 1995-1996)

The vascular plant holdings of the herbarium now exceed 90,400 specimens. All of our administrative activities such as loan requests, generation of specimen labels, and general record keeping have been computerized. Each new specimen accessioned has its label information captured in the computer database. We are working toward computerizing our collection holdings and have over 20,000 specimens in our database (22% of the collection).

Taxonomic Composition

<table>
<thead>
<tr>
<th>Vascular Plants</th>
<th>Mounted Sheets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pteridophytes</td>
<td>1,500</td>
</tr>
<tr>
<td>Gymnosperms</td>
<td>2,000</td>
</tr>
<tr>
<td>Angiosperms</td>
<td>87,400</td>
</tr>
<tr>
<td>Asteraceae</td>
<td>10,000</td>
</tr>
<tr>
<td>Fabaceae</td>
<td>6,100</td>
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<tr>
<td>Poaceae</td>
<td>11,800</td>
</tr>
<tr>
<td>Cactaceae</td>
<td>3,650</td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>Seeds</td>
<td>500</td>
</tr>
<tr>
<td>Mosses</td>
<td>200</td>
</tr>
<tr>
<td>Lichens</td>
<td>1,300</td>
</tr>
<tr>
<td>Fungi</td>
<td>200</td>
</tr>
<tr>
<td>Total</td>
<td>92,600</td>
</tr>
</tbody>
</table>

The museum submitted a proposal and was awarded a grant for $310,000 from the National Science Foundation. Tim Lowrey is the PI and Terry Yates is the Co-PI.

A number of Federal, State, and private agencies continue active associations with the herbarium. The New Mexico office of the Nature Conservancy continues to use the UNM Herbarium as the repository for specimens collected for the Heritage Program Database of Threatened and Endangered Plants. The plant specimens collected for the Sevilleta LTER are being deposited in the herbarium, and data from all the collections are entered in the database. The curator continues his efforts on the NM Plant Recovery Team. In addition, the curator was elected for a two year appointment as council member for the American Society of Plant Taxonomists.

The Herbarium continues to serve as an important training facility for both undergraduate and graduate students in plant taxonomy and herbarium techniques. During the year we have one undergraduate work-study student per term working in the herbarium. We also have a graduate student R.A. working in the herbarium every term.
The UNM herbarium's lichen, moss and fungi collection are fully catalogued and curated. The herbarium library of over 800 volumes and journals are catalogued and assigned Library of Congress Call numbers, this database is soon to be available over the departments computer networks. A teaching collection (over 800 specimens) are catalogued and housed in room 19. In addition, we are continuing the process of identifying the backlog and revising nomenclature of specimens in the collection.

Much of the efforts of the past year involved replacing old specimen folders with archival quality acid-free folders. As a result, more than 90% of the holdings are stored for optimal preservation. In addition, work continues on restructuring and converting the existing database for future networking capabilities. The long term goals of the herbarium remain to initiate and complete basic systematic research on Southwest and Pacific Basin vascular plant groups, to complete full computerization of the collection, provide a comprehensive representation of the floristic diversity in New Mexico, provide taxonomic services to researchers, to confirm identifications of research organisms, and provide botanical research material for students in the UNM Biology Department.

**Summary of Curatorial Activities**

Number of specimens accessioned: 1,500

Incoming materials: A total of 1929 specimens were received into the UNM Herbarium.

Gifts received: (19 comprising 363 specimens)
Loans received: (31 comprising 1566 specimens)

Transactions: A total of 1340 specimens housed in the UNM Herbarium were sent to various institutions/researchers.

Loans sent: (16 comprising 373 specimens)
Loans returned (21 comprising 569 specimens)
Gifts sent: (5 comprising 287 specimens)
Exchanges sent: (1 comprising 111 specimens)

Visitors: More than 410

322 Professional
88 Public/students

Information requests:

More than 134 requests for information were given to academics (44), professionals (35) and the public (55)
UNM Herbarium Personnel, Graduate Students and Associates

Personnel


Jane Mygatt, B.S. M.S. Graduate student. Collection manager. Editor of international electronic-mail databases: Plant Taxonomists (PTO), Herbaria On-line (HOL) and Collection Managers (CMO). Oversees herbarium functioning, database development, nomenclature updates, student training and public assistance.

Amelia Lea, Undergraduate, work-study 15 hrs/week, (Fall 1995 only). Processing herbarium specimens and data entry.

Graduate students


Dixie Daniels, M.S. Graduate student (T. Lowrey) Thesis title: Isozyme analysis of Townsendia eximia and T. formosa in New Mexico and Colorado.

Chris Frazier, Ph.D. Graduate student (T. Lowrey) Fitness and Evolutionary Significance of Hybrids in Nepenthes.


Volunteers

Amelia Lea (Spring/Summer 1996) 5 hrs/week
Processing vascular plant collections.
Research and Curatorial Associates

David Bleakly, M.S. Curatorial Assoc. Botanist, private consultant

Jack Carter, Ph.D. Research Assoc. Professor of Biology (Senior Status) The Colorado College, Research Grant - Trees and Shrubs of New Mexico - Southwest Studies Program

David Deardorff, Ph.D. Research Assoc. Biologist, NM State Lands Office

William Dunmire, M.S. Curatorial Assoc. Nature Conservancy (retired); Ethnobotany of the Southwest (1995)

William Hevron, M.S. Research Assoc. Botanist, Navajo Natural Heritage Program

R. DeWitt Ivey, M.S. Research Assoc. APS (retired); Botanical Author.

Charles "Chick" Keller, Ph.D. Research Assoc. Director, Institute of Astrophysics, Los Alamos Scientific Laboratories


Esteban Muldavin, Ph.D. Research Assoc. Ecologist, New Mexico Natural Heritage Program


Presentations and Meetings Attended by Herbarium Personnel


Publications of UNM staff and associates


Grants Awarded

Chris Frazier (1996) Student Research Allocation Committee Grant, Vice Presidential award ($200).

Tim Lowrey and Terry Yates (1996) Relocation & Compactorization of the Museum of Southwestern Biology (MSB). ($310,000)

Jane Mygatt (Spring 1996) Graduate Research Allocation Committee Grant ($300), Student Research Allocation Committee Grant ($400).

Graduate Students utilizing the UNM Herbarium for Research

Paul Cryan
Dixie Daniels
Paula Durkin
Chris Frazier
Jan Gish
Patricia Barlow-Irick
Josh Leffler
Elizabeth Milford
Jane Mygatt
Heather Pratt
Stephen Reed
Dov Sax

5
Courses using the UNM Herbarium

Biology 260 - Introduction to Botany
Biology 363 - Flora of New Mexico
Biology 499 - Undergraduate problems
Biology 523 - Principles of Systematics
Biology 563 - Advanced plant taxonomy

Outside agencies using the UNM Herbarium

Navajo Natural Heritage Program
New Mexico Natural Heritage Program, The Nature Conservancy
New Mexico Department of Forestry
New Mexico State Land Office
U.S. Forest Service
U.S. Fish and Wildlife Service
U.S. Bureau of Land Management
Accessions -- 35 lots, totaling over 5267 specimens were accessioned in 1995-1996.

Catalog -- 903 specimens were cataloged in 1995-1996, bringing the total collection size to 60411 specimens.

Loans -- 10 loans totaling 242 specimens were made during 1995-1996.

Database requests-- 31 requests for specimen information covering 3000 catalogued entries were prepared during 1995-1996.

Guests -- 33 guests visited the museum in 1995-1996. In addition, the museum was visited by groups from schools, and personnel from other institutions such as the Navajo Natural Heritage Program, New Mexico Natural Heritage Program and New Mexico Game and Fish Dept. Several distinguished herpetologists used the collections for research this year, including Dr. Roger Conant.

Phone inquiries -- Approximately 306 inquiries from the public regarding museum functions and herpetology were answered in 1995-1996.

PERSONNEL:

Curator
Howard L. Snell

Curatorial Associate
Charles W. Painter
Norman J. Scott, Jr.
James N. Stuart

Curator Emeritus
William H. Degenhardt.

Curator, Assistant
Don S. Sias

Research Associates
Roger Conant
Thomas H. Fritts
Lee A. Fitzgerald
Randy D. Jennings

Graduate Students
Marco Altamirano
Jennifer Brown
William G. Gorum
Steve Earsom
Mark A. Jordan
Don S. Sias

Collections Manager
Alexandra Snyder

Museum Staff
Tara Arriko-Prewitt
Kelly Chrissinger
RESEARCH:

The following personnel used the Herpetology collection on a regular basis for research activities in 1995-1996.

Marco A. Altamirano, Graduate Student
Richard Anderson, MS.
Tara Armijo-Prewitt, Undergraduate Student
Marie Brown, OCA/UNM (Archaeological Bone ID)
Ken Brown, OCA/UNM (Archaeological Bone ID)
Kelly Chrissinger, Undergraduate Student
Roger Conant, Adj. Prof., Research Associate
William G. Degenhardt, Curator Emeritus
Lee Fitzgerald, Adj. Assist. Professor, Research Associate
Thomas H. Fritts, Adj. Assoc. Prof., National Biological Service, Research Associate
Jen Grace, Undergraduate Student
Randy D. Jennings, Ass. Prof., Dept. of Nat. Sciences, Western New Mexico University
Mark A. Jordan, Graduate Student
Esther Nelson, BS.
Charles W. Painter, NM. Game & Fish, Curatorial Associate
Lee Pierce, Graduate Student
Steven P. Platania, NM. Game & Fish (Ichthyology)
Cindy A. Ramotnik, National Biological Service
Norman J. Scott, Jr., Adj. Assoc. Prof., National Biological Service, Curatorial Associate
Don Sias, Graduate Student, Curatorial Assistant
Howard L. Snell, Assoc. Prof., Curator
Paul A. Stone, Asst. Prof., Univ. of Central Oklahoma
David A. Stricker, Undergraduate Student
James N. Stuart, National Biological Service
Robert Urish, Undergraduate Student

STUDENT TRAINING:

During 1995-1996 the following students were involved in research under the direction of faculty associated with the Herpetology Division.

Marco A. Altamirano, MS.
Tara Armijo-Prewitt, BS.
Yvonne Chauvin, BS.
Kelly Chrissinger, BS.
Jen Grace, BA.
Billy Gorum, MS.
Mark A. Jordan, MS, PhD.
Lee Pierce, MS.
Don Sias, PhD.
Paul Stone, PhD.
David Stricker, BS.
Robert Urish, BS.
Dissertations and Theses:


Grants:

Proposals Submitted


Proposals Funded

Beck, D., and R. D. Jennings. 1996. The Gila Monster in Southwestern New Mexico: Habitat Selection Study. New Mexico Department of Game and Fish, $6,000.


Jennings, R. D. 1996. Investigations of Recently Viable Leopard Frogs Populations in New Mexico: Rana chiricahuensis and Rana yavapaiensis. New Mexico Department of Game and Fish, $15,000.

Jennings, R. D. 1995. Differential Habitat Use By a Southwestern Lizard Fauna. Western New Mexico University Faculty Research Grant, $660.


Snell, H. L., Research and Conservation in the Galápagos Islands. Established this Fund in the UNM Foundation with a $30,000 Package of Donations and Matching Grants from IBM Corporation.

Stuart, J. N., and C. W. Painter. 1996. Natural History of the Big Bend Slider, Trachemys gaigeae, in New Mexico. New Mexico Department of Game and Fish Share with Wildlife Program. $7,000.

AWARDS, SCHOLARSHIPS, AND FELLOWSHIPS:

Altamirano, M. A. US AID Scholarship to attend the University of New Mexico, 1994-1996


Altamirano, M. A. Latin American Institute Grant (LAI), $1160, 1995.


PAPERS PRESENTED AT MEETINGS:


INVITED PRESENTATIONS:


MANUSCRIPTS, ABSTRACTS, AND REPORTS:


Sias, D. S., H. L. Snell, and other. Ectoparasites in parthenogenic and sexual whiptail lizards (*Cnemidophorus*). In prep.


Stuart, J. N. Reticulate melanism in southwestern populations of the painted turtle, *Chrysemys picta belli*. In prep.


In Press:


Published:


**SERVICE:**

Lee A. Fitzgerald
Section Editor, Herpetological Review
Conservation Committee, Society for the Study of Amphibians and Reptiles
IUCN/SSC Crocodile Specialist Group

William G. Gorum
President, New Mexico Herpetological Society
Project Leader, Tebuthiron and Dunes Sagebrush Lizard Study

Randy D. Jennings
American Society of Ichthyologists and Herpetologists, Copeia, Peer Review.
Southwestern Association of Naturalists, The Southwestern Naturalist, Peer Review
International Society for the Study and Conservation of Amphibians, Alytes, Peer Review

Mark A. Jordan
Graduate Research Allocations Committee

Leland J. S. Pierce
Graduate Research Assistant (GRA) for Los Alamos National Laboratories, for the Biological Resource Evaluation Team, Environmental Management-8. In charge of the monitoring of reptiles and amphibians of the labs.
Field Assistant in Mescalero Sand Dunes Lizard Project.

Howard L. Snell
Service in a scholarly capacity as member of local, state or national panel, committee, or commission, for purpose of reviews of public policy issues, scientific evaluations, awards of grants or fellowships or prizes, etc.
Associate Editor of Noticias de Galápagos.
Vice President of the Charles Darwin Foundation


*Liaison with the Latin American Institute.

Graduate Policy Committee.

Latin American Institute Travel Grant Review Committee.

Animal Physiologist Search Committee

James N. Stuart

Served as an outside reviewer for herpetological manuscripts submitted to The Southwestern Naturalist.
YEAR'S HIGHLIGHTS

As last year, the Division was very active. The projects driving this activity included the Hantavirus research (and other, related emerging viruses projects), the Long-term Ecological Research Project at the Sevilleta, and the New Mexico Bat Project. Two major grant applications were made (see Grants and Awards below), two MSB publications were readied for press, the Curator (Yates) became Chair of the Department of Biology, full-time staff (4; Parmenter, Dunnum, Milner, and Campbell) continued to conduct field work associated with the Hantavirus monitoring program, a full-time field technician was hired (Friggins) to assure quality and continuity with the LTER data, and three post-doctorate researchers were employed to assist with the duties of the curator during his time as Chair. Those post-docs are; JK Frey (Ph.D. 1994, UNM) who works with the Global Change grant, LA Ruedas (Ph.D. 1992, Texas A&M) who works to teach Yates’ course and assist with the Hantavirus project, and JW Dragoo (Ph. D. 1994, Texas A&M) who works on the Hantavirus project completing molecular genetics projects and assists with education goals.

A) COLLECTION USE

1) NUMBER OF VISITORS, PUBLIC SERVICE, AND NEWS

The Division of Mammals hosted 408 people who used the collection for one purpose or another during a total of 272 days; about the same as last year's use. We continued the more efficient system of handling the large number of requests for tours by teachers of school-aged kids. Approximately 890 kids toured the collection last year. Visitation by professionals was comparable with past years (76 in 1989, 184 in 1990-1, 171 in 1991-2, 174 in 1992-3, 166 in 1993-4, 140 in 1994-5, and 177 in 1995-6).

Visitors represented the countries of Japan, Mexico, Brazil, Bolivia, Poland, France, Hungary, China, Russia, Chile, Uruguay, Paraguay, Ecuador, and Atlanta. Common users included ones from the National Biological Survey, American Museum of Natural History (New York), University of Nebraska, University of Alaska, University of Nevada (Las Vegas), University of California (Davis), Illinois Natural History Survey, the Centers for Disease Control, and others. Locally six pueblos, the New Mexico Department of Game and Fish, the New Mexico Museum of Natural History, the Office of Contract Archaeology, the Natural Heritage Program (Nature Conservancy) and users from the Sevilleta LTER were the commonest professional users. We have always had a strong relationship with the Office of Contract
Archaeology; 87 OCA scientists used the facility last year. Nearly 100 "potential students" (both graduate and undergraduate) stopped by to tour the facility. The Collection Manager and the Division hosted visitors generated by open house for homecoming, Research Day, and graduation.

Distinguished Departmental Visitors Hosted:

- Dr. Hisashi Abe and four other Japanese scientists, Hokaido University. (again 1994)
- Dr. Sydney Anderson, Curator, American Museum
- Dr. Richard B. Forbes, Portland State University (one year).
- Dr. Robert Finley, Ft. Collins, Colorado
- Dr. Mike Mares, Oklahoma State Museum.
- Dr. Scott Gardner, Nebraska State Museum
- Dr. CJ Peters, Centers for Disease Control
- Dr. Ethylene Lloyd, CDC
- Dr. T. Ksiacek, CDC
- Dr. Pierre Rollins, CDC
- Dr. Jamie Childs, CDC
- Dr. Brett Riddle, University of Nevada, Las Vegas

II). NUMBER OF ACCESSIONS AND SPECIMENS CATALOGED

The MSB collection of mammals now contains over 85,000 catalogued and approximately 6,000 uncatalogued specimens (much of the uncatalogued material are vouchers for a national Hantavirus study and are currently being accessioned and catalogued with additional research grant funds). This does not include the 25,000 NBS mammal specimens that we also house (all total 116,000). According to Yates et al. (1987), the MSB Division of Mammals is the 12th largest collection of mammals in North America. Based on the figures provided in that publication we project that due to our rate of growth since 1987 and the integration with the NBS collection, the MSB mammal collection is now the eight largest mammal collection in North America and the fourth largest university collection in the world. In fact we are working on the publication that will verify this (Hafner, Gannon, Salazar, and Alvarez; due out Feb 1997). The collection has been growing by an average of 4050 catalogued specimens per year over the past twenty years. This makes MSB the second fastest growing collection in North America compared with Canada's Museum of Nature (Hafner et al., In Prep).

The degree and range of use of the collections has increased significantly since the mid 1980s. During the 1990-1996 period, the MSB processed 385 loans (average of 63 loans per year that varied from one specimen to 450 specimens per loan), 4000 visitors (not including school group tours), 5410 requests for information (average 21 requests per week), and 27,300
phone calls (average 105 calls per week). In Appendix 1 it should be noted that loans were made to a wide scope and geographic location of institutions. Many loans (not documented completely in Appendix 1) were made to students completing graduate-level research. Also, the MSB routinely makes teaching collection specimen material available for class use, demonstrations, special exhibits, and for on-site use. It is interesting that annual loans have increased from 18 per year in 1987 to the current average of 60 per year. The fastest rate of growth has been in the Division of Biological Materials (Fig. 2).

The Mammal Division accessioned 132 groups of specimens. This MSB catalog number was MSB 77225 for the 1994-1995 report. The catalog number now is 84026 indicating that the MSB cataloged 6801 specimens in 1995-6 (last year, 8641 specimens were cataloged). The most constant influx of material continues to be from both the Hantavirus and the Long Term Ecological Research (LTER) projects. In five years the LTER deposited approximately 5000 specimens. We have logged approximately 600 specimens from the 1994-6 Bolivian expeditions. Two donations of mounted specimens in the form of African ungulates were also accepted. The bat project generates ca. 150 specimens per year (over the last three years) complete with complete vocalization profiles of NM bat species. The Game and Fish Department donated ca. 70 Big Horn Sheep specimens from the Red Rocks, San Andres areas. We still work closely with the Rio Grande Zoo and have received about 50 specimens from them as of this report. Wildlife Center, a rehabilitation group has donated ca. 150 specimens to us over the last 15 months.

III. NUMBER OF LOANS

The mammal collection processed 104 outgoing loans, including 54 loans of frozen tissues or collateral material. This material was used in electrophoretic, mtDNA or other DNA studies, karyotype samples, or blood samples for the CDC. Interestingly, our loaned material was sent throughout much of the Western Hemisphere and part of Europe with loans to the American Museum of Natural History, University of Michigan, University of Alaska, California State University Humboldt, University of California - Davis, Texas Tech University, Florida State University, Field Museum of Natural History, Cornell University, National Science Foundation, Centers for Disease Control and Prevention, Natural History Museum in Spain, and Department of Biology in Ben Huron University, Israel. Within the southwest, we serviced four institutions in Texas, University of Nevada Las Vegas, Northern Arizona University, Los Alamos National Lab, and our own LTER and Departmental researchers. 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, Museum of Natural History, 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, Universidad Nacional Automica de Mexico (UNAM). In-house use of the collection
was also heavy. These loans included: researchers (Altenbach, Findley, Lowrey, Lightfoot, Parmenter, Brown, Hafner, Bogan, Ruedas, Duszynski, Ligon, Crawford, George Stevens), graduate students (particularly Burt, Frey, Miyashiro, Salazar-Bravo, Palma, Kelt, Perry, Runyon, Balistreri, Gray, Guo, Farley, Hnida, Kaufman, Merola, Zwartjes, Mund, Patrick, Pratt, Sias, Stone, Taylor, Wilbur, Tull), and class use for several courses (see below), and other departments such as Anthropology, Art, Geology, Contract Archaeology, and Maxwell Museum.

We also handled 9 incoming loans. These incoming loans represented the research requests primarily of Frey, Salazar-Bravo, Ruedas, Gannon, Armstrong, and Yates.

IV). UNIVERSITY COURSES USING THE COLLECTION

Clearly, the MSB is integral in the teaching and educational mission of the University. The DOM has documented loans of materials as listed below, but has also interpreted collection materials for countless others in classroom and more informal situations. We assisted five 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>Subject</th>
<th>Loans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology 121</td>
<td>Principles of biology</td>
<td>1</td>
</tr>
<tr>
<td>Biology 122</td>
<td>Principles of biology</td>
<td>5</td>
</tr>
<tr>
<td>Biology 386</td>
<td>General vertebrate zoology</td>
<td>4</td>
</tr>
<tr>
<td>Biology 402/502</td>
<td>Adv Vertebrate Biology</td>
<td>9</td>
</tr>
<tr>
<td>Biology 489</td>
<td>Mammalogy</td>
<td>6</td>
</tr>
<tr>
<td>Art 412</td>
<td>Museum management</td>
<td>1</td>
</tr>
<tr>
<td>Anthro 449</td>
<td>Paleontology</td>
<td>1</td>
</tr>
</tbody>
</table>

The following courses used the collection extensively as part of their coursework:

<table>
<thead>
<tr>
<th>Course</th>
<th>Subject</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology 489</td>
<td>Mammalogy - 16 students (1996)</td>
<td></td>
</tr>
<tr>
<td>Biology 502</td>
<td>Advanced vertebrate biology - 15 students</td>
<td></td>
</tr>
<tr>
<td>Biology 502</td>
<td>Topics in Chromosomal Evolution - 6 students</td>
<td></td>
</tr>
<tr>
<td>Biology 651</td>
<td>Advanced Field Biology - 3 students</td>
<td></td>
</tr>
<tr>
<td>Biology 512</td>
<td>Population Biology - 14 students</td>
<td></td>
</tr>
<tr>
<td>Biology 554</td>
<td>Mammalian Ecology and Behavior - 14 students</td>
<td></td>
</tr>
</tbody>
</table>

Taught by Gannon: Biology 402/502 - BATS (16), Spring 1993
Biology 402/502 (7), Fall 1993
El Malpias field lecture on bats (Spring and Fall 1996)
B) COLLECTION MANAGEMENT

I) COMPUTERIZATION

Currently we electronically capture new specimens as part of the cataloguing procedure and operate the division with 11 computers with the masterfile residing on a 1.6 gigabyte hard drive of a 90 megahertz Zeos machine. Computers are also made available to collection staff and users for rapid capture of data or conducting searches. The entire museum is now fiber optically wired for direct access to all machines and the Internet. A Local Area Network is operational and routine backups of all data files occurs daily. The NM Bat Project has a web page on WWW (http://sevilleta.unm.edu/~wgannon/batcall) as does the Mammal Division (http://sevilleta.unm.edu/~museum/mammal). Plans are to upgrade to Oracle, a very powerful multilayered data manager that allows instant access via WWW or within the collection of the same database. This will reside on the department server with complete control of the data within the collection.

C. RESEARCH, EDUCATION, AND INFORMATION DISSEMINATION

Summary: The Mammal Division supported 18 Ph.D. dissertations and 6 M.S. theses, 18 grants, 65 published papers (including papers in press or submitted as manuscript), and ca. 25 papers presented at scientific meetings during this time. Approximately 42 grants, contracts, and fellowships were applied for, awarded or are already in force this year.

Two grants were submitted to NIH and NSF, respectively. In the NIH approved grant, we proposed to evaluate the relationship between prevalence of Hantavirus (primarily Sin Nombre Virus, SNV) infection and population density in small mammal carriers in the southwestern United States. In addition, we hope to develop a model using Geographic Information System (GIS) technology to predict environmental correlates of high human hantaviral risk. We will use a combination of descriptive and analytic studies of environmental characteristics associated with rodent Hantavirus prevalence in conjunction with field manipulation experiments of closed small mammal populations to study these problems. We intend to test (1) rodent population density is positively associated with incidence of rodent Hantavirus infection, and (2) environmental characteristics, such as rainfall and vegetation, (which can be modelled and identified across geographic space using GIS technology), are associated with the level of Hantavirus infection in rodent populations. Results of these studies can provide information on the degree of human risk in endemic areas which are the focus of other projects in this application. Specifically, we intend to accomplish the following goals:

1. Establish 3 closed populations of small mammals (Experimental) adjacent to 5 existing study areas (Controls) in a natural setting [Experimental component].
2. Manipulate population densities of rodents in the Experimental plots to evaluate the effect on incidence of Sin Nombre Virus (SNV) antibodies in rodent carriers
3. Compare longevity of infected versus uninfected mice in the Experimental plots [Experimental component].

4. Develop a multivariate model which predicts Hantavirus prevalence in small mammals based on environmental features in a GIS [Modelling component].

5. Test the predictive model by sampling areas a priori identified by the model as high or low prevalence areas [Modelling component].

For the NSF submittal, the Divisions of Mammals and Biological Materials of the Museum of Southwestern Biology (MSB) at the University of New Mexico request support to complete three major projects associated with the research collections. These are to: 1) move to new facilities in a building adjacent to our current location; 2) verify and consolidate computer files and specimens contained in the frozen tissue collections; and 3) verify computer files and integrate the National Biological Service’s (NBS) western collections into the MSB.

The MSB collections of mammals are among the largest in North America. With the incorporation of the NBS collections these holdings will contain over 100,000 specimens and be international in scope. The collections are a major research resource and additionally serve as an important training center for students in organismal biology. These collections are among the five largest university research collections of their kind in the world.

The Division of Biological Materials may be the largest such collection in existence for mammals. It contains approximately 70,000 catalogued specimens and over 200,000 samples of frozen tissue, purified DNA, frozen cell suspensions, etc. These collections are growing rapidly and have experienced continual and rapid usage.

The current space housing the collections of mammals and frozen tissues are at or beyond capacity. We have an opportunity to move the collections into new space in an excellent facility immediately adjacent to our current location. The University of New Mexico will pay for the actual move and for necessary renovations. Funds are requested herein for the purchase of spacesaver units and additional personnel to accomplish tasks itemized herein.

The western collections of the NBS are currently housed together with those of the MSB but in separate storage cabinets. Although the NBS collection has been computerized, the electronic records have not been verified. We propose to verify computer records against actual specimens in the NBS collections and then integrate the two collections.

Finally, we propose to verify existing databases for the cryogenic collections maintained in the division of Biological Materials and create a single database from the current several that exist. This will involve comparing computer printouts of specimen data to actual specimens in the division's freezers and liquid nitrogen tanks and also verifying the existence and location of voucher specimens.
Awards, Grants, and Contracts:


Burt:
Systematic Implications of Allozymic Variation among Aplysia (Gastropoda: Opisthobranchia) from South Texas. Under the direction of Dr. Ned Strenth. A reassessment of morphological variation and genetic variation in the pocket gopher Thomomys bottae, Graduate research allocations (GRAC) and travel grant, department of Biology, UNM, spring 1996, $400
Morphological and genetic variation in the subspecies of Thomomys bottae in New Mexico, Student research allocations (SRAC), UNM summer 1996, $650

Dragoo:

Frey
Arizona Game and Fish Department, $7,700.00 for Mogollon vole (Microtus mogollonensis) genetic analysis. 1992-1993

Recipient-- Albert R., and Alma E. Shadle Fellowship from the American Society of Mammalogists and the Theodore Roosevelt fund, $3,145.00.

(With Terry Yates and Mike Bogan) Response of Southwestern montane mammal communities to global change. US Fish and Wildlife Service, $250,000. 60 months, start date 10/1/93.

Appointments:
American Society of Mammalogist - Committee on Graduate Education, member

Gannon:
Bat Survey 1997: New Mexico Department of Game and Fish, Share with Wildlife Program,
Bat Survey 1997: Bureau of Land Management, Socorro,
Bat Survey 1996: New Mexico Department of Game and Fish, Share with Wildlife Program,
Bat Survey 1996: Bureau of Land Management, Farmington
Bat Survey 1995: Bureau of Land Management, Farmington
Bat Survey 1995: New Mexico Department of Game and Fish, Share with Wildlife Program,
Bat Survey 1995: Gila National Forest, Reserve District. 1995.(second award),
Bat Survey 1995: Bureau of Land Management, Chama District,
Bat Survey 1995: Camp Roberts and Camp San Luis Obispo, Monterey county, California,
Bat Survey 1994: New Mexico Department of Game and Fish, Share with Wildlife Program,
New Mexico Department of Game and Fish, Share With Wildlife Program, Acoustic sampling of
bats of New Mexico, $18,400 ($7,700.00 for first year, 1993-1994).
Supplemental Funding to Share with Wildlife Grant, $18,000.00 (1994), and $25,000 (1995).

R. Eduardo Palma: Graduated, Ph. D., June 1995. Left for appointment in Santiago, Chile
Funding and contracts obtained:


Jorge Salazar-Bravo
1. The systematics of Bolomys: $2200
2. Rodents of the Puna (with P. Marquet): $14,000
3. Historical biogeography and systematic relationships among South American mice,
Dissertation Improvement Grant, $22,500

Ruedas
National Science Foundation, $16,216: International Cooperative Research Planning Proposal
for: "Distribution, zoogeography, and conservation of Philippine mammals: a cooperative
biodiversity inventory project." Principal Investigator. Submitted.

National Science Foundation/University of Wisconsin (Madison) Linkages Program, $6,000:
Summer Faculty Research Fellowship under the aegis of Dr. John A. W. Kirsch (DNA/DNA
hybridization studies of Southeast Asian Rodentia)

Yates
Long Term Ecological Research: The Sevilleta. National Science Foundation. $2,400,000.00.
BSR-8811906. 72 months (Co-principal Investigator).
Start date 11/15/88. End date 9/31/95. The continuation proposal of this grant was submitted
and approved for $3.8 million, beginning 10/1/95.

Mammalian diversity in Bolivia: The Yungas and Valles. The National Science Foundation. $280,000 (including supplements) 48 Months (with Syd Anderson and Joseph Cook). BSR - 8920617, 6/1/90 - 5/31/95. This grant ended 5/31/1995.

Response of Southwestern montane mammal communities to global change. US Fish and Wildlife Service, $250,000. 60 months, start date 10/1/93.

Hantavirus prevention, control, treatment, and research. New Mexico Department of Health. $167,853. 12 months. Start date 10/1/93.

Long Term Ecological Research: The Sevilleta II. National Science Foundation. $3,800,000.00. 72 months (Co-principal Investigator). Start date 10/15/94.


Hantavirus prevention, control, treatment, and research. New Mexico Department of Health. $167,853. 12 months. Start date 10/1/93.

Long Term Ecological Research: The Sevilleta II. National Science Foundation. $3,800,000.00. 72 months (Co-principal Investigator). Start date 10/15/94.

Longitudinal studies of deer mice on Indian Lands, Indian Health Service, $95,000, 1 Dec 1995 to 1 Dec 1996.


Relocation and compactorization of the Museum of Southwestern Biology, National Science Foundation, $348,000. 1 August 1996 through 31 July 1997.


PROFESSIONAL SERVICE

Gannon
Chair, Systematic Collections Committee (American Society of Mammalogists), 1996 - present
member, Systematic Collections Committee (American Society of Mammalogists), 1992 - 1996
member, International Regulations Committee (American Society of Mammalogists), 1996 - present
member, Information Retrieval Committee, (American Society of Mammalogists), 1988 - present

Appointments (Gannon):
Editorial Committee - Series Editor, Publications of the Museum of Southwestern Biology
Society for the Preservation of Natural History Collections - Supplies Committee, member
Member, Main Campus Animal Care and Use Committee, UNM, 1990 - present

Ruedas
International Relations Committee, American Society of Mammalogists
Committee for the Conservation of Land Mammals, American Society of Mammalogists
Program Committee, American Society of Mammalogists
Organizing Committee (Co-chairman), Joint American Society of Mammalogists — European Mammal Society — Spanish Society of Mammalogy Meeting; to be held June 1998, Santiago de Compostela, Spain.

Yates
Trustee, Southwestern Association of Naturalists, 1992 - present.
Trustee, American Society of Mammalogists, 1996 - present.
Research Assistant, Department of Wildlife and Fisheries Sciences, Texas A & M University, January 1973-May 1975.
Global Environmental Facility - World Bank - Biodiversity Subcommittee.
Latin American Biodiversity Committee - Smithsonian Institution.
Bio Task Force on Environmental Biology, The NSF.
Research Needs Committee - Ecological Society of America.
International Relations Committee, Chair, ASM.
Coordinating Committee for Latin American Exchanges Land use Committee
International Policy Committee
Grants Committee Latin American Institute
Academic Freedom and Tenure Committee
Council on the Americas
Main Campus Animal Care and Use Committee, Chair

AWARDS and COMMUNITY SERVICE

Gannon
3,000 member neighborhood association in Northwest Albuquerque, NM.

Secretary, Near North Valley/Old Indian School Neighborhood Association, elected 1993-1995.
3,000 member neighborhood association, Albuquerque.

Board of Directors, North Valley Coalition (promotes policy and informed development of the North Valley of Albuquerque). Elected, 1994-1995


Yates
Recognized, Outstanding Administrative Performance, National Science Foundation
Recipient, Robert L. Packard Outstanding Educator Award, 1995, Southwestern Association of Naturalists.
Elected Trustee, Southwestern Association of Naturalists.
Chair, Main Campus Animal Care and Use Committee, UNM
Chair, Department of Biology, University of New Mexico - 1 Aug 1995- 31 July 1999.
II). PUBLICATIONS

The Mammal Division supported many types of publications in 1994-96. Among these are included book chapters, refereed journal articles, oral presentations, and published abstracts. This represents a majority of the work published, but because of the incredible activity of this division, some publications are not listed because the titles were unavailable in time to make this report.

Publications (including those submitted and accepted for publication)

**Burt**


Burt, M. S. and R. C. Dowler. 1996 Allozymic Variation and Gene Flow at a Contact Zone of Three Chromosomal Races of the *Geomys bursarius* Species Complex in Eastern Texas. Submitted to *Journal of Mammalogy*.

**Campbell**


**Dragoo**


**Dunnum**

Gannon


Ruedas


Bickham, John W., and Luis A. Ruedas. *Rhogeessa*. In: Mammals of South America. Volume 1: Grandorder Marsupialia; Orders Insectivora, Chiroptera, and Xenarthra (Gardner, Alfred L., Sidney Anderson, and Bruce Patterson, eds.). Smithsonian Institution Press.


Ruedas, Luis A. Bats is bats? Genome size evolution and the phyletic origin of chiropteran suborders (Mammalia: Chiroptera: Megachiroptera and Microchiroptera). Journal of Mammalogy. Accepted pending revision.
Lockwood, S. Fournier, and Luis A. Ruedas. The frequency of syncheoploidy, or DNA aneuploid mosaicism, in natural populations of vertebrates. Canadian Journal of Zoology. Accepted pending revision.


Ruedas, Luis A. Systematics of Sylvilagus Gray, 1867 (Lagomorpha: Leporidae): the categorical rank of the robustus (Bailey, 1905) taxon of Sylvilagus floridanus (J. A. Allen, 1890), and notes on dental variation in Sylvilagus audubonii (Baird, 1858). Submitted to Journal of Mammalogy.

Yates


Papers In Preparation (partial list, responses were not received by entire program):

Gannon


Parmenter


III. ABSTRACTS AND CONTRIBUTED TALKS AT PROFESSIONAL MEETINGS

Approximately 25 presentations were made during 1993-1994 by the Division's denizens. Papers were presented at all the major annual meetings including the American Society of Mammalogists, Southwestern Association of Naturalists, Parasitology Society, Southwestern Association of Biologists, Bat Society, International Theriological Congress, and several other world-recognized professional organizations.

Presentations:
Burt
Burt, M. S. and Dowler, R. C., 1994. Allozymic Variation and Gene Flow at a Contact Zone of Two Species of Pocket Gophers, Geomys breviceps and G. attwateri in East Texas. Presented to the American Society of Mammalogists 75th annual meeting at the Smithsonian Institution, Washington D. C.


Campbell

Dragoo
Behavioral idiosyncrasies of members within the subfamily Mephitinae: Can skunks spray when you hold them by the tail? Presented at the Texas Society of Mammalogists.
Molecular phylogeny of the Mephitinae. Presented at the Texas Society of Mammalogists.

The evolutionary relationships of the skunks to each other and to the rest of the weasels: with a note on behavioral idiosyncrasies. Presented at the Great Plains Wildlife Damage Control Workshop.

Growth, development, and behavior of the hog-nosed skunk (Conepatus mesoleucus mearnsi). Presented at the Texas Society of Mammalogists.

A skunk by any other name. Presented at the Willi Hennig Society and the American Society of Mammalogists.

Total evidence and missing data. Presented at the Southwestern Association of Naturalist.

**Dunnum**


**Gannon**


Parmenter


Ruedas
Theoretical and practical considerations of the methodology of biodiversity inventory surveys. Special Symposium on Biodiversity Research, Annual Meeting of the Willi Hennig Society, 2 August 1995.


Salazar-Bravo

WORKSHOPS
Gannon, W. L. Workshop on the operation of the AnaBat bat detector system (with Chris Corben and Mike O'Farrell), 1-3 May 1996. Attended by 23 participants from across the US. Held in St. George, Utah.
IV). GRADUATE EDUCATION.

Mammal Group, or Advances in Vertebrate Biology (Biology 402/502) was offered all semesters and was attended by 6 registered students and 12 regular drop ins. The group expanded to include students of all vertebrate groups but is still mostly attended by mammalogists. The class met every week at night for three hours. A seminar in Systematics met weekly at Dr. Yates' home and was attended by ca. 20 students regularly.

Masters degrees awarded:
Marcel Zalles, Spring 1994 (T. Yates, advisor)
Jennifer Miyashiro, 1996 (T. Yates, advisor)

Doctors degrees awarded:
Jennifer K. Frey, Spring 1994 (T. Yates, advisor)
Eduardo Palma, Summer 1994 (T. Yates, advisor)

Names of 551, 599 and 699 students
Biol 699 (spring and fall)
Scott Burt
Jorge Salazar
Travis Perry
Forrest Davis

Biol 699 (Summer)
Forrest Davis

Biol 551 (Fall, Spring, Summer)
Travis Perry
Jennifer Miyashiro
Jorge Salazar
Eduardo Palma
Ellen Roots

Biol 499 (Fall, Spring)
J.L. Dunnnum
Megan Armstrong
Ellen Roots
Amy Ditto
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 or Hantavirus; 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 x-raying 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. This is a good, worthwhile place. (WLG)

PERSONNEL

Curatorial Staff. Division of Mammals -- Jan 1986 - present

Terry L. Yates
Jim S. Findley
William L. Gannon
Michael A. Bogan
Cindy A. Ramotnik
Michelle Intihar
Robert W. Dickerman
William Lopez-Forment
Richard B. Forbes
Jorge Salazar-Bravo
M. Scott Burt
Eduardo Palma
Jennifer K. Frey

Director - MSB; Curator of Mammals, Birds
Curator Emeritus, Director
Collections Manager, Acting Curator
Curator, National Biological Survey
Collections Manager, National Biological Survey
Secretary, National Biological Survey
Curatorial Associate, Ornithology
Acting Curator, Chiroptera (90)
Acting Curator, Sciuridae (91)
Assistant Curator (93-96)
Assistant Curator (1997)
Assistant Curator (90, 92, 94)
Assistant Curator (90, 91, 93, 94)
Joseph A. Cook
Forrest W. Davis
Brett R. Riddle
Laura Janecek
Robert M. Sullivan
Marian Skupski
Alejandra Alvarado
Marianne Martin
Jorge Salazar Bravo
Marikay Ramsey
Jennifer Miyashiro
Phillip J. Glass
Mariel L. Campbell
Rosanne L. Humphrey
Suzy C. Peurach
Roberto U. Gutierrez
Jon O. Dunnum
Amy Ditto
Stephen Davenport
Damien L. Scott
Melissa Saenz T.
Jane Mac Taylor
Andy Hawk
Christen Coucheron-Aamont
Lisa Hollis
Molly McCormick
Guy O. Herbert
Roberto U. Gutierrez
Lisa A. Valle
Kristin Vaitkus
Colin Campbell
Steve Davenport
Melissa Chavez
Matt Brady
Natalie Derwelis
Shelly McCaulley
Brian Frank
Cheryl Parmenter
Heather Smith
Sarah Rowe

Assistant Curator (90)
Assistant Curator (89)
Assistant Curator (87, 88, 89)
Assistant Curator (86)
Curatorial Assistant (87)
Curatorial Assistant (88)
Curatorial Assistant (89)
Curatorial Assistant (89)
Curatorial Assistant (90, 91, 93, 94)
Curatorial Assistant (89,90)
Curatorial Assistant (92, 93, 94, 95)
Programmer, work-study, staff (90-2)
Head Preparator, work-study (88,90; Hanta 1994-96)
Head Preparator, work-study (89)
Head Preparator, work-study (88,90)
Head Preparator, work-study (89,90)
Head Preparator, work-study (89,91, Hanta 1994-6)
Head Preparator, work-study (1993)
Head Preparator, work-study (1994-95)
Head Preparator, work-study (1994-95)
Preparator, RAMHSS, (1993-95)
Preparator, work-study (1994)
Preparator, work-study (1994)
Preparator, work-study (1994)
Preparator, work-study (1994)
Preparator, LTER, WS, (1993, 94, 95)
Preparator, work-study (1993-95)
Preparator, work-study (91,92)
Preparator, work-study (88-89)
Preparator, work-study (89; Hanta Project 94))
Preparator, work-study (90)
Preparator, work-study (91)
Preparator, work-study (91-94; Bat Project 1994)
Preparator, MBRS (91-93)
Preparator, work-study (90,91)
Preparator, SRAP, Academy HS (87,88)
Preparator, work-study (87,88)
Preparator, MBRS, (87,88,89)
Museum Technician, Hanta Project (1994-5)
Museum Technician, Canon, Hanta Projects (1993-5)
Museum Technician, Hanta Project (1994)
<table>
<thead>
<tr>
<th>Name</th>
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<tr>
<td>Jackie Mirrales</td>
<td>Museum Technician, Hanta Project (1994)</td>
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<tr>
<td>Francesca Bermudez</td>
<td>Museum-Aid, work-study (1993)</td>
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<td>Carol Malcolm</td>
<td>Museum-aid, work-study (86)</td>
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<td>Jim Seely</td>
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<td>Yvette M. Paroz</td>
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<td>Allison Brody</td>
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<td>Catherine Isbell</td>
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<td>Dave Keller</td>
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<td>Julie Kubler</td>
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<td>Damon Matlock</td>
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<td>SRAP (91)</td>
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<td>SRAP (91)</td>
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<td>Gerald Cunningham</td>
<td>School on Wheels (91)</td>
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<td>Naomi Vallejos</td>
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<td>John Alberto</td>
<td>School on Wheels (91)</td>
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<td>Vicki Sanchez</td>
<td>YDI program (91)</td>
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<td>Wade Wilson</td>
<td>RA parasites</td>
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<td>Anne Brown</td>
<td>RGZ, volunteer, (1994)</td>
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<tr>
<td>Nancy Heimbigner</td>
<td>volunteer (90)</td>
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<tr>
<td>Mike Friggins</td>
<td>volunteer (89-90)</td>
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<tr>
<td>Stan Moolenijzer</td>
<td>volunteer (89)</td>
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<tr>
<td>Monica K. Rusk</td>
<td>USFWS, Preparator (89)</td>
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<td>Tom G. Roe</td>
<td>karyology, MBRS (89-90)</td>
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<td>Millan Baca</td>
<td>museum-wide, SRAP (90)</td>
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<td>Miguel Romero</td>
<td>museum-wide, SRAP (90)</td>
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<td>Tom Collins</td>
<td>WS, Sept 91</td>
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<td>Bryant Furlow</td>
<td>WS, May 92</td>
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<td>Kurt Shipley</td>
<td>WS, Summer 92, Hanta Project 1994</td>
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<td>Marcos Sandoval</td>
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<td>Levi Lucero</td>
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<td>Halea Johnson</td>
<td>museum-wide, YDI (92)</td>
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<td>Nadine Kemrer</td>
<td>volunteer, Academy HS, 92</td>
</tr>
</tbody>
</table>
Other Staff (not yet ordered above)

Tagide deCarvahlo prep room supervisor (1996)
Steve Archambault prep room (1996)
Richard Bailey prep room (1996)
Peggy Case (RGZ volunteer)
Andy Deans (WS)
Jerry Dragoo Post-doc
Becky Folk (WS)
Mike Friggens (LTER field Coordinator)
Matt Garcia WS, 20 hrs, Biol Materials
Andy Hawk (Bat project, WS, Cannon Proj sevilleta mammals)
Trina Hedrick (volunteer, mammals)
Janie Milner (Hanta Crew)
Jennifer Miyashiro (Hanta Crew, 1996)
Cheryl Parmenter (Hanta crew, 1994-1996)
Paul Polechla (Research Associate)
Travis Perry (PhD student, Yates)
Gabor Racz (PhD student, Yates)
Luis Ruedas (Post-Doc, Museum)
Damien Scott (WS, Prep Room Super, Bat Crew Leader 95)
Melissa Saenz (LTER - Special Projects)
Jason Sexton (Bat Crew, LTER, 1995-1996)

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
Troy L. Best Auburn University 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. Curator, UAF Museum, Frozen Tissue Collection studies in Ctenomys, Bolivia
Donald W. Duszynski MSB Research Associate, Mammalian hosts of coccidian parasites
James S. Findley, retired, 1993. Former-Director of MSB, Ecomorphology, Community Ecology, Curator Emeritus, Mammal Division
Richard B. Forbes, Professor, Portland State University mammalian photography, ecology
Ken Geluso, Professor, University Nebraska, bats, mammals of Carlsbad area
Brett R. Riddle, Assistant Professor, Department of Biology, University of Nevada, Las Vegas

Curatorial Associates:

James H. Brown
Robert W. Dickerman
Richard B. Forbes
William Lopez-Forment

UNM Department of Biology
Museum of Southwestern Biology
Department of Biology, Portland State University, UNAM, Mexico (1990)

Research Associates:

J. Scott Altenbach
Sydney Anderson
Robert J. Baker
Troy L. Best
Joseph A. Cook
Scott L. Gardner
Sarah B. George
Gary L. Graham
David J. Hafner
Bruce J. Hayward
Edward J. Heske
Dwit Ivey
Clyde Jones
Dwight W. Moore
Robert Parmenter
James L. Patton
Richard A. Smartt

UNM Department of Biology
American Museum of Natural History, New York
The Museum, Texas Tech University, Lubbock, TX
Department of Biology, Auburn University
Natural History Museum, University of Alaska, Fairbanks
Dept. Nematology, Curator, University Nebraska.
Director, Utah State Museum.
Bat Conservation International
New Mexico Museum Nat. History
Department of Biology, Western New Mexico University
Illinois Biological Survey
Retired. Active in Botany, mammals
The Museum Texas Tech University
Emporia State University
Department Biology, LTER coordinator
Museum of Vertebrate Zoology, University of California
New Mexico Museum of Natural History.
APPENDIX C

ANNUAL REPORT:
NATIONAL
BIOLOGICAL
SERVICE
Current Projects:

“Habitat use of bats in and near Jewel Cave National Monument, Black Hills, South Dakota, as revealed by radio tracking,” Funding from National Biological Service.

“Habitat use of bats in the Cloudcroft District, Lincoln National Forest, as revealed by radio tracking,” Funding from Lincoln National Forest, U.S. Forest Service, Alamogordo, NM.

“Status and distribution of bats at Los Alamos National Laboratory,” Funding from Los Alamos National Laboratory, DOE, Los Alamos, NM.

“Survey for bats at Bandelier National Monument,” Funding from National Biological Service.

“Survey for bats on Kofa National Wildlife Refuge,” Funding from Region 2, Fish and Wildlife Service, Albuquerque, NM.

“Status and trends of bats in the United States and Territories,” Funding from National Biological Service.

“Baseline inventories for mammals in National Parks on the Colorado Plateau,” Funding from the Rocky Mountain Region, National Park Service, Denver, CO.

“Biological survey of herptiles and mammals at San Andres National Wildlife Refuge,” Funding from Region 2, Fish and Wildlife Service, Albuquerque, NM.

“Patch size, biodiversity, and wildlife values in fragmented Rio Grande Bosque: The example of non-contiguous habitats,” Funding from Region 2, Fish and Wildlife Service, Albuquerque, NM.

“Status of the White Sands Woodrat,” Funding from National Biological Service.

“Baseline surveys for small mammals in the Henry Mountains BLM Resource Area, UT,” Funding from National Biological Service and Texas Tech University.

“Studies of the effects of forest management practices on the Sacramento Mountain salamander, *Aneides hardii,*” Funding from Lincoln National Forest, U.S. Forest Service, Alamogordo, NM.
“Conservation assessment of the Sacramento Mountain salamander, Aneides hardii,” Funding from Lincoln National Forest, U. S. Forest Service, Alamogordo, NM.

“Response of southwestern montane mammal communities to global change,” University of New Mexico research project funded by National Biological Service.

“Effects of global climate change on Chihuahuan Desert vegetation,” New Mexico State University research project funded by National Biological Service.

“New Mexico plant species of concern; creation of an electronic database,” Collaborative project with New Mexico Natural Heritage Program.

Publications:


Other Products:


NBS 3


Murphy, D., W. Adrian, J. Bailey, M. Bogan, S. Buskirk, and F. Singer. 1996. Dinosaur National Monument. Bighorn sheep in the Rocky Mountain Region: Reports of five scientific advisory committees to the National Park Service, Rocky Mountain Region, Denver, CO.


Scientific Meetings, Symposia, and Workshops:

Cryan, P. 1996. Habitat use and roosting ecology of bats inhabiting the southern Black Hills of South Dakota: a progress report. Colorado Bat Society Four Corners Regional Bat Conference in Durango, CO.


Perry, T., S. Davenport, and M.A. Bogan. Bat species and roost site survey of the Cloudcroft District of the Lincoln National Forest, New Mexico. Colorado Bat Society Four Corners Regional Bat Conference in Durango, CO.

Sexton, J., M.A. Bogan, S. Davenport, and T.J. O'Shea. 1996. Status and trend of bat populations at Los Alamos National Laboratory and Bandelier National Monument, Jemez Mountains, New Mexico. Colorado Bat Society Four Corners Regional Bat Conference in Durango, CO.

Valdez, E.W., J.R. Choate, T.L. Yates, and M.A. Bogan. Taxonomic status of *Myotis occultus* Hollister. Poster presented at the 43rd annual meeting of the Southwestern Association of Naturalists in McAllen, TX.

Valdez, E.W., J.R. Choate, T.L. Yates, and M.A. Bogan. Taxonomic status of *Myotis occultus* Hollister. Poster presented at the annual meeting of the American Society of Mammalogists in Grand Forks, ND.

Committee, Awards, and Other Significant Activities:

Dr. M.A. Bogan attended a meeting in Victoria, BC, entitled "Bats and Forests."

Dr. M.A. Bogan attended the annual meeting of the Southwestern Association of Naturalists in McAllen, Texas.

Dr. M.A. Bogan served as NBS Project Officer on the University of New Mexico’s research project on “The response of southwestern montane mammal communities to global change.”

Dr. M.A. Bogan served as NBS Project Officer on New Mexico State University’s research project on “Impacts of global climate change on Chihuahuan Desert vegetation.”

Dr. M.A. Bogan served as Program Chair for the Colorado Bat Society’s Four Corners regional Symposium on Bats and oversaw the production of a program comprising 43 presentations in January 1996.

Dr. M.A. Bogan served as a reviewer of manuscripts for the *Journal of Mammalogy*, *Southwestern Naturalist*, and *Great Basin Naturalist*.
Dr. M.A. Bogan was nominated to serve on the Animal Care and Use Committee of the American Society of Mammalogists.

Dr. M.A. Bogan served on a National Park Service scientific advisory committee on “Bighorn sheep in the Rocky Mountain region.”

Dr. M.A. Bogan and Dr. Patricia Mehlhop of the New Mexico Natural Heritage Program were the successful recipients of an NBS grant to develop an electronic database on New Mexico Plant Species of Concern for the state office of U.S. Fish and Wildlife Service.

Dr. M.A. Bogan, and Cynthia Ramotnik attended the Colorado Bat Society Four Corners Regional Bat Conference in Durango, CO.

Drs. Thomas J. O’Shea, Merlin Tuttle, and M.A. Bogan were the successful recipients of an NBS grant to develop a management and information handbook on bats in the western U.S. The project is a collaborative one between the Midcontinent Ecological Science Center of NBS and Bat Conservation International.


C.A. Ramotnik served as a reviewer of manuscripts for Collection Forum.
APPENDIX D

ANNUAL REPORT:
LONG-TERM
ECOLOGICAL
RESEARCH
PROGRAM
Sevilleta LTER 1996 Annual Report

Bruce T. Milne, Principal Investigator

Sevilleta LTER II: Biome-level constraints on population, community, and ecosystem responses to climate fluctuation.

(DEB 9411976)

1. On-going LTER Research.

The Sevilleta Long-Term Ecological Research Program (LTER) was initiated in October, 1988, and has focused on a suite of ecological hypotheses concerning climate dynamics and the responses of organisms in a biome transition zone in central New Mexico. The Sevilleta LTER research region straddles several major biomes of the Southwest, and the large geographic scale of the Sevilleta region is important for studies that range from genetics and physiology at the organismal level, to the dynamics of biome transition zones. The region is strongly influenced by the El Niño Southern Oscillation (ENSO), with major fluctuations in precipitation on semi-decadal time scales. To date, 83 LTER research papers have been published or are in press.

A. Weather Measurements. All weather stations on the Sevilleta NWR, Bosque del Apache NWR, and the Magdalena Mountains, are still operating. TDR instruments and probes have been installed at several of the major stations to provide detailed, continuous measurements of soil moisture. Precipitation samples continue to be collected for chemical analyses.

B. Vegetation/Ecotone Studies. All permanent plant transects have been sampled this spring, and data are being analyzed. Vegetation mapping of the Sevilleta will be completed in 1996, and field work on this project is scheduled to commence in mid-July. The vegetation transects will be re-sampled at peak production time in mid-September.

C. Primary Production. A project has begun in 1995 which measures primary production in the grassland areas of the Sevilleta. Dr. James Gosz has established replicated 25 x 25 m plots in mixed-grass prairie, and has used a large mower to harvest the above-ground standing biomass. Harvested grass amounts were sieved to remove accumulated dust particles, and then weighed. These plots were allowed to regrow during 1995, and were harvested by mowing last September. Additional paired plots also have been harvested to compare the amount of standing crop on mowed and unmowed plots. By repeating this procedure year after year, inter-annual differences in above-ground biomass can be detected, with minimal sampling variance due to the larger plot sizes. Biomass fluctuations will be correlated to precipitation and other biotic/abiotic variables.

D. Decomposition and Nutrient Cycling. Litterbag studies are being continued at all the major Sevilleta research sites. New sets of litterbags, containing a range of common Sevilleta plant...
species, were placed in the field in January, while older bags were harvested according to the pre-arranged schedule. Analyses of the recently harvested bags are in progress.

**E. Trophic Interactions/Animal Population Studies.** Vertebrates and invertebrates continue to be sampled as in past years. Pitfall traps and sweep samples of vegetation collect arthropods, while systematic trapping of small mammals provide samples for rodent populations and parasitology studies. Population studies of rabbits, coyotes, and pronghorn antelope are continuing.

**F. GIS/Remote Sensing.** This work continues to support various LTER projects, including the efforts in vegetation mapping on the Sevilleta, and estimation of primary production patterns and dynamics.

**G. REU/UMEB Program.** The Sevilleta Site REU Program was renewed for 3 years in 1995. The UMEB Program continues to operate in collaboration with the Sevilleta LTER. As in prior years, the goals of these programs are to (1) instruct undergraduates in the principles of scientific research, (2) expose the students to a wide variety of ecological research techniques and career opportunities, (3) facilitate individual student research projects, and (4) encourage students to continue their scientific education in upper-division courses and graduate school. To accomplish these goals, the programs include (1) orientation meetings and a seminar series devoted to the variety of scientific opportunities in ecological research at the Sevilleta, (2) faculty-student one-on-one instruction of hypothesis development and research protocols in ongoing Sevilleta LTER projects, (3) field and laboratory experiences in sampling and data collection, (4) implementation of individual student research projects, carried out under the guidance of student-selected faculty members, (5) a Sevilleta REU Symposium for project presentations by the students, (6) attendance at scientific meetings (12 REU and UMEB students presented posters at the 1995 ESA meeting in Snowbird, Utah, in August 1995), and (7) preparation and submission of project manuscripts to scientific journals. These activities integrate all theoretical and technical aspects of the LTER and promote a holistic approach to large-scale ecological studies.


**A. Sevilleta Water Balance Studies.** The mission of water balance studies is to “assess, predict, and extrapolate soil water availability for the Sevilleta LTER as it affects biodiversity, ecosystem function, and resource availability”. We have enlisted the collaboration of arid lands hydrologists, plant physiological and population ecologists, remote sensing specialists, and energy balance modelers at New Mexico Tech, the Department of Earth and Planetary Sciences (UNM), the New Mexico Heritage Office, NREL at CSU, Los Alamos National Laboratory, and the University of Kansas. Progress includes: (1) hiring of a post doc (Dr. Yeulong Yang) to coordinate the technical details, (2) installation of automated TDR systems, (3) detailed monitoring of plant phenology throughout the year, (4) literature review to guide the selection of models, (5) professional recoding of the Jornada LTER site’s Soil Water Balance model (SWB) into a maintainable, general purpose C program made available on the web (http://algodones.unm.edu/waterbal/models/sevswb/sevswb.html#Downloads), (6) creation of
data base routines to utilize Sevilleta LTER archived weather data in the model, (7) production of a preliminary vegetation map of the Sevilleta from 12 TM scenes collected over a 4 yr period (http://algodones.unm.edu/~bmlne/vegmap/veg.maps.html), (8) associated maps of LAI, plant height, total cover, and topographically adjusted solar radiation used to estimate potential evapotranspiration, and (9) a recent supplement to implement National Weather Service doppler radar imaging of precipitation for the Sevilleta.

B. Grassland Modelling Project. Dynamics and Spatial Patterns of Dominant Plant Species, Communities, and Ecosystems in Grassland-Shrubland Ecotones at the Sevilleta LTER. The overall objective of this study, conducted by Dr. Debra Coffin, is to evaluate the environmental constraints and biotic processes important in determining temporal dynamics and spatial patterns in vegetation structure and ecosystem processes for grassland-shrubland ecotones at the Sevilleta. The focus is on three biomes that meet at this site: Great Plains grasslands dominated by *Bouteloua gracilis*, Chihuahuan desert grasslands dominated by *Bouteloua eriopoda*, and Chihuahuan desert shrublands dominated by *Larrea tridentata*. These communities were selected to allow cross-site comparisons with two other LTER sites: the SGS in northern Colorado where shortgrass communities are dominated by *B. gracilis*, and the Jornada in southern New Mexico where Chihuahuan desert grasslands and shrublands are dominated by *B. eriopoda* and *L. tridentata*. The approach is to use a combination of short- and long-term experimental studies and simulation modeling to evaluate these dynamics through time and space.


The Sevilleta LTER synthesis activities revolve around the production of a synthesis volume. We held a Sevilleta LTER Symposium in January 1996 to review progress to date. At the meeting, we discussed the theme and organization of a synthesis volume that will be edited by Bruce Milne and Jim Gosz. The theme will address the role of biotic transition zones and ecotones as active sites for ecological responses to climate fluctuation. Milne is preparing an overview chapter to set the theme. The draft chapter will be circulated to stimulate contributions from other authors. Although an official submission date has not been set, we intend to have authors submit first drafts by March 1997.

In addition, three faculty from the Sevilleta LTER (Bruce T. Milne, James H. Brown, and Diane L. Marshall) will participate in the November symposium at the National Center for Ecological Analysis and Synthesis.

4. Cross-site Activities.

**Small mammal exclosure study with Jornada LTER and Mapimi, Mexico.** The LTER cross-site small mammal exclosure study that was begun in 1995 is completely underway at Sevilleta. One year of pre-fencing vegetation and soils data were collected from the Sevilleta and Jornada grassland and creosotebush sites in 1995. Rodent and rabbit exclosure fences were
installed during the winter of 1995 at the Sevilleta and Jornada LTER sites. Ariel photos were taken of all Sevilleta and Jornada study plots, and soil samples were collected from all study plots to provide baseline information on whole-plot vegetation and soil patterns, and information on soil chemistry spatial patterns. Post-fencing vegetation and soils data were collected on all of the study plots in April 1996. Study sites were located, and study plots installed at the Mapimi Biosphere Reserve, Mexico, during the winter of 1995/1996. One year of pre-fencing vegetation and soil data will be collected at Mapimi prior to fence installation during the winter of 1996/1997. Vegetation, soil, rodent, and rabbit data were collected for the first time at Mapimi this past March.

5. Network-level Activities.

A. NASA/MODIS MODLERS Project. Bruce Milne has a subaward from Oregon State University to participate in the NASA/MODIS MODLERS Project. This project brings together 14 Long-Term Ecological Research (LTER) Network sites and NASA's MODIS Land (MODLAND) Science Team for the purpose of locally validating Earth Observation System-era global data sets. (http://atlantic.evsc.virginia.edu/jhp7e/modlers/).

B. LIDET Experiment. Sevilleta hosted the 1996 LIDET workshop for the LTER Network, and included the Sevilleta data in the project analyses.

C. LTER Network Soils Workshop. Sevilleta also hosted the Soils Workshop for the LTER soils research group.

6. LTER Data Set Status.

The Sevilleta LTER Information Management System (SIMS) is meeting the needs of its collaborating scientists through extensive development of WWW based information services. Through a contract from Sandia National Laboratory, SIMS Researchers have employed an html designer and programmer for the purpose of developing data and information access. All Sevilleta LTER core datasets either are, or are being prepared for, access via the WWW at URL http://sevilleta.unm.edu/sims/sims-home.html (This reference can also be reached via the home page at http://sevilleta.unm.edu). The publication of Sevilleta LTER datasets is not considered to be a trivial or routine process. Only datasets that have met documentation standards for ecological data (Michener et al. 1996), have passed extensive quality assurance checks, and have been thoroughly reviewed are considered for publication on the WWW. Incomplete datasets are made available via the Internet to collaborating researchers with a SIMS account. A listing of SIMS data sets is provided in Table 1.
7. Additional Grant Support.


Sevilleta LTER 1996 Supplement Proposal: REU students with the Sevilleta LTER. NSF, $10,000. PIs: Bruce T. Milne, Robert R. Parmenter, and James W. Brunt.


Hantavirus Infections: Ecology, Community, and Treatment. National Institutes of Health, $1,500,000. PIs: Terry L. Yates and Fred Koster. This grant will use the Sevilleta LTER Program and field research sites as the basis for a new Center for Emerging Diseases in the southwestern United States; includes extensive collaboration between the Sevilleta LTER and the UNM Medical School, the New Mexico State Health Department, and the Federal Centers for Disease Control and Prevention.

Ecosystem and Soil Studies of Native American Runoff Agriculture. NSF, $476,713. P.I.: Jonathan A Sandor, Iowa State University (ISU); Co-P.I.s: Mark Ankeny, Daniel Stephens, Carleton S. White, Stephen E. Williams, and Deborah A. Muenchrath.

Water Quality Study in the Santa Fe Watershed. USDA Forest Service. $20,000. PI: Carleton S. White.


Gosz, Rusty J., James R. Gosz. 1996. Species interactions on the biome transition zone in New Mexico: Response of blue grama (Bouteloua gracilis) and black grama (Bouteloua eriopoda) to fire and herbivory. Journal of Arid Environments, in press.


APPENDIX E

ANNUAL REPORT:

MOLECULAR

BIOLOGY

FACILITY
The Molecular Biology Facility, 1 July 1995-30 June 1996

Current Director: Don Natvig  Ex Officio Co-Director: Mary Anne Nelson

During the past year the Molecular Biology Facility (MBF) experienced a number of important changes. With funding obtained from the National Science Foundation for the *Neurospora* Genotype Project (NGP) and additional support from the UNM Office of Research and the department's Howard Hughes program, we were able to purchase an ABI 377 automated sequencer and two new thermocyclers. In addition, combined funds from the NGP grant and the Department of Biology made possible the hiring of a 3/4-time post-doctoral associate and two graduate RAs. These individuals continue to have duties that are divided between the NGP and general departmental service (see below).

The MBF currently serves as the primary base of operation for the NGP. In addition, it serves a broad group of faculty, post doctoral associates and students from diverse programs in the department. Although the department and university have been generous in supporting the facility since its inception four years ago, major support has come from two successive NSF grants (from the now defunct RIMI program) and the department's Howard Hughes program, which is now in its last year. A longer-term goal, formulated during the past year, is to provide a foundation for the facility that will keep it robust beyond the duration of the current NGP grant. The directors and principle users have argued that it be given status within the university on a par with units of the Museum of Southwestern Biology.

**Activities and users of the past year**

**Number of sequencing reactions processed on the ABI 377**

NGP: 2000  
General Users: 1600

**Partial list of users of equipment and space**


NGP students and post doc: Seogchan Kang, Jason Mitchell, Anne Marie Armijo, Laura Bean, Eldon Blueyes, Carol Boivin, Edward Braun, Thomas Cushing, Allison Errett, Patricia Dolan, Mark Fleharty, Marianita Gorman, Kimberly Judson, Pascale Leonard, Robert Miller, Jennifer Ortega, Iglika Pavlova, John Perea, Shanda Todisco, Robert Trujillo, Joseph Valentine, Audrey Wells, Sheldwin Yazzie


(continued)
The NGP grant

The Neurospora Genome Project at UNM; A Genome Characterization Training Program; National Science Foundation, RIMI; $570,167 ($322,142 from NSF, $248,025 cost sharing); three years (1995-1998) (D.O. Natvig, P.I.; M.A. Nelson, M. Werner-Washburne, and R. Miller, Co-P.I.s)

Publications

A comprehensive list is not available at this time. Please refer to the annual report of faculty publications.
APPENDIX F

FACULTY

SCHOLARLY &

PROFESSIONAL

ACHIEVEMENTS,

CY 1995
UNM DEPARTMENT OF BIOLOGY
FACULTY SCHOLARLY ACTIVITIES & PUBLICATIONS
CY 1995

I. SCHOLARLY ACTIVITIES

A. BOOKS AUTHORED.

BACA


BROWN


B. BOOKS EDITED.

BARTON


DAHM


C. CHAPTERS IN BOOKS OR MAJOR SYNTHETIC REVIEWS.

BARTON


DAHM


LOWREY


VOGEL


YATES


D. ARTICLES IN REFEREED JOURNALS.

BACA


**DAHM**


**DUSZYNSKI**


**EVANS**


GOSZ


KODRIC-BROWN


LIGON


LOKER


LOWREY


MARSHALL

MILLER


MOLLES


NELSON


STRICKER


THORNHILL


YATES


**E. BOOK REVIEWS.**

**DAHM**


**VOGEL**


**F. ARTICLES IN NON-SCHOLARLY JOURNALS.**

**ALTENBACH**


**VOGEL**


**WERNER-WASHBURN**


G. QUASI-PUBLIC REPORTS FOR INTERNAL/EXTERNAL CIRCULATION.

ALTENBACH


BARTON


DAHM

A National Environmental Monitoring Program. Report from the Ecosystem Dynamics Working Group of the US Committee on Environment and Natural Resources (CENR) of the President’s Office of Science and Technology Policy (OSTP). I am one of about 30 co-authors on this report to OSTP concerning the design and implementation of a national environmental monitoring program.

DUSZYNSKI

Edited Vol. 11, Department of Biology Annual Newsletter (Biological Society of New Mexico 1995), mailed to over 2,500 alumni, friends and supporters of Biology, December 1995.

Wrote and prepared camera-ready copy of The Call For Papers booklet announcing the 1996 Joint Meeting of the American Society of Parasitologists (ASP) and the Society of Protozoologists (SOP). Mailed by Allen Press to 2,000 members of ASP & SOP. 45 p.


**MOLLES**


**H. ABSTRACTS (REFEREED OR INVITED).**

**BACA**


**BARTON**


**EVANS**


**LOKER**

on Host Hormones and Behavior," American Society of Zoology Meeting, St. Louis MO, January 5-8, 1995.


MARSHALL


MOLLES


VOGEL


WERNER-WASHBURNE


I. ABSTRACTS (CONTRIBUTED).

BARTON


Johnson, G.V. Nitrogen fixation by Russian olive (*Elaeagnus angustifolia*): Field and laboratory studies. Tenth International Conference on *Frankia* and Actinorhizal Plants, Davis CA, August 6-11, 1995.

**LOWREY**


**MARSHALL**


**MILLER**


**NELSON**


Vogel


J. Other.

ALΤΕΝBACH

"The Bats of New Mexico." Poster with J.S. Altenbach photographs and captions, produced and distributed by the New Mexico Department of Game and Fish, November 1995.


"Share with Wildlife." Poster with J.S. Altenbach photograph of a Sanborn's long-nosed bat, produced and distributed by the New Mexico Department of Game and Fish, December 1995.

BARTON


DUSZYNSKI

Traveled to Tucson AZ to site-visit convention facilities for the 1996 Annual Meeting of the American Society of Parasitologists to be held there jointly with the Society of Protozoologists, June 11-15, 1996.

Research Affiliate, The Harold W. Manter Laboratory of Parasitology, University of Nebraska State Museum, Lincoln NE.

JOHNSON, W.

Provided a critical review of four chapters in Essentials of Genetics, 2nd ed., by Klug and Cummings.

NELSON

Member of the New Mexico Computational Biology Committee, which organized "A Day of Talks in Computational Biology: Protein Folding," Santa Fe Institute, Santa Fe NM, June 27, 1995.
II. PROFESSIONAL PUBLIC ACTIVITIES

A. COLLOQUIUM PRESENTATIONS, UNM & ELSEWHERE.

**BARTON**


"Characterization of the Autofluorescence of *Desulfovibrio* spp. and *Anabaena virabilis*," C. Carpenter and L.L. Barton, Fourth Annual Research Day, Department of Biology, UNM, April 7, 1995.


DAHM

Session moderator and introductory speaker to a session on “Future Directions in Forested Catchment Research,” the Gordon Conference on Forested Catchments, Colby-Sawyer College NH, August 18, 1995.

GOSZ


LOKER


WERNER-WASHBURNE


B. SEMINAR PRESENTATIONS, UNM & ELSEWHERE.

BACA


The University of Arizona School of Medicine, research seminar on virulence factors of Coxiella burnetii, Tucson AZ, February 1995.

Southwest Hispanic Research Institute’s colloquium series, “Analysis of Deaths in New Mexico’s Rio Abajo from the Late 18th Through the Mid-20th Century,” Albuquerque NM, December 1995.
“Metabolism and Transformation of Uranium by Anaerobic Bacteria,” Department of Biological Science, University of Calgary, Calgary, March 10, 1995.

“Mechanisms of Lead Transformation by Bacteria,” Department of Microbiology, The University of New Mexico, November 5, 1995.


Note: All presentations involved components of our group research on the dynamics of the ground water/surface water interface in streams and rivers.


Institute for Ecosystem Studies, Millbrook NY, February 24, 1995.


Invited departmental seminar, Department of Life Sciences, Arizona State University West, “Can Seed Dormancy Affect the Evolution of Post-germination Traits? The Case of Lesquerella fendlerii,” Phoenix AZ, Fall 1995.
JOHNSON, G.

Radiological Safety Lecture to Hughes Program Summer students, Department of Biology, UNM, June 12, 1995.

Plant Iron Nutrition: Physiological Adaptation to Scarcity of an Abundant Element, Department of Plant Biology and Pathology, University of Maine, Orno ME. November 11, 1995.

KODRIC-BROWN

Konrad Lorenz Institute for Comparative Ethology, Austrian Academy of Sciences, “Sexual selection in pupfish,” Vienna, Austria

LICON

Seminar, Department of Zoology, Colorado State University, Fort Collins CO, April 1995.

LOKER


MARSHALL


MILLER


Department of Biology, Trinity University, “Genes Expressed in Early Mouse and Opossum Lymphocyte Development,” San Antonio TX, October 16, 1995.

NELSON


MBRS/MARC seminar, “Fungal Sex—Too crassa to Discuss in Polite Company?”, UNM, November 9, 1995.
STRICKER

Department of Biology, UNM, November 1995.

Friday Harbor Laboratories, Friday Harbor WA, July 1995.

VOGEL


Department of Anatomy, University of North Dakota School of Medicine, Grand Forks ND, September 1995.

WERNER-WASHBURN


Department of Cellular Physiology, UNAM, "Studies of Stationary Phase in Yeast: When the Going Gets Tough," Mexico City, Mexico, June, 1995.


Molecular Biology Program, University of Colorado, "Characterization of Entry into Go in the Yeast Saccharomyces cerevisiae," Denver Health Sciences Center, University of Colorado, April 1995.

Society for Advancement of Chicanos and Native Americans in Science meeting, "Characterization of Quiescent Yeast Cells—I Don’t Think We’re in Kansas Anymore," El Paso TX, January 1995.

Hispanic Student Services and MECha, UNM, "The Search for a Path with Heart or How I, in Good Conscience, Gave up Being a Poet and Became a Molecular Biologist," February 1995.
C. INVITED & PLENARY TALKS AT PROFESSIONAL MEETINGS, WORKSHOPS, ETC.

ALTENBACH


BARTON

“Remediation of Uranium and Other Heavy Metal Wastes at the UMTRA Tuba City Site.” Involving members of the DOE Albuquerque Office, including members from the Sandia National Laboratory, Center for Radioactive Waste Management, UNM, March 15, 1995.

“Remediation of Uranium and Other Metals at the UMTRA Shiprock Site.” Involving members of the DOE Albuquerque Office, the Navajo Nation and the regional director of the Bureau of Indian Affairs, Center for Radioactive Waste Management, UNM, March 16, 1995.

BROWN


GOSZ


American Geophysical Union Annual Meeting (symposium developed by the National Academy of Sciences), "Emergence of Infectious Disease: The Ecological Connection," San Francisco CA, December 12, 1995.

**LOKER**

MARSHALL


NELSON


STRICKER

International Conference on Nemertean Biology, Asilomar CA, July 1995

International Symposium on Invertebrate Reproduction and Development, Santa Cruz CA, July 1995

WERNER-WASHBURN


D. CONTRIBUTED TALKS AT PROFESSIONAL MEETINGS, WORKSHOPS, ETC.

ALTENBACH


DAHM


EVANS


Annual meeting, Ecological Society of America, “Microspatial Demographic Variation in a Desert Mustard,” with Ivan B. Ortiz, Snowbird UT, Summer 1995 (poster).


GOSZ


JOHNSON, G.


KODRIC-BROWN

International Ethological Congress, “Mate choice evolving: Female preferences in a species flock of Mexican pupfishes” (with Ulrike Strecker), University of Hawaii, Honolulu HI, August 14-20, 1995.

LOKER


F-24


**LOWREY**


**MARSHALL**


**MOLLES**


**VOGEL**


**WERNER-WASHBURN**


**E. ATTENDANCE AT PROFESSIONAL MEETINGS, WORKSHOPS, ETC.**

**BACA**


**BARTON**


**BROWN**

Conference on Artificial Ecology, ECHO, Sevilleta Field Station NM, February 24-26, 1995.

Annual meeting, Ecological Society of America, Snowbird UT, April 7-11, 1995.


**DAHM**

Aquatic CO₂ Dynamics Workshop, Marine Biology Laboratory, Woods Hole MA, February 10-12, 1995

Gordon Conference of Forested Catchments, Colby-Sawyer College NH, August 13-18, 1995

Association of Ecosystem Research Centers (AERC) Annual Meeting, Washington DC, November 9-10, 1995

DUSZYNSKI


GOSZ


Coordinating Committee of LTER Network, University of Virginia, Charlottesville VA, April 1995.

Coordinating Committee of LTER Network, University of Minnesota, Minnesota MN, October 1995.


JOHNSON, G.

First Zia Symposium on Molecular and Cellular Biology: Plant Cell Biology, New Mexico State University, Las Cruces NM, January 13-14, 1995.


Tenth International Conference on Frankia and Actinorhizal Plants. University of California, Davis CA, August 6-11, 1995.

LICON
American Ornithologists' Union, Cincinnati OH, August 1995.

LOKER
American Society of Zoology Meeting, St. Louis MO, January 5-8, 1995
Southwest Association of Parasitologists Meeting, Lake Texoma OK, April 20-21, 1995
Annual Midwestern Conference of Parasitologists, Milwaukee WI, June 2-3, 1995
Joint annual meeting, American Society of Parasitologists and the American Association of Veterinary Parasitologists, Pittsburgh PA, July 6-10, 1995.

LOWREY
American Institute of Biological Sciences National Meeting, San Diego CA.

MARSHALL
Chaired a contributed paper session, chaired a section meeting, and served on program committee, Ecological Society of America Annual Meeting,
Guild of Rocky Mt. Population Biologists Annual Meeting
Crop Science Society Annual Meeting

MILLER

MOLLES
Annual meeting of the Ecological Society of America, Snowbird UT, August 1995.
NELSON

Annual Conference of the Society for Advancement of Chicanos and Native Americans in Science, El Paso TX, January 5-9, 1995.


Vogel


Western Connective Tissue Society, Berkeley CA, June 1995.

Howard Hughes Medical Institute, Undergraduate Programs, Directors Meeting, Chevy Chase MD, October 1995.


WERNER-WASHBURN

Cold Spring Harbor Yeast Cell Biology Meetings

NSF-Diversity Meetings

Society for Advancement of Chicanos and Native Americans in Science meetings (January and October)

American Society for Cell Biology Meeting

NSF-Women and Science meeting

F. TESTIMONY IN A SCHOLARLY CAPACITY AT HEARINGS OF COMMISSIONS, LEGISLATIVE COMMITTEES, ETC.

LOWREY


G. PRESENTATIONS TO GENERAL AUDIENCE IN A SCHOLARLY CAPACITY.

ALTENBACH


Pizza, Pop and Plecotus: An Evening with Scott Altenbach. Invited lecture presented to the participants and visitors at the bats/abandoned mines workshop in Lander, WY, June 7, 1995.

Pizza, Pop and Plecotus. Invited lecture presented to the participants and visitors at the bats/abandoned mines workshop in Helena, MT, June, 1995.

Bats. Invited lecture presented to the participants and visitors at the bats/abandoned mines workshop in Pocatello, ID, August 23, 1995.

Bats: Beautiful and in Trouble. Presentation to the New Mexico Tech. chapter of Sigma Xi, Macy Center, New Mexico Tech, Socorro NM, October 30, 1995.


Bats and Bridges. Invited presentation on bats and bat conservation presented to the New Mexico State Highway Department, Santa Fe NM, May, 16, 1995.

BACA


DAHM


DUSZYNSKI


LICON

Evening Speaker, American Birding Association, January 1996.
MARSHALL


Presentation on plant breeding and plant reproduction, Taylor Middle School, April 1995.

MILLER


Scholarly guest lectures at T-VI, Fall semester, Parasites of the Southwest course taught by Lee Couch and Bruce Hofkin.

MOLLES


NELSON

Women in Science and Engineering (WISE), Presentation on Computational Biology, September 13, 1995.

VOGEL


WERNER-WASHBURNE


H. SERVICE IN A SCHOLARLY CAPACITY AS MEMBER OF LOCAL, STATE OR NATIONAL PANEL, COMMITTEE, OR COMMISSION, FOR PURPOSE OF REVIEWS OF PUBLIC POLICY ISSUES, SCIENTIFIC EVALUATIONS, AWARDS OF GRANTS OR FELLOWSHIPS OR PRIZES, ETC.

ALTENBACH

Advisor to the New Mexico Chapter of the Nature Conservancy on the Jornada del Muerto bat caves.

Advisor to the University of Wisconsin, Milwaukee, on the Neda Mine Bat Hibernaculum, Dodge Co., WI.
BACA

Panelist, the National Science Foundation’s Instrumentation and Instrument Development Advisory Panel, Division of Biological Instrumentation and Resources, 1993-96.

BARTON

Reviewer of 90 proposals at the USDA Wood Fiber Commission.

Required three days of attendance at USDA Panel in Washington, DC.

Reviewer for two DOE research proposals.

Reviewer for one NSF proposal.

Reviewer for two Research Council of Canada papers.

DAHM

National Science Foundation representative on the Committee on Environment and Natural Resources (CENR) subcommittees for (a) Global Change Research and (b) Biodiversity and Ecosystem Management Research. The CENR reports to the National Science and Technology Council (NSTC). The NSTC is chaired by Jack Gibbons, science advisor to the President, and Vice-President Al Gore.

Coordinator of the interagency Terrestrial Ecology and Global Change (TECO) Program. This interagency program (NSF/DOE/NASA/USDA) considered 150 proposals in its inaugural competition in 1995. Twenty-two projects totaling $8.6M were awarded as a result of this competition.

One of four reviewers for the Department of Energy to decide upon the 12 distinguished Hollander post-doctoral awards for research at DOE facilities, March 20-21, 1995.


Member of the NSF review panel for the Hubbard Brook Long-Term Ecological Research (LTER) site review, Hubbard Brook NH, August 21-25, 1995.

Co-coordinator of the initial Environmental Geochemistry and Biogeochemistry (EGB) competition at the NSF. The EGB competition evaluated 135 proposals and awarded 13 projects for a total of $3.4M.

Member, the North American Benthological Society Award of Excellence Committee for 1995.
Program director and subpanel chair for the joint NSF/EPA Water and Watersheds Competition. The subpanel I chaired reviewed 82 proposals. The competition eventually funded 31 of 640 proposals reviewed for a total of $10.2M.

DUSZYNSKI

Member (volunteer), NM Selection Committee, Department of Education (Santa Fe), for 1995 Department of Energy's High School Honors Program, 69 applications.

Member (volunteer), NM Selection Committee, Department of Education (Santa Fe), for the Presidential Awards for Excellence In Science & Mathematics Teaching (PAESMT) Program, six applications.

Member (appointed), TVI Advisory Committee for Arts and Sciences, 1991-96.

New Mexico Representative (appointed), Student Exchange Programs, Advisory Board for the Western Interstate Commission for Higher Education (WICHE), 1993-95; reappointed 1996-98.

GOSZ

Scientific Advisory Committee for the Chinese Ecological Research Network Team Leader, Czech Republic Site Visit for the establishment of a LTER research program (site evaluation and advisement).

JOHNSON, G.

Judge State Science Fair, Chairman Senior Botany Division, Socorro NM, April 8, 1995.

LICON

Member, American Ornithologists' Union Conservation Committee.

LOKER


LOWREY

Appointed member of US Fish and Wildlife Service New Mexico Plant Recovery Team meetings, March 1995, Albuquerque NM.

MILLER

MOLLES

Technical advisor to the Rio Grande Nature Center, Albuquerque NM.

NELSON

Served on the State of New Mexico Commission on Higher Education Graduate Scholarship Program Selection Committee.

VOGEL

Regular member, National Institutes of Health Study Section, Pathobiochemistry, June, October 1995.

WERNER-WASHBURNEn


I. SERVICE AS EDITOR OF SCHOLARLY JOURNAL.

BARTON


BROWN

Journal of Biogeography, and Biogeography and Global Change Letters: Associate Editor for North America.

DAHM

Guest editor of the September 1995 (Vol. 3, No. 3) issue of Restoration Ecology.

J. SERVICE ON EDITORIAL BOARD OF SCHOLARLY JOURNAL.

BARTON

Biometals, an international journal, published by Rapid Communications, Oxford, UK

BROWN

Evolutionary Ecology
GOSZ

*Biogeochemistry*

**LOKER**

*Journal of Parasitology*, Associate Editor for “Invertebrate Host-Parasite Associations”

*Journal of Medical and Applied Malacology*, editorial board

**LOWREY**

Member, Editorial Board, *MADRONO*, journal of the California Botanical Society.

**MARSHALL**


**MOLLES**

Associate Editor, *Journal of the North American Benthological Society*.

**VOGEL**

Editorial Board, *Archives for Biochemistry and Biophysics*

Editorial Board, *European Journal of Cell Biology*

Editorial Advisory Board, *Journal Orthopaedic Research*

**K. SERVICE AS OFFICER OF PROFESSIONAL ORGANIZATION (INDICATE WHETHER ELECTED OR APPOINTED).**

**BACA**

President, The American Society of Rickettsiology and Rickettsial Diseases (elected, Fall 1994–Fall 1996)

**BARTON**

The International Steering Committee, the International Symposium on Iron Nutrition and Interactions in Plants (appointed)

Secretary, International Society for Biometals (appointed)
DAHM

Executive committee of the North American Benthological Society, June 1995 (appointed)

DUSZYŃSKI

National Program Officer, American Society of Parasitologists. Appointed and confirmed by ASP Council, 1988-96.

Archivist, Annual Coccidiosis Conference (appointed).

Archivist, Southwestern Association of Parasitologists (appointed).

Research Affiliate, The Harold W. Manter Laboratory of Parasitology, University of Nebraska State Museum, Lincoln, NE (elected).

National Program Officer, Society of Protozoologists; appointed by the President and confirmed by their Council, for their 1996 Annual Meeting, to be held in Tucson AZ as a Joint Meeting with the ASP.

GOSS

Chairman, Long Term Ecological Research Network (elected)

Chairman, International Long Term Ecological Research Network (elected)

Chairman, Scientific Advisory Committee for the Chinese Ecological Research Network (elected)

Director of the Long Term Ecological Research Network Office, Seattle WA, (elected)

Science Advisory Board, Crane Research Facility, University of Washington (appointed)

KODRIC-BROWN

Member of Scientific Committee, Ecological and Evolutionary Ethology of Fishes

LOKER

Council, American Society of Parasitologists, 1995–present (elected)

Secretary-Treasurer, Southwestern Association of Parasitologists, 1992–95 (elected)

LOWREY

Council Member, 1995–98, National Council of the American Society of Plant Taxonomists (elected)
MARSHALL

Chair, Plant Population Biology Section of the ESA (elected)

Member, ESA Council, elected from Board of Editors

Member, ESA Program Committee

WERNER-WASHBURN

Board of Directors, Society for the Advancement of Chicanos and Native Americans in the Sciences (SACNAS), 1995-98 (elected)

Yeast Genetics Meeting organizer, Genetics Society of America, 1994-96 (elected/appointed)

Publications Committee, American Society for Cell Biology; 1995-present, appointed

LIST JOURNALS & THE NUMBER OF PAPERS YOU REFEREED FOR EACH IN 1995

ALLEN

Southwest Naturalist (2)

BACA

New Mexico Historical Review (1)
Trends in Microbiology (1)
Infection and Immunity (2)

BARTON

Journal of Applied and Environmental Microbiology (2)
Biometals (3)
Anaerobe (56)
Anaerobe (4) review articles
Archives for Microbiology (2)
Journal of Plant Physiology (1)

DAHM

American Society of Limnology and Oceanography (3)
The Journal of Experimental Zoology (1)

DUSZYNSKI

Journal of Parasitology (5)
Journal of Wildlife Diseases (1)
The American Naturalist (1)
Invertebrate Biology (1)
Journal of Zoo and Wildlife Medicine (1)
Journal of the Helminthological Society of Washington (1)

EVANS

Ecology (1)
American Journal of Botany (2)
Oecologia (1)

GOSZ

Conservation Biology (2)
Biogeochemistry (3)
Ecology (1)
Ecological Applications (2)

JOHNSON, O.

Journal of Plant Nutrition (1)
Crop Science (1)
Reviewed one grant proposal for USDA National Research Initiative Competitive Grants Program.

KODRIC-BROWN

Animal Behavior Society (10)
Behavioral Ecology and Sociobiology (6)
Evolution (2)
Environmental Biology of Fishes (4)
Canadian Journal of Zoology (2)
American Naturalist (7)
Behavioral Ecology (5)
Science (1)
Ethology (3)

LICON

Proceedings of the Royal Society, London (2)
Journal of Animal Ecology (1)
Auk (1)
Behavioral Ecology and Sociobiology (1)
Wilson Bulletin (1)
Animal Behaviour (2)
Journal of Raptor Research (1)
Behavioral Ecology (1)
Proposals reviewed:
  National Geographic Society (2)
  National Science Foundation (2)

LOKER

Journal of Parasitology (17)
Journal of Medical and Applied Malacology (3)
Developmental and Comparative Immunology (3)
Journal of Invertebrate Pathology (2)
BioScience (1)
Canadian Journal of Zoology (1)
Experimental Parasitology (1)
The FASEB Journal (1)
Invertebrate Biology (1)
Comparative Biochemistry and Physiology (1)
Journal of Experimental Zoology (1)
Chapman and Hall Publishers (1 chapter)

LOWREY

American Journal of Botany (2)
Madrono (2)
Annals of Botany (1)
Systematic Botany (1)

MARSHALL

Editor, Ecology (= 30).

MILLER

Journal of Immunology (3)
Genomics (2)

MOLLES

Hydrological Processes (1)
Regulated Rivers (1)
JNABS (3)

STRICKER

Developmental Biology (3)
Marine Biology (1)
Invertebrate Biology (1)
VOGEL

Archives for Biochemistry and Biophysics (8)
European Journal of Cell Biology (6)
Journal of Orthopaedic Research (2)
Journal of Biol. Chem. (2)
Journal of Anatomy (2)
Proceedings of the National Academy of Sciences (1)
Journal of Clinical Investigation (1)

WERNER-WASHBURREN

Genetics (1)
Experimental Cell Research (1)

III. GRANTS, EXTRAMURAL & INTRAMURAL

A. SUBMITTED TO ALL AGENCIES IN 1995.

BARTON

“Disinfection of Simulated Cooling Tower Water”; L.L. Barton, PI; submitted in response to personal contact: LATMIOX Corporation, Albuquerque NM; $5,500, six months.

“Dietary Studies on Super Blue Alage”; L.L. Barton, PI; submitted in response to a personal contact: Cell Tech, Inc., Klamath Falls OR; $6,000, seven months.

“Bioremediation Studies at a TCE Contaminated Site”; L.L. Barton, PI; Sandia National Laboratory; $24,500, nine months.

DUSZYNISKI


EVANS

"Evolutionary Responses of Brassica campestris to Elevated CO₂ and Nitrogen"; A.S. Evans and W.E. Winner (Oregon State University), Co-PIs; NSF; January 1, 1996–December 31, 1999, $125,045.

KERKOF

"Characterization of the Mouse MA16C Mammary Adenocarcinoma"; Patricia L. Dolan, a Ph.D. candidate in my laboratory; U.S. Army Medical Research and Materiel Command; $52,811.24, pending.

LOKER

"Molecular Studies of Schistosome-Snail Interactions"; E.S. Loker and M.H. Mansour, Co-PIs; Medical Service Corporation International's Schistosomiasis Research Program grant; June 1995-February 1996, $37,770 direct costs, with probable extension for two more years with additional funds for each year. Egyptian Co-PI Dr. M.H. Mansour has a separate budget.

"Molecular Studies of Kenyan Schistosomiasis"; faculty sponsor, submitted by Dr. Gerald Mkojl, Kenya Medical Research Institute; Fogarty International Research Fellowship; submitted October 1995, no specified amount, dates flexible, pending.

"Molecular Phylogeny for the Family Schistosomatidae"; faculty sponsor, grant submitted with Mr. Scott Snyder, University of Nebraska; NSF-Sloan Foundation; no set amount, dates flexible, pending.

LOWREY


MILLER

"Characterization of the Mouse SCID (DNA-PKcs) Gene"; R.D. Miller, PI; NIH/NIAID, 5 RO1 AI 34945 (competing renewal); $473,020, December 1, 1996–November 30, 1999, Year 1: $102,386 (direct costs).


"Presidential Faculty Fellow Award"; R.D. Miller, PI; NSF; $500,000, five years, Year 1: $100,000.
"Immunotoxicity of Chronic Ethanol Intake"; M. Sopori, PI, R D Miller, Co-PI; NIH; $8,348 (subcontract), July 1, 1996–June 30, 1999, Year 1: $2,674.

**MOLLES**


"Riparian ecosystem and experimentaleview flooding along the Middle Rio Grande, NM"; H.M. Valett, M.C. Molles and C.S. Crawford, Co-PIs; NSF; $292,588, March 1996–March 1999, $97,529/yr.


**NELSON**


**STRICKER**

"Calcium Dynamics During Marine Invertebrate Early Development"; S.A. Stricker, PI; NSF; $246,772, September 1, 1995–August 31, 1998.

**WERNER-WASHBURNE**

Part of the MBRS submission, January 1, 1995.

**YATES**


B. AWARDED WITH 1995 INITIAL START DATE.

ALTENBACH


“Evaluation of Bat Habitat in Abandoned Mines in New Mexico”; J.S. Altenbach, PI; NM Department of Mining and Minerals; July 1, 1995–June 30, 1996, $6,500.


BARTON

“Bioresmediation Studies at a TCE Contaminated Site”; L.L. Barton, PI; Sandia National Laboratory; $24,500, November 1995–March 1996.


BROWN


DUSZYNISKI


EVANS


GOSZ


LOKER

"Molecular Studies of Schistosome-Snail Interactions"; E.S. Loker and M.H. Mansour, co-PIs; Medical Service Corporation International's Schistosomiasis Research Program grant; June 1995–February 1996, $37,770 direct costs, with probable extension for two more years with additional funds for each year. Egyptian Co-PI Dr. M.H. Mansour has a separate budget.

LOWREY


MARSHALL


MILLER

Analysis of MHC Variation in Eschrichtius robustus (Gray Whale)"; R.D. Miller, PI; The Environmental Trust; $2,625, April 11, 1995–December 31, 1995.

MOLLES


NELSON


VOGEL


WERNER-WASHBURN

"The Neurospora Genome Sequencing Project"; M. Werner-Washburne, co-PI; NSF, HRD; August 1, 1995–July 31, 1998; $328,000 plus approximately $300,000 in matching funds.

"Characterization of a Novel, Stationary-phase Gene in the Yeast, Saccharomyces cerevisiae"; M. Werner-Washburne, PI; NSF; June 1, 1995–May 31, 1998; $360,000 ($120,000 per year).

YATES


C. IN FORCE FROM PREVIOUS YEARS.

ALTEINBACH

"Evaluation of Bat Habitat in Abandoned Mines in New Mexico"; NM Department of Mining and Minerals; July 1, 1994–June 30, 1995, $6,500.

BACA

"Phosphatase as a Virulence Factor in Q Fever"; O.G. Baca, PI; US Public Health Service/NIH, Grant No. RO1 AI 32492; $434,762 direct costs; 1993–96, approx. $144,000/year.

BARTON

"Control of Uranium Migration by Microbial Action"; L.L. Barton and B.M. Thomson, PIs; WERC/DOE–New Mexico State University; $179,643, 1993–95.

"Development of Biosensors for Monitoring Environmental Waste Systems"; L.L. Barton and T.J. Ross, PIs; WERC/DOE–New Mexico State University; $120,000, 1994–96.

"Groundwater Remediation Work for the UMTRA Sites at Tuba City, AZ, and Shiprock, NM"; DOE/Albuquerque Operations Office; $3,600,000, July 1, 1994–99.

BROWN


EVANS


JOHNSON, G.

“A Plant Growth Chamber for Research in Plant Physiology”; G.V. Johnson, PI; USDA (matching grant); September 1994—September 1995, $8,575 per year.

Matching funds from UNM (Dept. of Biology, College of Arts & Sciences, and Associate Provost for Research); September 1994—September 1995, $8,575 per year.

KODRIC-BROWN

“A Video-Imaging Technique for an Experimental Analysis of Mate Choice in Guppies”; A. Kodric-Brown, PI; NSF; $120,000, 1994–96.

LOKER

“Laboratory Education and Research in Biology”; K.G. Vogel, PI, E.S. Loker and several others co-PIs; Howard Hughes Medical Institute grant; $900,000, 1992–96.

“RIMI: Confocal Microscope Facility”; S.A. Stricker, PI, E.S. Loker and several others co-PIs; NSF; $178,823, October 1992—March 1995.

“RIMI: Molecular Biology Facility”; M. Werner-Washburne, PI, E.S. Loker and several others co-PIs; NSF grant; $321,000, October 1992—March 1995.


“Biology of Trematode-Snail Associations”; E.S. Loker, PI; NIH Grant, Competing Renewal of RO1 AI24340; $821,404 direct costs, December 1994—November 1999.

LOWREY


MARSHALL


“Presidential Young Investigator Award”; NSF; 1989–94; minimum $25,000/year, total NSF award, $290,000, $37,500 for 1995.
"REU Supplement to PYI Award"; NSF; $2,812, June 1, 1994–March 31, 1995.

MILLER

"Isolating the SCID Mouse DNA Repair Gene"; R.D. Miller, PI; NIH/NIAID, 5 RO1 AI 34945A; December 1, 1995–November 30, 1996, 1995: $114,656 (direct cost).

MOLLES


Interaction of Ecosystem Processes in the Rio Grande Basin"; M.C. Molles, Jr., PI; USDA Forest Service; $17,000, August 1994–August 1996.

NELSON

"Molecular Analysis of Sexual Development in Neurospora"; M.A. Nelson, PI; NIH; May 1, 1992–April 30, 1997, $519,578.

"Comparative Analysis of Mating and Meiotic Functions In the Filamentous Fungi, Neurospora crassa and Podospora anserina"; N.L. Glass, M.A. Nelson and M. Picard, Co-PIs; International Human Frontier Science Program Organization; September 1, 1992–August 31, 1995, $147,000 (amount of the award to M.A. Nelson).


STRICKER

"Confocal Microscopy Facility"; S.A. Stricker, PI; NSF; $178,000, October 1, 1992–September 30, 1996.

VOGEL

"Howard Hughes Medical Institute–Undergraduate Education Program"; Total award $1,000,000, July 1992–June 1997.
WERNER-WASHBURNE

“Establishment of a Molecular Biology Facility”; M. Werner-Washburne, PI; NSF, HRD; September 15, 1992–September 14, 1995, $328,000 plus $300,000 in matching funds.

“Confocal Microscope Facility”; S.A. Stricker, PI; NSF, HRD; September 15, 1992–September 14, 1995, $172,000 plus matching funds listed above.

“The Role of Gene Regulation in Starvation-induced Arrest in the Yeast, Saccharomyces cerevisiae”; M. Werner-Washburne, PI; Presidential Young Investigator Award, NSF; July 1, 1990–June 30, 1995, up to $500,000 for five years.

“The Role of Gene Regulation in Starvation-induced Arrest in the Yeast, Saccharomyces cerevisiae”; M. Werner-Washburne, PI; NSF, DCB-9000556; November 15, 1989–April 30, 1995, $600,000, including supplements.

YATES


"Response of Southwestern Montane Mammal Communities to Global Change”; T.L. Yates, PI; NBS; $250,000, October 1, 1993–September 30, 1998, $50,000/year.

IV. GRADUATE EDUCATION. Include student’s name, title of thesis or dissertation, semester awarded.

A. MASTERS DEGREES AWARDED

BARTON


MOLLES

Keith Gido: Spatial and Temporal Variation of Fish Communities in Secondary Channels of the San Juan River, New Mexico and Utah (USA). Spring 1995.

STRICKER


B. DOCTORS DEGREES AWARDED

BROWN


DAHM

M.A. Tad Crocker: Final Exam, Fall 1995, co-advisor with Dr. Manuel Molles, Jr.

DUSZYŃSKI


KODRIC-BROWN

LIGON


MARSHALL


MOLLES


VOGEL


C. BONA FIDE GRADUATE COURSES & NUMBER OF STUDENTS ENROLLED. INDICATE NEW COURSES (FOR YOU) WITH AN ASTERISK.

BARTON

Spring: Biol. 502, Hazardous Waste, Cynthia Darr, Brian Heerdt
Fall: Biol. 502, Hazardous Waste, Debra Adair, Stephanie Boone, Betty Strietelmeier

BROWN

Spring: Biol. 515F, Field Research in Biology, 15 students

BUDZYNSKI

Spring: Biol. 461L, Tropical Biology, 18 students
* Biol. 402/502, Tropical Ecology, 6 students
Fall: Biol. 404L, Marine Invertebrate Lab, 19 students
Biol. 502, Biocinematography, 1 student

EVANS

Fall: * Biol. 500, New Graduate Student Orientation, 17 students
* Biol. 502, Plant Evolutionary Physiology, 5 students

JOHNSON, C.

Spring: Biology 502, Plant Microbial Interactions, 4 students

KERKOF

Spring: Biol. 549, Molecular Cell Biology II, 5 students
Fall: Biol. 502, St/Cell/Molecular Seminar, 3 students

KODRIC-BROWN

Spring: Biol. 515F, Field Ecology, 12 students
Fall: Biol. 651, Advanced Field Biology, 1 student

LOKER

Spring: Biol. 402/502, Parasites and Hosts, 10 students
Fall: Biol. 402/502, Parasites and Hosts, 10 students

LOWREY

Spring: * Biol. 563, Advanced Plant Systematics, 6 students

MARSHALL

Spring: Biol. 502, Topics in Plant Ecology, 1 student
Biol. 567, Evolutionary Plant Ecology, 10 students
Fall: Biol. 502, Topics in Plant Ecology, 6 students

MOLLES

Fall: Biol. 507L, Bosque Biology, 5 students

NELSON

Spring: * Biol. 402/502, Molecular Mycology, 7 students
Biol. 402/502, Fungal Metabolism, 8 students
Fall: Biol. 402/502, Fungal Physiology, 8 students

STRIKER

Spring: Biol. 547, Advanced Techniques in Light Microscopy, 10 students

THORNHILL

Spring: * Biol. 402/502, Biology of Human Evolution, 14 students
VOGEL

Spring: Biol. 582, Advanced Cell Biology, ~30 students (taught 3-week block on extracellular matrix)
        Biol. 502, Topics/Proteoglycans, 2 students

WERNER-WASHBURN

Spring: *Biol. 502, Molecular Responses to Environmental Stress, 5 students

D. NAMES OF 551, 599 & 699 STUDENTS.

BARTON

Spring:  Biol. 551, Fiona Jordan
         Biol. 599, Fiona Jordan
         Biol. 699, Hilary Noskin

Fall:    Biol. 551, Keka Choudhury, Betty Strietelmeier
         Biol. 599, Fiona Jordan
         Biol. 699, Hilary Noskin

BROWN

Spring:  Biol. 551, Brian Enquist, Laura Gonzales-Guzman, Dov Sax
         Biol. 699, Dawn Kaufman, Dave Mehlman, Shahrouk Mistry

Fall:    Biol. 551, Brian Enquist, Howard Passell
         Biol. 599, Santiago Garcia
         Biol. 699, William Gannon, Laura Gonzales-Guzman, Dawn Kaufman, Dave Mehlman

DAHM

Spring:  Michelle Baker (Ph.D. prelims passed on April 26, 1995), M. Tad Crocker,
         John Morrice

Fall:    Michelle Baker, M. Tad Crocker, John Morrice

DUSZYNSKI

Spring:  Biol. 699, P.G. Wilber (9 hrs)
         Biol. 551, J.A. Hnida (3 hrs)

Fall:    Biol. 699, J.A. Hnida (11 hrs), P.G. Wilber (9 hrs)

EVANS

Spring:  Biol. 551, Diane J. Rowland

Fall:    Biol. 551, A. Joshua Leffler, Diane J. Rowland (2 secs)
GOSZ

Spring:  Biol. 699, Theresa Newberry
Fall:  Biol. 699, Tim Harrman, Theresa Newberry
??  Biol. ???, Debbie Potter
??  Biol. ???, Chuck Buxbaum

JOHNSON, O.

Spring:  Biol. 551, Christine Jakobs (2 credits)
Fall:  Biol. 551, Elisheva Crowell (2 credits)

KERKOF

Spring:  Biol. 551, Kenneth Conwell II, 3 Cr. Hr.
       Biol. 699, Patricia Dolan, 6 Cr. Hr.
Summer:  Biol. 699, Patricia Dolan, 6 Cr. Hr.
Fall:  Biol. 699, Patricia Dolan, 6 Cr. Hr.

KODRIC-BROWN

Spring:  Biol. 551, K. Gordon
       Biol. 599, K. Gordon
       Biol. 699, D. Tull, S. Nordell, D. Gray, D. Albrecht
Fall:  Biol. 551, M. Kiflawi
       Biol. 699, D. Tull, D. Gray

LIGON

Spring:  Biol. 699, Greg Farley, Julie Hagelin, Rebecca Kimball, Michele Merola,
         Patrick Zwartjes
Fall:  Biol. 699, Michele Merola, Julie Hagelin, Patrick Zwartjes

LOKER

Spring:  Biol. 551, Pascale Leonard, Kelli Sapp
       Biol. 599, Jacqui Miralles-Salazar
Summer:  Biol. 551, Kenneth Barber, Pascale Leonard, Kelli Sapp
Fall:  Biol. 551, Kenneth Barber, Ben Hanelt, Jacqui Miralles-Salazar
       Biol. 599, Jacqui Miralles-Salazar
       Biol. 699, Pascale Leonard, Kelli Sapp

LOWREY

Spring:  Biol. 551, P. Barlow, D. Daniels, C. Frazier, L. Gonzalez-Guzman
       Biol. 599, S. Reed
Fall:  Biol. 551, C. Frazier
       Biol. 599, D. Daniels, S. Reed
MARSHALL

Spring: Biol. 551, Anna Sher
        Biol. 599, Toby Bennett
        Biol. 699, Robert Cabin

Summer: Biol. 551, Jenna Johnson
        Biol. 699, Robert Cabin

Fall: Biol. 551, Anna Sher
      Biol. 599, Toby Bennett

MOLLES

Spring: Biol. 551, Mary Jean Mund, Scott Norris, Deborah Potter, Mary Steuver
       Biol. 599, Keith Gido, Heather Pratt
       Biol. 699, Tad Crocker

Summer: Biol. 551, Deborah Potter

Fall: Biol. 699; Tad Crocker, Mary-Jean Mund-Meyerson, Deborah Potter
      Biol. 599, Heather Pratt

NELSON

Spring: Biol. 551, James Baldwin
        Biol. 699, Sandra T. Merino

Summer: Biol. 699, Sandra T. Merino

Fall: Biol. 699, Sandra T. Merino

THORNHILL

Summer: Biol. 599, Moshe Kilawi

VOGEL

Spring: James Robbins

Fall: Thomas Ehlers, Yue-Mei Geng Spring (with M. Sopori), Kevin Hollander
      (with David Thompson, Mech. Engr.), James Robbins

WERNER-WASHBURN

Spring: Biol. 699, Ed Braun, Matt Crawford

Fall: Biol. 699, Ed Braun, Matt Crawford
E. Your service on graduate student committees, not as chair, in semester oral exam was given.

BROWN

Six.

DAHM

Fall: Colleen Hatfield, Ph.D.
Spring: Greg Wroblicky, M.S., Earth and Planetary Sciences

DUSZYNSKI

Spring: Don Sias (Snell), Paul Stone (Snell)

EVANS

Fall: Timothy J. Preston (Department of Computer Science)

JOHNSON, O.

Fall: Hilary Noskin, Ph.D. qualifying exam, November 14, 1995

JOHNSON, W.

Francine C. Romero, Ph.D. candidate in Department of Anthropology

KERKOF

Spring: Kenneth Conwell II, M.S. I

LIGON

Dan Albrecht, Laura Gonzales-Guzman, David Grey, Mary Jean Mund-Meyerson, Debra Tüll

LOKER

Fall: John Hnida

LOWREY

Fall: J. Hnida
Spring: D. Kaufman
MARSHALL

        Shahroukh Mistry, defended dissertation, May 1995
Fall: Mark Jordan, comprehensive exams, November 1995

MILLER

Fall: Pascale Leonard, Ph.D. student with Sam Loker

MOLLES

Spring: Michelle Baker, Comprehensive
        Yorgos Marinakis, Jean-Luc Cartron, Final Defense
Fall: Colleen Hatfield, Final Defense
      M.J. Meyerson Mund, Deborah Potter, Comprehensive (as Chair)

NELSON

Spring: Matthew Crawford, Doctoral Comprehensive Exam
        Ken Sylvester, Doctoral Comprehensive Exam
Summer: James Baldwin, Doctoral Comprehensive Exam
Fall: Pascale Leonard, Doctoral Comprehensive Exam

STRICKER

Pat Dolan, Yuemei Geng, Kelli Sapp, Biology
Steve Jett, Cell Biology
Michael Kempe, Physics
Fritz Thurmond, Anatomy

THORNHILL

Dan Albrecht, Rebecca Kimball

F. PROFESSIONAL ACCOMPLISHMENTS & AWARDS OF YOUR GRADUATE STUDENTS,
   EXCLUSIVE OF THOSE ON WHICH YOU WERE A CO-AUTHOR OR PARTICIPANT.

ALTENBACH


BARTON

HILARY NOSKIN: appointed to the New Mexico Board for Control of Hazardous Materials.
DAHII


DUSZYNSKI

HNIDA, JOHN A.

Publications:

Grants:
Molecular systematics of parasitic protozoans: A model for the use of the random amplified polymorphic DNA assay and sequence data from the internal transcribed spacer region. NSF, $10,000, DEB-9623173, April 1996–April 1997, pending.

PICKERING, BRETT C.

Presentations:

Grants:

Meetings Attended:
Honors:
Frank G. Brooks Award, Second Place for Oral Paper Presentation, Tri-Beta Western Regional Meeting.

SCOTT, DAMIEN T.

Presentations:

Publication:

Grants:

WILBER, PATRICIA G.

Presentations:

Publications:

Grants:
GRAC, $110
SRAC, $125
NSF, pending, $252,218, R.S. Seville and D.W. Duszynski, Co-PIs
Meetings Attended:
Joint Meeting of the New Mexico Chapter of the Wildlife Society and the American Fisheries Society, Gallup NM, February 5-7, 1995.
American Society of Parasitology, Pittsburgh PA, July 5-10, 1995.

Honors/Awards:
Student Travel Grant, American Society of Parasitologists
Meritorious Student Paper Presentation, American Society of Parasitologists, Annual Meeting.

WILSON, W.D.

Publications:

EVANS
Diane J. Rowland: Grant from Albuquerque Day Lilly Society;
Contributed talk, Annual meeting of Guild of Rocky Mountain Population Biologists, "Physiological and morphological variation among four cottonwood populations in New Mexico," Mountain Research Station CO, Fall 1995.

A. Joshua Leffler: Contributed talk, Annual meeting of Guild of Rocky Mountain Population Biologists, "Physiological and morphological variation among canopy levels and individuals in a Rio Grande cottonwood (Populus fremontii var utslezenii) population, Mountain Research Station CO, Fall 1995.

LICON

Michele Merola-Zwartjes: one American Ornithologists' Union Carnes Award, two Sigma Xi awards, three UNM Graduate Scholars Fellowships, four UNM Research and Travel Awards.

Patrick Zwartjes: one Sigma Xi, two Chapman Fund Grant, American Museum of Natural History

Greg Farley: Assistant Professor, Fort Hayes University, Hayes KS.

LOKER

Pascale Leonard: Department of Biology Outstanding Teaching Assistant Award
LOWREY

CHRIS FRAZIER: Awarded research grant by Albuquerque Day Lily Society, Fall.

MARSHALL

ANNA SHER: Presented a talk at Biology Dept. Annual Research Day
Presented a talk at ESA Annual Meeting
Received a scholarship from the Day Lily Society

NELSON

SANDRA T. MERINO: Awarded a State of New Mexico Commission on Higher Education Graduate Scholarship; Awarded First Place Prize for Posters at the Fourth Annual Research Day, Department of Biology, UNM.

VOGEL

JAMES ROBBINS, Ph.D.: post-doc position at Harvard University.

WERNER-WASHBURN

PAM PADILLA: awarded travel award from the American Society for Cell Biology to attend its annual meeting.

ED BRAUN: awarded scholarship to attend Molecular Evolution meeting sponsored by Woods Hole Marine Biological Research Institute, Woods Hole MA.

V. UNDERGRADUATE EDUCATION.

A. BONA FIDE UNDERGRADUATE COURSES YOU TAUGHT EACH SEMESTER & NUMBER OF STUDENTS ENROLLED. INDICATE NEW COURSE (FOR YOU) WITH AN ASTERISK.

ALTEBACH

Spring: Biol. 435L, Animal Physiology, 45 students
Fall: Biol. 121, Principles of Biology, 750 students

BACA

Spring: Biol. 239, Microbiology for the Health Sciences, 106 students
Fall: Biol. 239, Microbiology for the Health Sciences, 107 students

BARTON

Spring: Biol. 350L, General Microbiology, 96 students
Biol. 402, Hazardous Waste Management, 7 students
Fall:  
Biol. 350L, General Microbiology, 96 students  
Biol. 402, Hazardous Waste Management, 7 students

BOURNE

Spring:  
Biol. 237, Human Anatomy & Physiology I, 236 students  
Biol. 238, Human Anatomy & Physiology II, 257 students  
Biol. 416L, Histology, 56 students

Fall:  
Biol. 237, Human Anatomy & Physiology I, 380 students  
Biol. 238, Human Anatomy & Physiology II, 132 students

EVANS

Spring:  
* Biol. 402, Cottonwood Biology, 6 students

Summer:  
Biol. 402, Methods in Ecological Research, 10 students

Fall:  
* Biol. 402, Plant Evolutionary Physiology, 1 student

JOHNSON, C.

Spring:  
Biology 478, Plant Physiology, 17 students  
Biology 478L, Plant Physiology Laboratory, 17 students  
Biology 402, Plant Microbial Interactions, 2 students

JOHNSON, W.

Spring:  
Biol. 123L, Biology for Health Related Sciences & Non-Majors, 124 students  
Biol. 221, Introductory Genetics, 115 students  
Biol. 222, Introductory Genetics Problems, 46 students

Fall:  
Biol. 221, Introductory Genetics, 115 students  
Biol. 222, Introductory Genetics Problems, 12 students  
Biol. 223L, Introductory Genetics Laboratory, 35 students  
Biol. 428, Human Heredity, 32 students

KERKOF

Spring:  
Biol. 439L, Molecular Cell Biology Lab., 12 students  
Biol. 449, Molecular Cell Biology II, 45 students

Fall:  
Biol. 429, Molecular Cell Biology I, 141 students

KODRICK-BROWN

Spring:  
Biol. 455, Ethology/Animal Behavior, 57 students  
Biol. 457L, Ethology/Animal Behavior Lab, 8 students

LICON

Spring:  
Biol. 486, Ornithology, 10 students
LOKER

Spring: Biology 121, Introductory Biology for Majors, 289 students
       Biology 402/502, Parasites and Hosts, 10 students
Fall:  Biology 402, Special Topics for Hughes Students, 7 students

LOWREY

Spring: Biol. 461L, Introduction to Tropical Biology, 18 students
Fall:  Biol. 463, Flora of New Mexico, 40 students

MARSHALL

Spring: Biol. 467, 4 students
Fall:  Biol. 360, 32 students

MILLER

Fall:  * Biol. 456, Immunology, 90 students

MOLLES

Spring: Biol. 122, Principles of Biology, 400 students
Fall:  Biol., 407, Bosque Biology, 15 students

NELSON

Spring:  * Biol. 402/502, Molecular Mycology, 7 students
       Biol. 402/502, Fungal Metabolism, 8 students
Fall:  Biol. 221, Introductory Genetics, 110 students
       Biol. 402/502, Fungal Physiology, 8 students

STRICKER

Fall:  Biol. 371L, Invertebrate Biology, 34 students
Spring: Biol. 412, Developmental Biology, 79 students

THORNHILL

Spring:  Biol. 365, Evolution of Human Sexuality, 132 students
Fall:  Biol 190, Human Nature: The Darwinian Conception, Fall, 25 students

VOGEL

Spring:  Biol. 219, Principles of Cell Biology (co-taught with D. Natvig), 75 students
       Biol. 402, Topics/Proteoglycans, 4 students
Fall:  Biol. 219, Principles of Cell Biology, 100 students
       Biol. 402, Topics/Proteoglycans, 2 students
B. Names of Biology 400 & 499 Students You Supervised.

BACA

Fall: Biol. 499, 2 students

BARTON

Spring: Biol. 400, Morinne Laughlin, James White
       Biol. 499, Shawn Beers
Fall:  Biol. 400, Rebecca G. Short (Senior Honors Student)

DAHM

Spring: Biol. 400, Mary B. McCormick
       Biol. 4??, Miguel Santistevan

DUSZYNISKI

Spring: Biol. 400, D.S. Scott (3 hrs)
       Biol. 499, C.B. Fouser (3 hrs)
Fall:  Biol. 402, Marine Ecology, 1 student

EVANS

Spring: Biol. 400, Pamela J. Kelley
Summer: Biol. 4??, Dustin M.Cole
Fall:  Biol. 499, Jason D. Lett

JOHNSON, O.

Fall: Biology 499, Beverly Gansermer (1 credit), Nancy McDuffie (2 credits)

KERKOF

Fall:  Biol. 499, Kathryn Stack, 3 Cr. Hr.

KODRIC-BROWN

Summer: Biol. 499, Lisa Hollis

LOKER

Spring: Biol. 400, Fermin Arguello, Ben Hanelt
Fall:  Biol. 400, Starr Aragon
Biol. 499, Starr Aragon

**MILLER**

Spring: Biol. 499, Marcus Grandjean, David Kilgore
Fall: Biol. 499 & MEMS student, Roxanne Garcia

**MOLLES**

Spring: Biol. 400, Doug Moyer
Summer: Biol. 499, Nancy Johnston
Fall: Biol. 400, Debbie Terry
Biol. 499, William Brandenburg, Gary Schiffmiller, Katherine Smith, James Thibault

**NELSON**

Spring: Biol. 400, Rachel Palmer
Spring: Biol. 499, Charlene Greski
Summer: Biol. 499, Marianita Gorman, Marion Whitaker

**STRICKER**

Fall: Biol. 499, Alexandra DePuy
?? Biol. 4??, Neils Hobbs

**THORNHILL**

Spring: Biol. 499, Tara Armijo-Pruitt, Bryant Furlow, Otto Han.
Summer: Biol. 499, William Boswell
Fall: Biol. 499, Tara Armijo-Pruitt, Bryant Furlow, Otto Han

**VOGEL**

Spring: Matthew Berenson, Jason Moran, Sean Quigley, Jared Williams
Summer: Michelle Hareland, Sean Quigley, Jared Williams
Fall: James Langlois, Jared Williams

**WERNER-WASHBURN**

Spring: Maria Gomez (honors student)
VI. DEPARTMENTAL HIGHLIGHTS.

A. SYMPOSIA, WORKSHOPS, CONFERENCES, ETC., SPONSORED, HOSTED, ORGANIZED.

BARTON

On the International Committee for the “Sixth International Symposium of Iron Nutrition and Interactions in Plants,” to be held in Stuttgart, Germany in July 1997.

On the Organizing Committee for “First International Biometals Symposium,” to be held in Calgary, Canada in August 1997.

MARRIALL

Helped coordinate the Expanding Your Horizons conference sponsored by the New Mexico Network for Women in Science and Engineering.

WERNER-WASHBURNE

Assisted with Annual Research Day, brought in 12 students from Navajo Community College.

Supervised Carol Brandt’s (UNM Biology staff) recruiting efforts to 12 colleges in the Southwest.

Helped organize Biology Buddy organization, with Carol Brandt.

B. INDIVIDUAL HONORS: AWARDS, PRIZES, FELLOWSHIPS, LECTURESHIPS, TEACHING DISTINCTION, ETC.

ALLENBACH

Aldo Leopold Award 1995, awarded by the N.M. Chapter of the Nature Conservency, October 13, 1995

Recognized as outstanding teacher, Biology 435L (Animal Physiology), Spring 1995

BACA

Identified by UNM colleagues as one of the University’s excellent teachers (list of 47)

BARTON

Listed in 1996 edition of Who’s Who in the West

Listed in 1996 edition of Who’s Who in the World

F-66
University of Dayton Distinguished Lecturer Invitation, Dayton OH

LOKER

Regent’s Lecturer, for outstanding faculty performance, 1994–97, The University of New Mexico

NELSON

Outstanding Teacher of the Year Award, 1994–95, The University of New Mexico

WERNER-WASHBURN

UNM Alumni Association award for outstanding teaching and service to students, February 1995

YATES

Robert L. Packard Outstanding Educator Award

C. DISTINGUISHED DEPARTMENTAL VISITORS YOU HOSTED.

BARTON

Francisco Tomé-Torez, Army Environmental Policy Institute, Atlanta GA.

DUSZYNKI

Dr. Norman E. Hutton, Dean, College of Veterinary Medicine, Oregon State University, Corvallis OR, October 3, 1995.

Dr. Lynn G. Wheaton, Associate Dean, College of Veterinary Medicine, Washington State University, Pullman WA, September 20, 1995.

LOKER

Dr. Christopher J. Bayne, Dept. of Zoology, Oregon State University, October 26, 1995
Dr. Gerald Mkoji, Kenya Medical Research Institute, June–August 1995
Mr. Scott Snyder, University of Nebraska, Summer 1995

LOWREY

Dr. Bruce Baldwin, University of California, Berkeley CA
Dr. Ray Powell, Jr., NM State Land Commissioner
MOLLÉS
Dr. Alain Thomas, Department of Hydrobiology, University of Toulouse, France, May-June 1995

NELSON
Dr. Seogchan Kang, Department of Biology, UNM, August 31, 1995

STRICKER
Seminar speaker, Prof. E.N. Kozloff, Department of Zoology, University of Washington, October 1995

WERNER-WASHBURNÉ
Mark Rose, Princeton University; April 1995
Ray Sanchez and Manny Aragon, NM Legislators, Summer 1995
Sonia Santa Anna, Spring 1995

D. MUSEUM CURATOR, UNDERGRADUATE ADVISOR, ASSISTANT CHAIR, EM DIRECTOR, ETC.

BACA
Graduate Program Advisor

BARTON
Director, Media Prep. and Cell Center for microbiology classes

BUSZYNski
Founder and Treasurer, Biological Society of New Mexico
Departmental and State of New Mexico Advisor, Pre-veterinary medicine

JOHNSON, G.
Undergraduate advisor

JOHNSON, W.
Transfer Student advisor

LIGON
Jan. 1–Jul. 31 Chair, Department of Biology
Fall: Curator, Bird Division, The Museum of Southwestern Biology

F-68
MARELL

Associate Chair, Spring semester 1995
Annual Research Day Chair
Graduate Review Chair

LOKER

Vice-Chair, Fall

LOWREY

Curator, Division of Herbarium, Museum of Southwestern Biology

MOLLES

Curator of Ichthyology, Museum of Southwestern Biology
Acting Curator of Insects, Museum of Southwestern Biology
Associate Chair, Spring 1995
Undergraduate Advisor

STRICKER

Director of the Electron Microscopy Facility and the Confocal Microscopy Facility

VOGEL

Director, Howard Hughes Undergraduate Research Program, 17 students for 10-week summer program, 7 students in academic-year program.

YATES

Department Chair, August 1, 1995–present.

E. COMMITTEE SERVICE.

1. Departmental committees served on in 1995 (indicate chair with asterisk).

ALTENBACH

Undergraduate Policy Committee
* Graduation Committee

BACA

Member, Terrestrial Arthropod Ecologist Search Committee, 1994-95.
* Biology Department Faculty Development Task Force
BROWN
Promotion and Tenure Committee

DUSZYNSKI
* Biological Society of New Mexico
* Field Biology Program
* Invertebrate Ecologist Search Committee
Biology Development Committee

EVANS
Long-Term Ecological Research program Project Coordinating Panel, Spring 1995
Curriculum Task Force, Fall, 1995
Curriculum Committee, Fall 1995
Greenhouse Committee, ongoing

JOHNSON, C.
Greenhouse Committee

JOHNSON, W.
Media Prep/Culture Collection Committee

KODRIC-BROWN
* Graduate Selection Committee
* Graduate Policy committee
Departmental Associate Chair

LICON
* Comparative Animal Physiology Search Committee

LOKER
Graduate Unit Review Committee
Graduate Student Selection Committee
Graduate Advisor
Seminar Committee
Howard Hughes Program in Undergraduate Committee-Advisory Committee

LOWREY
Graduate Policy Committee
* Graduate Selection Committee
Biology Dept. Faculty Taskforce Committee
Howard Hughes Program Committee

M ARSHALL

Associate Chair, 1993–95.
* Greenhouse Committee, 1991–96
* Annual Research Day Committee, 1993–95
* Graduate Review Committee, 1994–95
* Curriculum Task Force, Fall 1995
* Selection committee for Harry Wayne Springfield Scholarship, Spring 1995

M ILLER

Task Force on Faculty Development for the Departmental Retreat
Undergraduate Policy Committee
Comparative Physiologist Faculty Search Committee

M OLLER

* Undergraduate Policy
* Teaching Evaluation
* Terrestrial Arthropod Ecologist Search Committee
Invertebrate Ecologist Search Committee

N ELSON

Undergraduate Policy Committee
Hughes Program Committee
RIMI Committee
Library Liaison
* Seminar Committee

S T R I C K E R

Invertebrate Ecologist Search Committee

T H O R N H I L L

Terrestrial Arthropod Ecologist Search Committee

V O G E L

Graduate Review Committee
Undergraduate Policy Committee
Promotion and Tenure Committee
Curriculum Planning Committee—departmental retreat
2. College/University committees served on in 1995 (indicate chair with asterisk).

**BACA**

A&S Tenure & Promotion Committee, Senior Committee 1994-95, Junior Committee 1995-96
Legislative Coordinating Committee
UNM Institutional Biosafety Committee on Recombinant DNA
UNM Long-Range Planning Committee (1995-98)

**BOURNE**

Faculty Senate Curricula Committee

**DUSZYNSKI**

Athletic Council, UNM

**JOHNSON, C.**

* Faculty Senate Library Committee (Fall)

**JOHNSON, W.**

Member, Faculty Senate
Member, Health Sciences Advisory Committee, Spring
Member, UNM Admissions & Registration Committee

**KERKOF**

* University Teaching Enhancement Committee, Spring

As chairman of the University Teaching Enhancement Committee, I preside at the meetings of the parent committee and oversee the activities of the five subcommittees and one task force of the Teaching Enhancement Committee.

**KODRIC-BROWN**

Faculty Senate
Faculty Senate Library Committee
Member, Junior Personnel Tenure Committee
LOWREY
UNM Library Committee

MARSHALL
Member, Graduate Review Team for UNM Math Department
Participated in a workshop on applying to graduate schools

NELSON
MARC Advisory Committee

VOGEL
Council on Teacher Education, College of Education
Rhodes Scholar-Mock Interview Committee

WERNER-WASHBURNENE
MIRT (Minority International Research Training) program advisor
MEMS (Minorities in Engineering, Math, and Sciences) program advisor
OCEP (Office of Cultural Enrichment Programs) program advisor (Spring only)

F. OTHER.

BACA
Research Professor of Microbiology
Associate, UNM’s Southwest Hispanic Research Institute
Member, New Mexico state’s Recombinant DNA Committee

BOURNE
Health Professions Advisor

BROWN
Sabbatical, Summer and Fall, 1995

DAHM
On Leave of Absence, 1995

DUSZYNISKI
UNM (and State of NM) Advisor, Prevetinary Medicine; in 1995, I counseled the
following 19 students for about 30 minutes each: C. Belsky, J. Bonney, S.L. Caldwell, H.

Took Marine Invertebrate Biology class (Biol. 404L) to the Centro de Estudio de Desierto y Oceanos (CEDO, Inc.), Puerto Peñasco, Sonora, Mexico on field trip, November 6-12, more than 25 individuals.

Took Introduction to Tropical Biology class (Biol. 461L) to the Belize, Central America on a required course field trip, March 10-16, 23 students, 4 faculty.

Helped the Department of Athletics recruit student athletes, one for gymnastics, two for women's soccer, and one for woman's softball.

EVANS

Students mentored in Summer programs: Lucille Beals, Beth Biagini, Amina Chaudhry, Lawrence Grodeska, Pamela J. Kelley

Participant, University Office of Research Administration Focus Group, Summer 1995.

GOSZ

Sabbatical Leave, 1995

JOHNSON, O.

Sabbatical Leave, Fall 1995

KERKOF

During the Mini-Symposium at the 1995 Fourth Annual Research Day in the UNM Department of Biology, my Hughes student, Sarah Higgs, presented a paper titled "Estrogen Receptor Content and Expression in a Mouse Mammary Adenocarcinoma MA16C."

KODRIC-BROWN

Poster judge, Fourth Annual Research Day, Department of Biology, UNM, April 1995.

LOKER

Poster Judge, Biology Department Research Day
Mentor for Howard Hughes summer student, David Van Schyndel
Mentor for Howard Hughes regular school year student, David Quintana
Mentor for Regents' Scholar, Danny Molina
Visited the Kenya Medical Research Institute for approximately three weeks in January 1995.
Visited colleagues at the University of Cairo, Egypt in December 1995.

MARSHALL

One-on-One volunteer, 1990-91, 1994-1996
Mentor for Regents' Scholar, 1991-95
Helped coordinate the Expanding Your Horizons Conference for the New Mexico Network for Women in Science and Engineering.
Judge, Native American Science and Engineering Fair
Presentation to LBJ Middle School 7th grade class on plant reproduction

MOLLES


NELSON

Member, New Mexico Computational Biology Committee
Participated in “One-on-One” Program for new students at UNM; mentored one student.
Served as a Judge in the Fourth Annual Biology Research Day, April 7, 1995.
Mentor for a Regents’ Scholar (Leslie Reeves).

VOGEL

Associate Dean, College of Arts and Sciences

WERNER-WASHBURN

Taught cell biology to 3rd and 5th grade students at Bandelier Elementary School, January and November 1995.

Speaker at Research Opportunity Program, NAAWS, August 1995.

Farewell speaker for Mary Sue Coleman, exiting Provost/VP for Academic Affairs, UNM, November, 1995.

On sabbatical, Fall semester.
APPENDIX G

RESEARCH PROPOSALS SUBMITTED, FY 1995–96
### BIOLOGY DEPARTMENT
#### 1995–96 FISCAL YEAR

## PROPOSALS

<table>
<thead>
<tr>
<th>Principal Investigator</th>
<th>Agency/Proposal No.</th>
<th>Period of Performance</th>
<th>Proposed Funding</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>July 1995</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blevins, Vogel &amp; Echols</td>
<td>OREF</td>
<td>07/01/96–06/30/99</td>
<td>$124,365</td>
<td>Open vs. Arthroscopic Assisted Rotator Cuff Repair: A Prospective Investigation of Predictor Variables, Outcome &amp; Cost.</td>
</tr>
<tr>
<td>Gannon, W.L.</td>
<td>NMDGF (4028)</td>
<td>09/01/95–09/15/96</td>
<td>4,000</td>
<td>Spotted Bat Survey in New Mexico.</td>
</tr>
<tr>
<td>Parmenter, Lightfoot, Brunt &amp; Gannon</td>
<td>NPS</td>
<td>08/01/95–09/30/97</td>
<td>12,371</td>
<td>Capulin Volcano Nat. Mon.: Listed &amp; Category Species Inventory.</td>
</tr>
<tr>
<td>Snyder, A.M.</td>
<td>USBR (779H)</td>
<td>06/15/95–09/30/97</td>
<td>34,782</td>
<td>Cooperative Agreement for San Juan River Recovery Implementation Program 7-Year Research Plan.</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td></td>
<td></td>
<td>$175,518</td>
</tr>
</tbody>
</table>

<p>| <strong>August 1995</strong>         |                    |                       |                  |       |
| Brown &amp; Gonzalez- Gutman | USAID (4136)      | 01/01/96–01/01/97     | $16,600          | An Individual Species Approach to the Conservation &amp; Management of Resident &amp; Neotropical Migrant Birds in Western Mexico. |
| Dolan, P.L.             | USAMRMC (4161)     | 01/08/96–07/01/98     | 52,811           | Characterization of the Mouse MA16C Mammary Adenocarcinoma |
| Lightfoot &amp; Parmenter   | NBS (4153)         | 07/28/95–06/30/96    | 7,596            | Long-Term Studies of Arthropod Biodiversity at Bandelier National Monument. |
| Parmenter &amp; Brunt       | NSF (956)          | 09/01/95–08/31/97    | 123,120          | The Sevilleta Field Station: Enhancements to Station Computation, Information &amp; Transportation Capabilities. |
| Snell, H.L.             | NMG&amp;F (4143)       | 07/01/95–12/31/97    | 64,217           | Dunes Sagebrush Lizard, Sceloporus arenicolus, in Southeastern New Mexico: Effect of Shinnery Oak Removal; Distribution &amp; Gas/Oil Studies. |
| Thomson &amp; Barton        | SNL (446)          | 08/15/95–01/31/96    | 37,565           | Investigation of Microbial Degradation of Organic Compounds by Methanotrophic Organisms. |
| <strong>Total:</strong>              |                    |                       |                  | $301,909 |</p>
<table>
<thead>
<tr>
<th>Principal Investigator</th>
<th>Agency/Proposal No.</th>
<th>Period of Performance</th>
<th>Proposed Funding</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mehlhop &amp; Altenbach</td>
<td>DOD</td>
<td>09/30/95-12/31/96</td>
<td>$96,200</td>
<td>Establishing Wildlife Monitoring Programs.</td>
</tr>
<tr>
<td>Brunt &amp; Gosz</td>
<td>IAI (4196)</td>
<td>11/01/95-10/31/97</td>
<td>99,803</td>
<td>Research Data Management Training: Building a Framework for Environmental Research in the Americas.</td>
</tr>
<tr>
<td>Mehlhop &amp; Muldavin</td>
<td>DOD</td>
<td>09/01/95-09/01/97</td>
<td>468,348</td>
<td>Fort Bliss Monitoring Project.</td>
</tr>
<tr>
<td>Miller, R.D.</td>
<td>NIH (921)</td>
<td>12/01/95-11/30/96</td>
<td>176,498</td>
<td>Isolating the Mouse SCID DNA Repair Gene.</td>
</tr>
<tr>
<td>Valett, Molles &amp;</td>
<td>NSF</td>
<td>03/01/96-02/28/99</td>
<td>292,588</td>
<td>Riparian Restoration Using Experimental Flooding Along the Middle Rio Grande, NM.</td>
</tr>
<tr>
<td>Crawford</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total:</td>
<td></td>
<td></td>
<td>$1,133,437</td>
<td></td>
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</table>

**September 1995**

<table>
<thead>
<tr>
<th>Principal Investigator</th>
<th>Agency/Proposal No.</th>
<th>Period of Performance</th>
<th>Proposed Funding</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evans &amp; Rowland</td>
<td>NSF</td>
<td>05/01/96-05/01/98</td>
<td>$4,736</td>
<td>Genetic &amp; Adaptive Physiological Variation Among Four Cottonwood Populations (Doctoral Dissertation Improvement Grant).</td>
</tr>
<tr>
<td>Hraber, P.T.</td>
<td>SFI</td>
<td>01/01/96-12/31/96</td>
<td>19,200</td>
<td>Validation of the Echo Model.</td>
</tr>
<tr>
<td>Kodric-Brown &amp; Gray</td>
<td>NSF</td>
<td>11/01/95-06/01/96</td>
<td>6,448</td>
<td>Dissertation Research: Heritability &amp; Condition-Dependence of Body Size in Crickets.</td>
</tr>
<tr>
<td>Miller, R.D.</td>
<td>Lovelace (4343)</td>
<td>07/01/96-06/30/99</td>
<td>8,348</td>
<td>Immunotoxicity of Chronic Ethanol Intake.</td>
</tr>
<tr>
<td>Vogel, K.</td>
<td>NIH (401J)</td>
<td>01/01/96-12/31/96</td>
<td>118,123</td>
<td>Proteoglycan Structure, Metabolism &amp; Role in Tendon.</td>
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<td>Goldberg, E.H.</td>
<td>SFI (105)</td>
<td>01/01/96-12/31/99</td>
<td>$37,366</td>
<td>Formalize Ties Between the Santa Fe Institute and UNM.</td>
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<td>Miller, R.D.</td>
<td>NSF (4457)</td>
<td>07/01/96-06/30/01</td>
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<td>Presidential Faculty Fellow Award.</td>
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<td>Valett, H.M.</td>
<td>NSF (4453)</td>
<td>06/01/96-05/31/98</td>
<td>53,591</td>
<td>Nitrogen Uptake Retention &amp; Cycling in Stream Ecosystems.</td>
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<td>White, C.S.</td>
<td>NSF (4440)</td>
<td>01/01/96-01/01/99</td>
<td>18,762</td>
<td>Subcontract to Iowa State University: Ecosystem &amp; Soil Studies of Native American Runoff Agriculture.</td>
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**November 1995**

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<tr>
<td>Miller, R.D.</td>
<td>NSF (4517)</td>
<td>10/01/96-10/01/01</td>
<td>$550,812</td>
<td>Immunological Development in a Marsupial.</td>
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<td>Smith, F.</td>
<td>NSF (4521)</td>
<td>09/01/96-08/31/99</td>
<td>283,025</td>
<td>Evolutionary Response of Woodrats (<em>Neotoma</em>) to Climate Change Over the Past 25,000 Years.</td>
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<td>Valett, H.M.</td>
<td>NSF (4515)</td>
<td>06/01/96-05/30/99</td>
<td>106,265</td>
<td>Cooperative: Temporal &amp; Spatial Heterogeneity in Control of Benthic Algal Communities in Snowmelt-disturbed Streams.</td>
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<td>Wilber &amp; Duszynski</td>
<td>NSF</td>
<td>06/01/96-06/01/99</td>
<td>96,348</td>
<td>Eimeria (Protozoa: Apicomplexa) in Rodents in the Tribe Marmotini.</td>
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<tr>
<td>Gosz, J.R.</td>
<td>NSF (4623)</td>
<td>12/15/97-12/15/00</td>
<td>$540,000</td>
<td>A Proposal for the Network Office of the US LTER Network.</td>
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<td>Johnson, N.C.</td>
<td>NSF (3821)</td>
<td>05/15/96-08/15/96</td>
<td>4,950</td>
<td>REU Supplement: Mycorrhizal Responses to Nitrogen Eutrophication at Five Mesic to Semi-arid Sites.</td>
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<td>Loker, E.S.</td>
<td>NIH (572/2306)</td>
<td>12/02/95-11/30/96</td>
<td>181,440</td>
<td>Biology of Trematode-Snail Associations.</td>
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<td>Lowrey &amp; Yates</td>
<td>NSF (4608)</td>
<td>08/01/96-07/31/96</td>
<td>348,000</td>
<td>Relocation &amp; Compactorization of the Museum of Southwestern Biology.</td>
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<td>Milne, B.T.</td>
<td>NSF</td>
<td>05/15/96-05/14/97</td>
<td>20,875</td>
<td>Supplement: The Sevilleta Long-Term Ecological Research Project for Research Experiences for Undergraduates.</td>
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<td>Muldavin &amp; Mehlop &amp; Smith, F.A.</td>
<td>NMED (4632)</td>
<td>05/01/96-08/30/97</td>
<td>80,000</td>
<td>Development of the NM Wetlands Assessment Manual.</td>
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<td>Valett, H.M.</td>
<td>USDA</td>
<td>09/01/95-09/01/96</td>
<td>15,000</td>
<td>Supplemental: Nutrient Retention Along the Rio Grande Continuum.</td>
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<td>Werner-Washburne</td>
<td>NSF</td>
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<td>329,785</td>
<td>Developmental Regulation of Signal Transduction: Bcylp in Stationary-Phase Yeast.</td>
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<td>Yates, Brunet &amp; Parmenter</td>
<td>NSF (4649)</td>
<td>09/01/96-08/31/98</td>
<td>1,198,838</td>
<td>Acquisition of Advanced Computer Instrumentation for Integrated Multidisciplinary Biological Research &amp; Research Training in the Department of Biology, The University of New Mexico.</td>
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<td>Yates &amp; Dragoo</td>
<td>NMDG&amp;F (4615)</td>
<td>02/01/96-02/01/00</td>
<td>151,546</td>
<td>Characterization &amp; Relationship of Rio Grande Cutthroat Trout in New Mexico.</td>
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**February 1996**

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<td>Loker, E.S.</td>
<td>SRP (940/0984)</td>
<td>03/01/96-02/28/97</td>
<td>$55,965</td>
<td>Molecular Studies of Schistosome-Snail Interactions.</td>
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<td>Molles, M.C. Jr.</td>
<td>NSF (891A/3730)</td>
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<td>10,000</td>
<td>REU Supplement to SGER: Experimental Flooding at Bosque del Apache NWR, Rio Grande, NM.</td>
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<td>Nelson, M.A.</td>
<td>NIH (732/1723)</td>
<td>05/01/96-04/30/97</td>
<td>161,421</td>
<td>Molecular Analysis of Sexual Development in Neuraspora.</td>
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<td>Platania, S.P.</td>
<td>NMDG&amp;F (1738)</td>
<td>03/01/96-09/30/96</td>
<td>10,000</td>
<td>San Juan River Secondary Channel Fish Study.</td>
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<td>Snell, H.</td>
<td>NSF (4721)</td>
<td>04/01/96-08/01/96</td>
<td>12,350</td>
<td>Research Opportunities for Undergraduates Supplement Request to Project: The Roles of Natural &amp; Sexual Selection in the Evolution of Sexual Dimorphism of Body Size.</td>
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<td>Valett, H.M.</td>
<td>NSF (915B/3854)</td>
<td>01/06/96-01/09/96</td>
<td>16,000</td>
<td>REU &amp; RAMHSS Supplement: Stream/Groundwater Ecotones; Hydrology, Biogeochemistry and Ecology.</td>
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<td>White, C.S.</td>
<td>USDA (4679)</td>
<td>05/01/96-09/30/96</td>
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<td>Summer 1996 Field Course: Evaluation of Protocols to Assess Watershed Condition.</td>
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<td>Barton &amp; Thomson</td>
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<td>08/15/96-08/14/97</td>
<td>$60,000</td>
<td>Chemical/Biological Treatment Strategies for Mixed Waste.</td>
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<td>Evans, A.S.</td>
<td>EPA (4731)</td>
<td>09/01/96-08/31/99</td>
<td>28,462</td>
<td>Evolution in Response to Increasing CO\textsubscript{2} and Nitrogen: Artificial Selection Experiments Using <em>Brassica rapa</em> as a model system.</td>
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<td>Evans &amp; Leffler</td>
<td>NASA (4745)</td>
<td>02/01/96-05/01/99</td>
<td>60,000</td>
<td>Gas Exchange &amp; Water Relations in Fremont Cottonwoods Across a Climatic Gradient.</td>
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<tr>
<td>Gosz, J.R.</td>
<td>NSF (881/3256)</td>
<td>09/01/96-12/31/96</td>
<td>4,263</td>
<td>Travel to South Africa.</td>
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<td>Molles, M.C.</td>
<td>USFWS (727/1766)</td>
<td>04/16/96-09/30/96</td>
<td>40,000</td>
<td>The Effects of Annual Flooding on the Rio Grande Bosque: Bosque del Apache NWF, San Antonio, NM.</td>
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<td>Valett, H.M.</td>
<td>NSF (915c/4742)</td>
<td>07/01/96-06/30/97</td>
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<td>Informal Science Education Supplement to Stream/Groundwater Ecotones: Hydrology, Biogeochemistry &amp; Ecology.</td>
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<td>Werner-Washburne, M.</td>
<td>NSF (903/3862)</td>
<td>05/01/96-04/31/97</td>
<td>133,126</td>
<td>Characterization of a Novel, Stationary-Phase Gene in the Yeast, <em>S. cerevisiae</em>.</td>
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<td>Yates, T.L.</td>
<td>NSF (4744)</td>
<td>09/01/96-08/31/98</td>
<td>1,993,991</td>
<td>Replacement and Consolidation of Research &amp; Research Training Facilities of the Dept. of Biology, UNM.</td>
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<td>Brown &amp; Stevens</td>
<td>NSF (4881)</td>
<td>09/01/96-09/01/99</td>
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<td>Linking Field Studies &amp; Remote Sensing to Assess Change in Arid Ecosystems.</td>
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<td>Gosz, J.R.</td>
<td>NSF (4843)</td>
<td>10/01/96-09/30/99</td>
<td>390,911</td>
<td>Vulnerability of Chihuahuan Desert Grasslands to Global Change.</td>
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<td>Muldavin &amp; Mehlhop</td>
<td>USBR (4879)</td>
<td>05/01/96-01/31/97</td>
<td>9,970</td>
<td>River Bar Vegetation Monitoring in the Middle Rio Grande.</td>
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<td>Cryan, P.M.</td>
<td>BCI (4958)</td>
<td>06/01/96-08/01/96</td>
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<td>Investigation Inspired By the Roost Changing Behavior of the Fringe-Tailed Bat <em>Myotis thysanodes pahasapenis</em>: Why Do They Do It?</td>
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<td>Gannon, W.L.</td>
<td>NMDG&amp;F (4929)</td>
<td>07/01/97-06/30/98</td>
<td>6,347</td>
<td>Acoustic &amp; Netting Survey of the Bats of New Mexico.</td>
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<td>Gannon, W.L.</td>
<td>BLM (4930)</td>
<td>05/01/96-12/31/96</td>
<td>4,000</td>
<td>Bat Survey of New Mexico: Special Emphasis on the BLM Farmington District.</td>
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<td>Gannon, W.L.</td>
<td>NMDG&amp;F (4928)</td>
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<td>Spotted Bat Presence in New Mexico: Winter &amp; Summer Survey.</td>
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<td>Geng, Y.</td>
<td>LI (2451)</td>
<td>06/01/96-06/30/96</td>
<td>925</td>
<td>Effects of Nicotine on the Immune System.</td>
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<td>Lowrey, T.K.</td>
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<td>17,325</td>
<td>Supplement: CRB: Evolutionary Genetics of Adaptive Radiation in <em>Tetramolopium</em>.</td>
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<td>01/01/97-12/31/00</td>
<td>399,090</td>
<td>Can Non-Random Mating Result in Evolutionary Change?: A Selection Experiment Using Wild Radish as a Model System, Phase II, Completion of Replications 2-4.</td>
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<td>Stricker, S.A.</td>
<td>NASA (4920)</td>
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<td>468,638</td>
<td>The Effects of Gravity on Fertilization &amp; Calcium Dynamics in New Invertebrate Models.</td>
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<td>Understanding the Silence: Cells in Stasis.</td>
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<td>06/01/95-07/15/96</td>
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<td>Supplement: Longitudinal Studies of Rodent Carriers of Hantavirus.</td>
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**May 1996**

**June 1996**

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<td>Ladyman, J.A.R.</td>
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<td>Cloudcroft-area Plant Survey.</td>
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<td>Mehlhop &amp; Elliott</td>
<td>NBS (903)</td>
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<td>Plant Database for GIS.</td>
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<td>Simultaneous Regulation of Ecotone Responses by Biophysical &amp; Biotic Processes.</td>
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APPENDIX H

PROFESSIONAL
& TECHNICAL
SUPPORT STAFF,
FY 1995–96
### BIOLOGY DEPARTMENT PROFESSIONAL & TECHNICAL SUPPORT STAFF

(Excluding Temporary/On-Call Personnel)

**FY 1995–1996**

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<tr>
<td>Adema, Coenraad</td>
<td>Sr. Research Associate I</td>
<td>Loker</td>
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<td>Archer, Vincent</td>
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<td>Mehlhop</td>
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<td>Avritt, Joy</td>
<td>Lab. Technician IV</td>
<td>Marshall</td>
<td>08/01/94—12/31/99</td>
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<tr>
<td>Barnhart, Dennis</td>
<td>Storekeeper II</td>
<td>Mehlhop</td>
<td>12/13/94—12/31/99</td>
<td>Research Greenhouse Mgr.</td>
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<td>Black, Charles</td>
<td>Research Technologist III</td>
<td>Mehlhop</td>
<td>04/22/96—10/10/97</td>
<td>Staff</td>
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<tr>
<td>Boucher, Ray</td>
<td>Lab Technician III</td>
<td>Mehlhop</td>
<td>04/06/92—12/31/99</td>
<td>Media Prep Supervisor</td>
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<td>Mehlhop</td>
<td>04/02/95—04/30/97</td>
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<td>04/04/94—08/30/96</td>
<td>Minority Recruitment and Retention</td>
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<td>Brunt, James</td>
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<td>Gosz</td>
<td>01/02/89—01/31/97</td>
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<td>Campbell, Mariel</td>
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<td>Yates</td>
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<td>Vogel</td>
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<td>08/10/92—01/31/97</td>
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<td>Curtin, Charles</td>
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<td>Brown</td>
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<td>Mehlhop</td>
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<td>Ellis, Erik</td>
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<td>Milne</td>
<td>09/07/93—10/31/96</td>
<td>(.50 FTE)</td>
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APPENDIX I

ANCILLARY

FACULTY
# DEPARTMENT OF BIOLOGY
## ANCILLARY FACULTY
### FY 1995-96

### JOINT APPOINTMENTS (with other departments or areas):

<table>
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<tr>
<th>Robert Kelley, Prof., Anatomy</th>
<th>Sherry Rogers, Assoc. Prof. of Anatomy</th>
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<td>Tokio Kogoma, Prof., Cell Biology</td>
<td>Henry Shapiro, Assoc. Prof. of Computer Science</td>
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<td>Frederick Koster, Prof., Dept. of Medicine</td>
<td>John Trotter, Prof., Anatomy</td>
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<tr>
<td>Miriam Roman, Asst. Prof., Valencia Campus</td>
<td>Robert Waterman, Prof., Anatomy</td>
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### ADJUNCTS (not on UNM payroll):

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<th>Richard Aguillar, Asst. Prof., Forest Service</th>
<th>Randy Jennings, Adj. Asst. Prof.</th>
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<td>Daniel Beck, Visiting Scholar</td>
<td>Mahmood Kassam, Res. Prof., Ryerson University, Canada</td>
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<td>Carlos Blanco-Montero, Colonia Niños Héroes</td>
<td>Timothy Keitt, Visiting Asst. Prof.</td>
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<td>Rebecca Kimball, Res. Asst. Prof.</td>
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<td>Michael Bogan, Res. Prof.</td>
<td>Steven Kucera, Postdoctoral Fellow</td>
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<td>David Breahers, Res. Asst. Prof.</td>
<td>William J. Kuipers, Adj. Asst. Prof.</td>
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<td>Celestyn Brozek, Adj. Assoc. Prof., Lovelace Foundation</td>
<td>Samuel Kunkle, Adj. Prof.</td>
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<td>Brooks Burr, Adj. Prof., University of Illinois</td>
<td>Ronald D. Ley, Adj. Prof., Lovelace Foundation</td>
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<td>David Lightfoot, Adj. Assoc. Prof. (P-T)</td>
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<td>Karen Lightfoot, Associate</td>
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<td>Mary McNamara, Adj. Asst. Prof., TVI</td>
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<td>Hugh Musick, Res. Asst. Prof.</td>
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<td>Paul Nicotto, Res. Asst. Prof., Shippensburg University</td>
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<td>Harry Crisman, Adj. Prof., Los Alamos National Labs</td>
<td>Paul J. Polechla, Res. Assoc. Prof. of Biology</td>
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<td>Roby Wallace, Associate, Nature Conservancy</td>
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<td>Stephen Wood, Adj. Prof., Lovelace Foundation</td>
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RESEARCH OR VISITING STATUS (usually on UNM payroll):

Lee Couch, Research Assoc.
Charles Curtin, Res. Asst. Prof. (P-T)
Murray Dailey, Res. Asst. Prof.
Michael Folsom, Res. Asst. Prof. (P-T)
Jennifer Frey, Res. Asst. Prof.
Deborah Goldberg, Res. Assoc. Prof., Univ. of Michigan
Sujata Guha, Lecturer III
Lynn Hertel, Research Assoc.
Richard Holloway, Res. Assoc. Prof.
Nancy Johnson, Adj. Asst. Prof.
David Lightfoot, Res. Assoc. Prof. (P-T)

Randall Mitchell, Res. Asst. Prof.
Diana Northup, Res. Assoc., UNM Centennial Library
Robert Parmentier, Research Assoc. Prof.
Vicki Peck, Lecturer III (P-T)
Marian Skupski, Res. Asst. Prof.
Felissa Smith, Adj. Asst. Prof.
George C. Stevens, Assoc. Prof.
H. Maurice Valett, Res. Asst. Prof.
Patricia Wilber, Adj. Asst. Prof. of Biology
Carleton White, Research Assoc.

HERBARIUM AFFILIATES:

Margaret Caffey-Moquin, M.S.
Elizabeth Crowder, B.S.
Anne Cully, M.S.
Ellen A. DeBruin, M.S.
Reggie Fletcher, M.S.
Nancy Collins Johnson, M.S.
Paul Knight, M.S.
Yavonn Wilson-Ramsey, B.A.

EMERITI:

Clifford S. Crawford
William Degenhardt
Howard Dittmer
James S. Findley
William Martin
Loren D. Potter
Marvin L. Riedesel
APPENDIX J

MUSEUM ASSOCIATES
MUSEUM OF SOUTHWESTERN BIOLOGY
THE UNIVERSITY OF NEW MEXICO
FY 1995-96

CURATORIAL ASSOCIATES

ARTHROPODS

Dr. David Lightfoot
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Albuquerque, NM 87131-0191

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Department of Biology
The University of New Mexico
Albuquerque, NM 87131-0191

BIRDS

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Department of Biology
The University of New Mexico
Albuquerque, NM 87131-0191

Dr. John P. Hubbard
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Glenwood, NM 88039

FISHES

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Albuquerque, NM 87131-0191

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HERBARIUM

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The University of New Mexico 87131-1091

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Placitas, NM 87043

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Albuquerque, NM 87111

Mrs. Karen Lightfoot
Department of Biology
The University of New Mexico
Albuquerque, NM 87131-0191

Dr. Dr. Robert C. Sivinski
Forestry & Resources Conservation Division
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Santa Fe, NM 87504-1948

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Dr. Charles W. Painter
Endangered Species Program
New Mexico Department of Game & Fish
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Santa Fe, NM 87504

Dr. Norman J. Scott, Jr.
California Pacific Science Center
National Biological Service
PO Box 70
San Simeon, CA 93452-0700

Mr. James N. Stuart
National Biological Service
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Albuquerque, NM 87131-1091

MAMMALS

Dr. James H. Brown
Department of Biology
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## RESEARCH ASSOCIATES

### BIRDS

Dr. William H. Baltosser  
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Little Rock, AR 72204

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Department of Biology  
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Albuquerque, NM 87131-1091

Dr. Thomas H. Fritts

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Dr. Sydney Anderson  
Department of Mammalogy  
American Museum of Natural History  
Central Park West & 79th Street  
New York, NY 10024

Dr. Robert J. Baker  
The Museum  
Texas Tech University  
Lubbock, TX 79409
# COURSE OFFERINGS & SEMESTER CREDIT HOURS, FY 1995-96

## SUMMER 1995

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**TOTAL, SPRING 1996**  
243  4,391  11,099

**TOTALS, FY 1995-96**  
518  9,730  23,360
APPENDIX L

PROGRAM OF
THE FIFTH ANNUAL
RESEARCH DAY
5th Annual Research Day
Friday, March 29, 1996

A Presentation of Graduate & Undergraduate Student Research

Department of Biology
The University of New Mexico
ACKNOWLEDGMENTS

We wish to thank Dr. George Stevens and the National Institutes of Health Minority Biomedical Research Program for financial support for this event. Research Day is sponsored by the Department of Biology at The University of New Mexico, Albuquerque, NM.

Many thanks to Anne Rice for the preparation of this booklet, Beth Dennis for the design of the logo, and to all the students who helped throughout the day.
SCHEDULE OF EVENTS

THURSDAY, MARCH 28

2 p.m.—5 p.m.  
Posters displayed, judges preview.

FRIDAY, MARCH 29

9:00 a.m.—5:00 p.m.  
Posters displayed in the main hallway of the Biology Building.

9:00 a.m.—11:00 a.m.  
Oral Presentations: Session 1, Room 100.  
Moderators: Pascale Leonard & Dr. Diane Marshall

11:00 a.m.—Noon  
Judging of Posters 1-12.

Noon-1:00 p.m.  

11:00 a.m.—1:00 p.m.  
Lunch, the Central Courtyard.

1:00 p.m.—2:45 p.m.  
Oral Presentations: Session 2, Room 100.  
Moderators: Dr. Mary Anne Nelson & Scott Burt

2:45 p.m.—3:15 p.m.  
Coffee Break in the Conservatory.

3:00 p.m.—4:00 p.m.  
Judging of Posters 25-32.

4:00 p.m.—5:00 p.m.  
Capstone Lecture, Dr. C.J. Peters, CDC  
"Emerging Infections: Filoviruses as an Example," Room 100.

5:00 p.m.—5:30 p.m.  
Awards Ceremony  
Moderator: Dr. Terry Yates, Dept. of Biology Chair

5:30 p.m.—6:30 p.m.  
Reception in the Conservatory.
RESEARCH DAY ORGANIZATION

COMMITTEE:

Carol Brandt
Claire Carpenter
Amy Ditto
Dr. Astrid Kodric-Brown
Dr. Sam Loker
Dr. George Stevens
Dr. Randy Thornhill
Dr. Terry Yates

JUDGES FOR ORAL PRESENTATIONS:

Scott Burt
Dr. Wendy Fuge
Pascale Leonard
Dr. Diane Marshall
Wade Wilson

JUDGES FOR POSTER PRESENTATIONS:

Dr. Coenraad Adema
Dan Albrecht
Sandra Brantley
Selena Burt
Charles Buxbaum
Claire Carpenter
Elisheva Crowell
Amy Ditto
Dr. Ann Evans
Dr. Lee Fitzgerald
Lynn Hertel
Joanna Hogg

Judi Keene
Dawn Kaufman
Dr. Sam Loker
Dr. Rob Miller
Dr. Vickie Peck
Anna Sher
Dr. Steven Stricker
Dr. Eric Toolson
Dr. Kathryn Vogel
Dr. Paul Watson
Patricia Wilber
ABOUT THE SPEAKER

The capstone speaker for the Fifth Annual Biology Research Day is DR. C.J. PETERS, Chief, Special Pathogens Branch, Division of Viral and Rickettsial Diseases, NCID, CDC. His talk is entitled, "Emerging Infections: Filoviruses as an Example." Dr. Peters graduated from Rice University with a A.B. in Chemistry, and received his M.D. from Johns Hopkins University in 1966. He has been affiliated with the U.S. Public Health Service: National Institute of Allergy and Infectious Diseases and the Department of Immunopathology: Scripps Clinic and Research Foundation. He also served as chief of the Medical and Disease Assessment Divisions at USAMRIID, Fort Detrick, Frederick, MD.

Dr. Peters has received many honors and recognitions, among them the Surgeon General's Award, The Legion of Merit, and the Secretary of Health and Human Services Award.

Dr. Peter's research includes the pathogenesis and epidemiology of viral diseases, including Hantavirus and hemorrhagic fevers, the development and testing of anti-viral vaccines, and the genetics and immunology of host-virus interactions.
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<td>THE EFFECTS OF A LIMESTONE KARST ON HYDROLOGIC RETENTION AND NUTRIENT UPTAKE IN A LOW-ORDER MOUNTAIN STREAM.</td>
<td>D. Terry, H.M. Valett and M.C. Molles, Jr.</td>
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<td>VOLTAGE-OPERATED CALCULUM CHANNELS MEDIATE HYPOXIC RELAXATION OF VASCULAR SMOOTH MUSCLE.</td>
<td>Gerald M. Herrera and Benjamin R. Walker</td>
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<td>PHYSIOLOGICAL AND MORPHOLOGICAL VARIATION AMONG CANOPY LEVELS AND INDIVIDUALS IN A RIO GRANDE COTTONWOOD POPULATION.</td>
<td>A. Joshua Leffler and The Muffin Club</td>
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<td>COMPARATIVE GENETIC VARIATION AMONG ISLAND POPULATIONS OF THE AVIAN GENUS VIREO IN THE WEST INDIES.</td>
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<td>THE EVOLUTION OF THE SOCIAL DISPLAY OF ALTRUISM.</td>
<td>Paul W. Andrews</td>
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<td>VARIATION IN SEED SIZE: EFFECTS ON GERMINATION AND VIGOR IN LESQUERELLA FENDLERI.</td>
<td>Jason Lett and Ann S. Evans</td>
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<td>THE MICROEVOLUTIONARY HISTORY OF WOODRATS IN SOUTHEASTERN UTAH OVER THE PAST 20,000 YEARS: PRELIMINARY RESULTS.</td>
<td>Amy M. Ditto, Felisa A. Smith and Peggy Rodriguez-Moran</td>
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<td>SNZ2 AND SNZ3 ARE INDUCED IN RESPONSE TO STARVATION IN SACCHAROMYCES CEREVISIAE.</td>
<td>Pamela A. Padilla and Margaret Werner-Washburne</td>
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<td>PARASITES OF BATS FROM THE SOUTHWEST.</td>
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<td>SEXUAL SIZE DIMORPHISM IN BIRDS: WHICH SEX CHANGED SIZE MORE?</td>
<td>David A. Gray</td>
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<td>THE INTERACTIONS OF YEAST BCY1—A COMPLEX SITUATION.</td>
<td>Matthew E. Crawford and Margaret Werner-Washburne</td>
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<td>EFFECTS OF FLOODING ON ARBUSCULAR-MYCORGIZAL FUNGI IN <em>POPULUS FREMONTII</em> AND <em>TAMARIX CHINENSIS</em> IN RIO GRANDE RIPARIAN FORESTS.</td>
<td>Heather A. Pratt</td>
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<td>2:00</td>
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<td>ESTIMATION OF HUMAN PREDATION OF NON-GAME BIRDS AT ZUNI PUEBLO.</td>
<td>Robert V. Taylor</td>
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2. COMPARISONS OF ENZYME KINETICS AND BANDING PATTERNS USING POLYACRYLAMIDE GEL ELECTROPHORESIS IN THE SCORPION PARUROCTONUS UTAHENSIS.
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26. EFFECTS OF FLOODING ON WOODY DEBRIS IN A RIO GRANDE RIPARIAN FOREST.
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28. NEW CHROMOSOMAL FORMS OF THE GENUS CTENOMYS FROM BOLIVIA.
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30. BABY CRIES AND ROOSTERS' CROWS: SPECTRAL CUES OF SIGNAL QUALITY IN VERTEBRATE VOCALIZATIONS.
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32. THE ROLE OF CYCLIN D1 IN THE MOUSE MAMMARY ADENOCARCINOMA, MA16C.
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33. THE EFFECTS OF AN ARTIFICIAL POPULATION SINK ON A DESERT COMMUNITY.
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34. EXTRACTION AND IDENTIFICATION OF PROTEOGLYCANs FROM HUMAN ROTATOR CUFF TENDON.
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ORAL ABSTRACTS

9:00 THE EFFECTS OF A LIMESTONE KARST ON HYDROLOGIC RETENTION AND NUTRIENT UPTAKE IN A LOW-ORDER MOUNTAIN STREAM.
D. Terry, H. M. Valett, and M. Molles, Dept. Of Biol, UNM, Albuquerque, NM.

The flux of nutrients through a stream ecosystem can be influenced by biochemical processes occurring in the hyporheic zone and the rate of flow of water through the stream. We determined the nutrient uptake length in Tajique Creek, a low-order perennial stream flowing through limestone alluvium and compared this value with other New Mexico streams of different parent alluvium. Background concentrations of NH4-N measured <0.05 ppm; concentrations of NO3-N were below detection level, (<0.01ppm). Preliminary results indicate the porous nature of limestone results in an uptake length greater than those calculated for granitic cobblestone and boulder systems but less than those for sandstone or volcanic tuff systems. Confounding factors influencing results of nutrient uptake length include seasonal processes occurring in the streambed sediment that produced and consumed nutrients, and interstitial residence time. Our results support earlier predictions that nutrient uptake length is affected by the parent alluvium of the stream catchment, and that uptake length is a good measure of nutrient demand including interaction occurring at the surface/groundwater interface.

9:15 VOLTAGE-OPERATED CALCIUM CHANNELS MEDIATE HYPOXIC RELAXATION OF VASCULAR SMOOTH MUSCLE.
Gerald M. Herrera AND Benjimen R. Walker

Hypoxia elicits a local vasodilatory response in systemic arteries. From an adaptive standpoint this response is important, facilitating blood flow, and thus oxygen delivery, to under-oxygenated tissue. Several factors can modulate hypoxic vasodilation, but a mechanism at the level of the vascular smooth muscle (VSM) that mediates this response is likely. Indeed, hypoxia decreases calcium currents conducted by voltage-operated calcium channels (VOCC) in rat aortic smooth muscle. We hypothesized that hypoxia elicits vasodilation by inhibiting VOCC, causing a decrease in the intracellular calcium concentration and thus relaxation of VSM. We examined the effects of hypoxia on force development in rat aortic ring segments. Hypoxia relaxed rings contracted with either an α-agonist (phenylephrine, PE) or a depolarizing stimulus. Furthermore, in rings contracted with PE, hypoxic relaxation was prevented by pharmacologically blocking VOCC. Thus, we conclude that hypoxia causes relaxation of VSM by inhibiting VOCC.
PHYSIOLOGICAL AND MORPHOLOGICAL VARIATION AMONG CANOPY LEVELS AND INDIVIDUALS IN A RIO GRANDE COTTONWOOD POPULATION
A. Joshua Leffler and The Muffin Club
In order to assess the magnitude of physiological, morphological and internode growth variability within a cottonwood canopy, measurements were performed on three canopy levels (upper, middle and lower) of twenty-one *Populus fremontii* var. *wislizenii* individuals. Chlorophyll content significantly increased moving upward through the canopy. Leaf water potential did not vary among canopy levels and neither did internode growth. On the other hand, the morphological measurements (leaf area, leaf mass, leaf water content and specific leaf mass) all varied significantly; each parameter increased with canopy level. Significant variation among individuals was found in all measured parameters (physiological and morphological) except pre-dawn leaf water potential and internode growth. The variation in mid-day water potential without variation in predawn water potential suggests that these trees perform differently with respect to water usage during the day. There is a strong trend suggesting mid-day water potential is correlated with distance from the river. Internode growth for years 1991-1994 was correlated with annual precipitation with a one year time lag.

COMPARATIVE GENETIC VARIATION AMONG ISLAND POPULATIONS OF THE AVIAN GENUS VIREO IN THE WEST INDIES.
Patrick W. Zwartjes
The amount of genetic variation within populations of organisms which inhabit islands or other insular habitats has been the subject of much theoretical research, and, with the advent of modern DNA technologies, empirical research as well. I have been conducting research to address questions of relative levels of genetic variation in bird populations, specifically the system of breeding populations of the genus *Vireo* on the islands of Puerto Rico and Jamaica, as well as in the Florida Keys. Puerto Rico contains one endemic species of *Vireo* and Jamaica has two; in the breeding season, each is also home to a breeding population of the migrant Black-whiskered Vireo which breeds throughout the Caribbean. The research hypothesis is that the island populations of the migrant vireo, with a larger overall population and more extensive range, will exhibit higher levels of genetic variation than the endemic vireos on the islands. Two continental species of *Vireo*, ancestral to the island forms, are predicted to have higher levels of genetic variation, and are being used as a baseline for comparing the island populations. Analysis is being conducted using random amplified polymorphic DNA (RAPD) markers generated by polymerase chain reaction (PCR) of genomic DNA extracted from blood samples.

The Evolution of the Social Display of Altruism.
Paul W. Andrews
The central problem facing a social organism is maximizing the reproductive benefits derived from the actions of others and minimizing the harms. Selection may then be expected to favor the evolution of abilities for reliably anticipating and influencing the behavior of others. An argument is developed suggesting that human beings make decisions about who to preferentially interact with based on the perceived benefits that another will bestow on them. This perception is at least a function of two variables: (1) the apparent commitment of another to incur large costs for the benefit of the observer; and (2) the apparent capacity of the individual to do so. Displays of altruism may provide reliable information about which social partners are likely to divert the greatest benefits to observers because they constitute a commitment to continue social interaction until the costs of the display are recouped. Whether an altruistic display is actually performed will be context dependent because such a display may also signal vulnerability to social exploitation.
10:15 VARIATION IN SEED SIZE: EFFECTS ON GERMINATION AND VIGOR IN LESQUERELLA FENDLERI.
Lett, Jason and Ann S. Evans

Among angiosperms, seed size can range from the dust-like seeds of orchids to coconuts. Within a single species, seed size variation is less extreme, but can still influence facets of germination and vigor. For example, more large seeds may germinate earlier and grow more vigorously than small seeds. Here we examine the influence of seed size on the desert mustard Lesquerella fendleri. We identified large and small seeds collected in 1994 and 1995 and observed their germination in a growth chamber and growth in the greenhouse.

Germination did not differ between large and small seeds in 1994. However, in 1995 a greater fraction of large seeds germinated. In both years, large seeds produced larger seedlings than did small seeds. However, repeated measures of size on 1995 seeds showed that this was not due to differences in growth rate; larger seeds simply had an initial size advantage.

These interpretations may be confounded by maternal effects; most large seeds may come from some plants and most smalls from others. While the above seed size effects still hold, there is also variation among maternal sibships.

Together these results indicate that while seeds size may influence germination behavior in Lesquerella fendleri, there is no inherent difference in vigor. The results also indicate that seed size effects may vary from year to year.

10:30 THE MICROEVOLUTIONARY HISTORY OF WOODRATS IN SOUTHEASTERN UTAH OVER THE PAST 20,000 YEARS: PRELIMINARY RESULTS
Amy M. Ditto, Felisa A. Smith AND Peggy Rodriguez-Moran
University of New Mexico, Department of Biology, Albuquerque, NM 87131

We are investigating the microevolutionary responses of woodrats (Neotoma sp.) to the large scale climatic change that occurred during the late Pleistocene and early Holocene in the Colorado plateau. Fossil fecal pellets were obtained from several Neotoma sp. paleo-midden sites in southeastern Utah which range in age from 20,000 ybp- recent times. Our study examines genetic variation over this time period by characterizing the ancient DNA (aDNA) contained within the pellets. We have demonstrated that good quality aDNA can be extracted and amplified via the polymerase chain reaction (PCR) from the fossil woodrat pellets contained within the midden matrix. Using museum skins and tissue, we have obtained sequences for several modern woodrat species, and have developed a specific primer to avoid many of the contamination problems faced by other workers in ancient DNA studies. We present preliminary results of microevolutionary responses to climate change in N. cinerea.

10:45 SNZ2 AND SNZ3 ARE INDUCED IN RESPONSE TO STARVATION IN SACCHAROMYCES CEREVISIAE
Pamela A. Padilla and Margaret Werner-Washburne

Biological functions such as cellular growth and stress responses are highly regulated processes. To better understand such functions in multicellular organisms, Saccharomyces cerevisiae has been used as a model system. We are interested in genes that are important in the stress response to starvation. Two members of a highly conserved gene family, SNZ2 and SNZ3, have been cloned. Northern analysis indicates that the transcript of SNZ2 and SNZ3 increases as the culture media begins to decrease in glucose. However, the transcripts do not increase in cells starved to induced sporulation. To analyze the gene family by western analysis, an antibody was raised to a peptide region common to all SNZ family members. SNZ2 and SNZ3 were disrupted to produce mutants. The mutants remain viable when glucose decreases in the cell culture.
PARASITES OF BATS FROM THE SOUTHWEST.
D.T. Scott

Bats were collected in New Mexico, California, and Baja California Sur (Mexico) during May - October 1994 and May - September 1995. 910 bats were examined for parasites. Of these, 800 bats including 17 species were examined for ectoparasites, 600 fecal samples from 19 species were examined for Coccidia (Protozoa: Apicomplexa), and 100 bats were examined for intestinal helminths. Not all parasites have been identified, yet. However, prevalence and mean intensities of a bat's ectoparasites may provide information about its ecology such as roost choice and size; e.g., Lasiurus cinereus, a solitary tree-roosting species, had no ectoparasites (n=84), whereas, Antrozous pallidus, a colonial roosting species had a high ectoparasite prevalence (107/111, 96%). Currently, only 5 species of Eimeria (Coccidia) are known from New World bats. In my study, the prevalence of Eimeria was low (26/600, 4%), but 4 new eimerian species were discovered. Although still awaiting identification, the intestinal helminths may provide information about prey selection by the bats. For example, infection by cestodes with known intermediate hosts will provide evidence that the intermediate hosts are included in the bat's diet.

SEXUAL SIZE DIMORPHISM IN BIRDS: WHICH SEX CHANGED SIZE MORE?
David A. Gray

Several theories regarding the evolution of sexual size dimorphism in birds depend on assumptions regarding which sex changed size more. In an effort to determine which sex changed size more, both allometric and phylogenetic methods were used. The results suggest that, for birds as a whole, changes in male size have exceeded changes in female size. Piciformes (woodpeckers etc.) and Strigiformes (owls) are exceptions to this general rule.

THE INTERACTIONS OF YEAST BCY1—A COMPLEX SITUATION.
Matthew E. Crawford and Margaret Werner-Washburne.

Using native gel electrophoresis, we have discovered that Bcy1p, the regulatory subunit of the cAMP-dependent protein kinase, associates in a multi-protein complex during yeast's growth to stationary phase. We have determined the size of this native complex to be 210 kDa. Given the size of Bcy1p (50 kDa) and the size of the catalytic subunit, Tpk1, 2 or 3 (52 kDa), one may expect the complex to consist of two Bcy1p and two Tpkp proteins. We have demonstrated, however, that a complex of equal size is formed in cells lacking TPK genes. In addition, the complex is stable in the presence of cAMP, which further weakens the case that the complex is simply a Bcy1p-Tpk tetramer. We are using cAMP-affinity chromatography to purify the complex and to analyze its components. As a complementary approach, we are directly cloning genes that interact with Bcy1p with the two-hybrid system, a library-based method of selecting interacting proteins.
1:45 

**EFFECTS OF FLOODING ON ARBUSCULAR-MYCORRHIZAL FUNGI IN POPULUS FREMONTII AND TAMARIX CHINENSIS IN RIO GRANDE RIPARIAN FORESTS.**

Heather A. Pratt

For the past fifty years, the natural flooding cycles of the Rio Grande have been disrupted or eliminated by damming and straightening of the river. Resumption of these flooding cycles has been shown to effect the structure of many communities in the riparian forests, including the soil microbial community (Ellis et al., 1995). The microbe community that is the focus of this study is arbuscular-mycorrhizal fungi which forms mutualistic relationships with plants. The plants under investigation are two trees, the native cottonwood (*Populus fremontii*) and the exotic salt cedar (*Tamarix chinensis*). I quantified the amount of arbuscular-mycorrhizal fungi colonization in the roots of the two tree species. The roots were taken from four experimental sites in the Bosque Del Apache National Wildlife Refuge. The first sites are "Cottonwood Flood" and "Riverside Flood:" The "Cottonwood Flood" site has been experimentally flooded annually for three years. The "Riverside Flood" site has flooded naturally, annually for at least fifty years. Each of the two sites have corresponding unflooded control sites. The root analysis will be followed by a bio-assay. Seedlings of *P. fremontii* will be germinated in soils inoculated by mycorrhizal fungi from each of the sites.

2:00

**ESTIMATION OF HUMAN PREDATION OF NON-GAME BIRDS AT ZUNI PUEBLO.** Robert V. Taylor, Department of Biology, University of New Mexico, Albuquerque, NM 87131. Bird feathers are used by the Zuni people for various cultural purposes. In order to obtain these feathers, Zuni men hunt various 'non-game' bird species. The Zuni people have great interest in ensuring that bird species used are taken in sustainable fashion. I am currently investigating human predation on birds to determine if the hunted species are being taken at sustainable rates. In this first phase of my study I attempted to quantify some basic aspects of predation on birds. With this goal, I interviewed 98 Zuni men to determine: 1) what proportion of Zuni men hunt. 2) which bird species are used; 3) how many of each individuals of each species are taken; 4) where and when does hunting take place. Results of these interviews and their implications to conservation of hunted bird species will be discussed.

2:15

**PHYSIOLOGICAL AND GENETIC VARIATION AMONG FOUR COTTONWOOD POPULATIONS IN NEW MEXICO.**

D.L. Rowland and A.S. Evans

Understanding the genetic basis of a phenotype allows us to predict its evolutionary potential in a changing environment. In New Mexico, I have chosen the riparian tree, *Populus fremontii*, as a model system for studying the connection between genotype and phenotype. The first step in studying the role of genetics in determining phenotypic variation is to catalog the amount of genetic and phenotypic variation within the system. I examined phenotypic variation in size and physiology, and genetic variation among four cottonwood populations along the Rio Grande and one of its major tributaries, the Rio Chama. These four populations varied significantly in size and spatial distribution, soil conditions, and various physiological parameters including gas exchange measures and leaf morpho-physiological characters. Using RAPDs, I examined the pattern of genetic variation among these populations as well. The genetic variation not only followed geographical trends, but was correlated with several of the physiological traits.
THE NEUROSPORA GENOME PROJECT (NGP)

Jason Mitchell

Although there has been a long history of genetic research with the filamentous fungus *Neurospora crassa*, there has been no comprehensive effort to physically map or sequence large portions of the genome. The *Neurospora* Genome Project (NGP) was conceived as a research program directed toward these goals and toward undergraduate training in molecular genetics. The major current effort of the NGP at UNM involves sequencing random cDNA clones from conidial and mycelial libraries. This effort has produced valuable information that has led to subsidiary research projects. One of these is an attempt to identify the biological roles of proteins encoded by a highly-conserved family of genes designated *snz* (snooze), one member of which is known to be expressed late in stationary phase in yeast. A second project is employing sequenced cDNA clones to establish patterns of codon bias in open reading frames of *N. crassa* genes.
POSTER ABSTRACTS

1 DEVELOPMENTAL STABILITY AT RANGE CENTERS AND MARGINS IN A CNEMIDOPHORUS LIZARD
Tara Armijo-Prewitt and Don Sias
Habitats at range peripheries are less optimal for a species than are range centers. Different degrees of developmental stability, drift, and different selection regimes between populations at range centers and peripheral populations should be evident in morphological differences between populations. Using specimens from the Museum of Southwestern Biology, we counted ventral scales, lower labial scales and femoral pores on the left and right sides for central and peripheral populations of whiptail lizards (Cnemidophorus inornatus). Analyzing meristic morphology from these populations, we evaluate the hypothesis that peripheral populations will suffer increased levels of developmental stress, and hence exhibit elevated meristic variability.

2 COMPARISONS OF ENZYME KINETICS AND BANDING PATTERNS USING POLYACRYLAMIDE GEL ELECTROPHORESIS IN THE SCORPION PARUROCTONUS UTAHENSIS.
Robert A. Nofchissey, Eric C. Toolson.
Enzyme kinetics for Lactate dehydrogenase have been researched in groups of Paruroctonus utahensis that were acclimated to two temperatures (25°C and 35°C). The effects of temperature variation on Lactate dehydrogenase kinetic parameters were then quantified to determine if acclimation to different temperatures involved expression of temperature specific isozymes. Our results suggest that this species, which has been shown to exhibit profound acclimation of its metabolic rate, does not do so by production of thermally specific enzymes.

3 VEGETATION MAP USE IN LONG TERM NATURAL RESOURCE MANAGEMENT ON MILITARY RESERVATIONS.
Sarah Berckman and Elizabeth Milford
Vegetation maps are becoming more important in the fields of conservation biology and natural resource management. The New Mexico Natural Heritage Program and the Department of Defense have formed an agreement to produce vegetation maps for long term management and ecological monitoring on military reservations. Can satellite imagery be used to make accurate vegetation maps with the help of field surveys? How can these maps be used by those interested in conservation? Natural Heritage Program field crews select representative stands of vegetation communities on military reservations. Biophysical descriptions are made at each site and positions taken using a Global Positioning Systems unit are used to accurately identify plot locations. The field data are used to classify satellite imagery in vegetation classes. The initially classified maps are then field verified. The revised vegetation maps can then be used in a Geographic Information System by the natural resource managers at the military installations for long term ecological planning.
THE NEUROSPORA GENOME PROJECT AT THE UNIVERSITY OF NEW MEXICO

Anne Marie Armijo, Eldon Blueyes, Marianita Gorman, Jason Mitchell, Joe Valentine, Audrey Wells, Sheldwin Yazzie, Patricia Dolan, Pascale Leonard, Seogchan Kang, Mary Anne Nelson, Don Natvig

Although there has been a long history of genetic research with the filamentous fungus *Neurospora crassa*, there has been no comprehensive effort to physically map or sequence large portions of the genome. The *Neurospora* Genome Project (NGP) at UNM was conceived as both a research program directed toward these goals and an undergraduate training program in molecular genetics. The current goals of the NGP are to sequence and map random cDNA clones representing structural genes expressed in vegetative and sexual tissues. Sequencing efforts employ clones from three cDNA libraries of *Neurospora crassa* constructed in a Uni-ZAP XR vector. Phage clones are converted to double-stranded Bluescript phagemids using a helper phage. Partial or complete nucleotide sequences are then obtained using an automated sequencer, and an electronic database search for homologous genes is performed.

SNOWMELT INFLUENCES ON PERiphyTON BIoMASS IN A MONTANE HEADWATER STREAM. M.C. Marshall1, H.M. Valett1, C.G. Peterson2 and D.L. Moyer3. 1Dept. of Biology, University of New Mexico, Alb, NM 87131, 2Dept. of Natural Sciences, Loyola University, Chicago, IL 60626. The influences of snowmelt on periphyton biomass was studied in a first order montane stream. Periphyton was sampled biweekly from March 1995 through September 1995. Four replicates of 2 or 3 rocks were randomly gathered, refrigerated, and scrapped of periphyton within ~48 hours. Ash free dry mass was prepared and a mean AFDM was calculated for each sample day. At baseflow conditions (~1 L/s discharge), during March and September, AFDM averaged 0.46 ± .13 g m⁻² and was similar during snowmelt where the group mean was 0.50 ± .02 g m⁻². Following snowmelt biomass increased to 1.11 ± .20 g m⁻². Concomitant with snowmelt was an increase in ground water inputs to surface water flow which may increase nutrient availability to periphyton. Simultaneously, macroinvertebrate grazer abundance decreased 10 fold, after which periphyton biomass steeply increased to a summer maximum AFDM of 2.03 ± .91 g m⁻². These results suggest that there are many organizing variables on periphyton biomass in montane headwater streams including, snowmelt, ground water/surface water interactions, and macroinvertebrate grazing pressures.


GAP-43, a growth and regeneration-associated protein found in neuronal membranes, is present in nerve fibers innervating the rat pituitary. GAP-43 immunoreactivity (IR) is lost during neurotoxin-induced nerve degeneration, and recovers during reinnervation of pituitary tissue. In aging pituitary, we find that GAP-43 is reduced, with little or no staining in the oldest group. Male rats aged 8 to 17 months were perfused intracardially with buffered paraformaldehyde after halothane anesthesia. Paraffin sections of pituitary were stained with anti-GAP-43 (1:1500), as previously described (Saland et al., '93, Mol. Cell. Neurosci. 4:576). Fiber staining in the neurointermediate lobe (NIL) was observed in 8 month old rats, with a gradual decline. At 17 months, few or no fibers were observed. Loss of GAP-43-IR may suggest reduced ability of pituitary fibers to modify connections on target cells.
THE PREVALENCE OF THE RODENT BOT FLY CUTUREBRA SPP. ON THE SEVILLET A NWR.
Wade D. Wilson and John A. Hinda

A total of 6,486 rodents representing three families (Muridae, Heteromyidae, and Sciuridae) and 24 species were trapped from 1991 through 1994. Of these, only the white-throated woodrat (Neotoma albigula) and Piñon mouse (Peromyscus truei) were infested with Cuterebra larvae. Of the 594 N. albigula that were captured, 103 (17.3%) were infested with Cuterebra larvae. A total of 139 larvae were recorded (X intensity 1.34 ± 0.844 larva/host, range 1-6 larva/host). All infestations occurred in the throat. Neotoma albigula infestations were observed in 4 of 5 habitats sampled. The highest prevalence of infestation occurred during the early trapping season (76/271; 28.0%) when compared to the late trapping season (76/195; 28.1%, P < 0.001). Prevalence of infestation was not significantly different between animals from the mark release webs (65/396; 16.7%) and removal webs (57/198; 28.7%), males (56/265; 21.1%) and females (47/316; 14.9%), or adults (92/529; 17.4%;) and juveniles (11/35; 31.4%). Also, there was no correlation between relative density of hosts and prevalence of infestation. Of 716 P. truei captured, 22 (3.1%) were infested with Cuterebra larvae. A total of 25 larvae were recorded (X intensity 1.13 ± 0.343 larva/host, range 1-2 larva/host). All infections occurred in the scapular region. Peromyscus truei were captured in all 5 habitat types, but were only infected in the Piñon-Juniper habitat. The highest prevalence occurred in the late trapping period (14/25; 56.0%) when compared to the early trapping period (7/36; 18.4%; P < 0.01). Prevalence of infection was not significantly different between animals from mark release webs (16/487; 3.3%) and removal webs (6/229; 2.6%), males (14/424; 3.3%) and females (8/229; 2.9%), or adults (20/673; 3.0%) and juveniles (2/32; 6.3%). As in the N. albigula there was no correlation between relative density of hosts and prevalence.

USING JELLY FISH GREEN FLUORESCENT PROTEIN (GFP) TO LOCALIZE Snz3p IN SACCHAROMYCES CEREVISIAE.
Stephanie Atencio, Pamela Padilla, Dr. Margaret Werner-Washburne

Our lab is interested in gene expression in response to starvation. We use the model eukaryotic system, Saccharomyces cerevisiae, to study this stress response. We have identified a highly conserved gene family designated the SNZ family. It appears that this gene family may play a role in a response to starvation. My project has been to localize members of the SNZ family. To determine subcellular location of Snz3p, the green fluorescent protein from the jellyfish Aequorea was used as a marker. Two constructs were made. A fusion protein of Snz3-GFP under the Gal-1 promoter was designed (for synthesis of large amounts of Snz3p-GFP) and a Snz3p-GFP fusion protein regulated by the SNZ3 promoter (to obtain more physiological concentrations of the protein).

NALTREXONE ATTENUATES HYPOXIA-INDUCED REDUCTIONS IN BODY TEMPERATURE IN THE LIZARD, ANOLIS CAROLINENSIS. Michela Baca and G.M. Mahvi. Lovelace Institute for Basic and Applied Medical Research, Albuquerque, NM 87108

Hypoxia decreases body temperature (Tb) in numerous organisms. Although this thermoregulatory response prolongs hypoxic survival, little is known of the mechanisms involved. In mice, an endogenous opioid system is involved in the Tb decrease during brief severe hypoxia (Mayfield et al., Am. J. Physiol. 265:R1615, 1994). We tested the hypothesis that an endogenous opioid system mediates the hypoxia-induced behavioral decrease in Tb in the lizard, Anolis Carolinensis. Tb of an ectotherm in a thermogradients is an accurate index of thermoregulatory set-point, which is often not the case in mammals. Lizards were placed in a normoxic thermogradients (16 to 45 °C) and Tb was continuously measured with a cloacal thermocouple. 24 hrs later, hypoxia gas (6% O2) flowed through the gradient for 4 hrs followed by normoxia. Half of the lizards received naltrexone (a long-acting general opioid antagonist; 2 mg/kg, i.p.) before placement in the gradient. Mean Tb during normoxia was 30.3±0.6 °C. Hypoxia significantly decreased Tb in untreated lizards by 1.7±0.6 °C, (p=0.025). Hypoxia has no significant effect on naltrexone treated animals (p=0.58). Naltrexone did not significantly affect normoxic Tb. An endogenous opioid system appears to mediate a hypoxia-induced reduction in thermoregulatory set-point in the lizard. Supported by NIH grant HL38942.
10 ANALYSIS OF THE CAR-1 GENE IN NEUROSPORA CRESSA; A PEROXISOME ASSEMBLY FACTOR GENE
Kelly A. Howe and Mary Anne Nelson

Peroxisomes are the least characterized organelle of the cell; they received little attention until the discovery of their role in a specific group of human genetic disorders. It is now known that peroxisomes contain enzymes involved in many metabolic pathways of eukaryotic cells, including β-oxidation of fatty acids. Peroxisome biogenesis and the role of the organelle in development is still poorly understood. Microorganisms provide good model systems for the study of peroxisomes. We have cloned a peroxisome assembly factor gene, cart from the filamentous fungus, *Neurospora crassa*; the results of the sequence analysis are presented. Using a reverse genetic approach, we have disrupted the gene and are currently characterizing the role of peroxisomes in both sexual and asexual development of *N. crassa*.

11 DISTRIBUTION AND PARASITES OF THE AMERICAN COCKROACH (*Periplaneta americana*), FROM THE BATHROOMS OF CASTETTER AND MARRON HALLS.
B.C. Pickering and D.T. Scott

Cockroaches were trapped from 8 bathrooms on three consecutive nights using Lo-Line Monitoring Stations, "roach traps". The sites trapped were the men's and women's rooms on each floor of Castetter Hall and the two 2nd floor bathrooms in Marron Hall. 21 roaches were caught during the entire trapping session. All roaches captured were found in Castetter Hall, 76% of these roaches were from the 2nd floor women's room. The cockroaches were sacrificed and examined for internal parasites. Nematodes were found in 81% of the hosts, while ciliates occurred in 29%.

12 EVIDENCE OF TEMPERATURE ADAPTATION IN THE FRUIT FLY, DROSOPHILA MELANOGASTER
Miranda S. Dendy and Eric C. Toolson

It has been suggested that organisms adapt to their environments so that they function optimally to grow and reproduce with the most efficient energy expenditure. This study used thermally adapted strains of *Drosophila melanogaster* to test the hypothesis that enzymes within each strain function optimally at temperatures similar to those to which strains are adapted. Several strains of flies were maintained at different temperatures long enough for adaptation to occur. We looked at the enzyme, phosphoglucone isomerase (PGI), which catalyzes a key step in the glycolytic pathway. To determine if PGI functions optimally under thermal conditions to which each strain was adapted, we quantified the effects of temperature in kinetic parameters of PGI.
13 BIOCHEMICAL SYSTEMATICS OF GEOMYS ATTWATERI AND GEOMYS BREVICEPS
Scott Burt and Robert C. Dowler

The pocket gophers Geomys attwateri and G. breviceps are morphologically indistinguishable, but three chromosomal races (E, F, and G) have been described. The exact nature of the relationship between races F and G of G. attwateri and between G. breviceps (race E) and G. attwateri is in question. This study analyzed allozymic data from 20 enzymatic loci for 192 pocket gophers, including 43 chromosomal hybrids. Genetic distances among the three chromosomal races and between species were calculated, as well as estimates of gene flow and population divergence. Results suggest that there is no allozymic distinction between the two chromosomal races of G. attwateri, but G. attwateri and G. breviceps differ by at least three fixed differences. Gene flow estimates between species are low. In fact, genetic exchange between species was presumably detected in only two individuals at a narrow zone of contact. Based upon these data and in conjunction with previous studies, G. attwateri and G. breviceps are distinct species.

14 EFFECTS OF IN UTERO ADMINISTRATION OF ALCOHOL ON ENZYMES OF THE γ-Glutamyl Cycle. G. Marquez, J. Cde Baca, E. Reyes, S. Ott. Dept of Pharmacology, UNM School of Medicine. We have shown that pregnant mothers on a liquid diet containing 35% ethanol-derived calories (35% EDC) produced offspring with decreased GSH levels in brain and liver. In the present study, we examined the effects of the in utero administration of six doses of alcohol on γ-GTP, γ-glutamylcysteine synthetase (γ-GCSyn), and GSH. The effects on Neuron Specific Enolase (NSE) activity was also examined. Mothers were started on their respective diets on day 1 of gestation and maintained on their diets until gestational day 21. On gestational day 21, the pups were delivered by Cesarean section and brains and livers removed and prepared for analysis of GSH, γ-GTP, γ-GCSyn, or NSE. The in utero administration of alcohol produced a 63% decrease in the activity of γ-GTP in brain but did not have an effect on liver γ-GTP. A dose dependent decrease in liver γ-GCSyn was observed. There was also a decrease in brain and liver GSH levels. No consistent effects on NSE were produced. The depletion of GSH and decreases in activities of enzymes involved in its synthesis by alcohol may make the developing fetus more susceptible to the toxic effects of alcohol or the free radicals generated by its metabolism. (Supported by NIH/MBRS RR 081399 and NIAAA AA08072)

15 A PLEISTOCENE RELICT? A POPULATION OF NEOTOMA FUSCIPES FROM THE EASTERN MOJAVE DESERT, CALIFORNIA
Karla F. Melendez, Roxanne I. Garcia, Felisa A. Smith and Patrick A. Kelly

Genetic comparisons were done on a putative population of woodrats, Neotoma fuscipes, which were discovered on an isolated mountain top in the Mojave Desert, California. The animals are 125 kilometers outside of their described eastern distribution limit and have probably been isolated since the late Pleistocene which was 10,000 years before present. Mitochondria DNA sequences were obtained for the non isolated population of N. fuscipes and will be compared to the isolated population of N. fuscipes in order to explore microevolution in the two groups. Furthermore, mitochondria DNA sequences of N. lepida will be compared to the isolated N. fuscipes in order to investigate if interbreeding has occurred, as these two group do occur together in the same habitat type. Results indicate that sequencing efforts have been successful in returning mitochondria DNA sequence of N. fuscipes.
EFFECT OF FATTY ACIDS ON THE DEVELOPMENT OF NEUROSPORA CRASSA

Lisa Oldrup¹, Marta Tanrikulu-USDA², and Mary Anne Nelson¹

1. Department of Biology, UNM; 2. USDA, Albany, CA

Peroxisomes have been implicated as playing an important role in the sexual development of filamentous fungi. Since fatty acids are metabolized in the peroxisomes of fungi, we examined the effect of fatty acid supplementation on sexual development in Neurospora. The number of fruiting bodies (perithecia) increased in response to palmitoleic acid, linoleic acid, linolenic acid, and an impure form of oleic acid. Gas chromatography was used to determine the fatty acid content of wild type crosses, self (sterile) crosses, and unfertilized cultures. Also, the fatty acid composition of separated asci (sexual tissue) and outer (asexual) fruiting body tissue was evaluated. Dramatic differences in the levels of fatty acids in sexual and asexual tissue were observed.

MOLECULAR STUDIES OF FIBRINOGEN-LIKE MOLECULES PRODUCED BY FRESHWATER SNAILS IN RESPONSE TO INFECTION WITH DIGENETIC TREMATODES

David C. Quintana, Coen M. Adema and Eric S. Loker

Previous studies have shown that the snail Biomphalaria glabrata responds to infection with digenetic trematode parasites by producing increased quantities of at least 3 groups of circulating hemolymph proteins. One of these groups consists of proteins that are able to precipitate soluble antigens produced by the parasite and that have high levels of homology to human fibrinogen. It was of interest to determine if the related snail, Bulinus truncatus, which is involved in the transmission of human urinary schistosomiasis in Egypt and other parts of Africa, also has fibrinogen-encoding genes. Using primers previously devised to amplify B. glabrata fibrinogen genes, a 354 bp product was amplified by PCR using B. truncatus genomic DNA as a template. This product has an amino acid identity of 64% relative to the B. glabrata sequence, and 31% relative to human fibrinogen B. Corresponding amino acid similarity values are 92% and 82%, respectively. Its presence in B. truncatus suggests that fibrinogen production may be a common feature of the defense responses of freshwater pulmonate snails. In addition, new primers were designed to facilitate PCR amplification from a cDNA library of the 5' end of the B. glabrata fibrinogen gene. Preliminary analysis suggests that new 5' sequence information has been obtained, including part of a putative signal peptide.

MECHANISM AND SITES OF HYPOXIC VASOCONSTRICTION IN FROG SKIN.

Y.S. Villalobos, S. Kenji, G.M. Malvin

Like in the mammalian lung, hypoxia at the gas exchange surface vasoconstricts frog skin, an important respiratory organ. Unlike the lung, the microcirculation of the frog skin is readily accessible for studying in vivo the sites and mechanisms of vasoactivity. If mechanisms of hypoxic vasoconstriction are similar between these two respiratory organs, then the frog skin may be useful in vivo model for understanding pulmonary vascular responses. The following hypotheses were tested in frog skin: 1) Hypoxic vasoconstriction occurs mostly in arteriole vessels, and 2) L-type Ca++ channels mediate these responses. The foot web of an anesthetized albino Xenopus laevis was observed by video microscopy. Ventilation of hypoxic gas through a web chamber constricted arterioles, but not venuoles. Blocking L-type Ca++ channels inhibited the response. Because hypoxia vasoconstricts arterioles via L-type calcium channels in the lung, frog skin may be a useful in vivo model for understanding the specific mechanisms of hypoxic vasoconstriction.
Discovery of a unique, precocious mother redia during the intramolluscan development of *Echinostoma paraensei*. KIRSTEN MEYER*, KELLI SAPP, AND ERIC S. LOKER

Sporocysts of *Echinostoma paraensei* were found to produce and release a morphologically and behaviorally distinct, precocious mother redia (PMR) stage prior to their production of additional mother rediae. When the development of individual intraventricular sporocysts of *E. paraensei* were followed on a daily basis in juvenile *M. limnaea* Biomphalaria glabrata snails, a single large radial embryo was observed developing within each sporocyst at 2 days post-exposure (DPE). This continued to grow at the exclusion of all other embryos and was released from the sporocyst at 5-6 DPE. It then attached via its posterior end to the wall of the ventricle, immediately adjacent to the sporocyst in which it was produced. Through 31 days of observation, it remained at its original point of attachment adjacent to the sporocyst. The sporocyst produced additional mother rediae that were released approximately 3 days after the exit of the PMR. These additional mother rediae were distinct from PMR in both their morphology (smaller pharynxes) and behavior (they left the ventricle for other parts of the snail). The PMR itself began to release daughter rediae at about the same time that the sporocyst produced these additional mother rediae. When snails harboring a single sporocyst of *E. paraensei* were re-exposed to infection with additional *E. paraensei* miracidia, the challenge sporocysts were able to develop normally if they arrived in the ventricle before the emergence of the PMR from the original sporocyst. If the PMR had already emerged, fewer sporocysts from the challenge infection reached the ventricle and fewer developed as compared to controls where the PMR had not yet emerged from the sporocyst. This peculiar mode of development was not observed in two other echinostome species (*E. lienalis* and *E. trivolvis*) examined. Supported by NIH grant ROI AI24340.

A PRELIMINARY ASSESSMENT OF FLUCTUATING ASYMMETRY IN FOUR GENERA OF MICROCHIROPTERANS

Megan H. Armstrong, Museum of Southwestern Biology, Department of Biology, University of New Mexico, Albuquerque, New Mexico, 87131, USA

Fluctuating asymmetry (FA) offers the opportunity to examine the influence of selection on characters of purported functional importance. It is assumed that selection acts differentially on morphological characters of the hindlimbs of bats based on ecological function. It has been suggested a lower degree of FA on the forelimb of bats exists than on the hindlimb because of greater constraints due to flight. This study tests the hypothesis that bats that employ their hindlimbs in foraging (*Nyctilio* and *Antrozous*) will have a lesser degree of FA than those who do not (*Natalus* and *Nycticipus*). This hypothesis was tested by analyzing paired measurements from the pelvis and hind limb elements from these bats and compared them to those of the ecologically intermediate *Eptesicus fuscus*. Statistical analyses of FA ratios will either support or fail to support the hypothesis.

IN VITRO PROLIFERATION OF LYMPH NODE AND SPLEEN CELLS FROM (B6xA)/B6 RADIATION CHIMERAS TO SKN ALLOANTIGENS. T.M. Malecki, K.L. Baur, and E.H. Goldberg

This study determined the proliferative response of (B6xA) lymphocytes residing in C57BL/6 (B6) mice in response to AJ (A) epidermal cells. (B6xA)/B6 chimeras were generated and grafted with A tail skin. Controls for normal proliferation consisted of (B6xA)F1, mice grafted with A tail skin. Lymph node and spleen cells were harvested 7, 10, 14, 21, 28, and 35 days after grafting and reacted with A epidermal cells in proliferation assays. After 72 hours, cells were pulsed with [3H]-thymidine, incubated for 18 hours, and [3H] uptake was determined.

Lymphocytes harvested from the lymph nodes of grafted chimeras 7, 10, and 14 days after grafting and from spleens of grafted chimeras 21, 28, and 35 days after grafting demonstrated proliferation in response to A epidermal cells relative to controls. Skin-specific T cell clones are currently being generated from these cultures.

This work was supported by grants from the Howard Hughes Medical Institute (71192-507602) and the National Institutes of Health (NIH AR35177).
CHARACTERIZATION OF THE CYTOCHROME B GENE OF THE GRAY WHALE ESCHRICHTIUS ROBUSTUS

Roxanne Garcia, Gary Miller, Jim Sumich, Jorge Urban, Rob Miller

High genetic variability may be crucial to the survival or recovery of endangered species. The Gray whale (Eschrichtius robustus) is one of only a few large mammals to recover from near extinction and be removed from the endangered species list. We wish to analyze the genetic variability of E. robustus in order to assess the affect of genetic bottlenecks on population health. Cytochrome b, a segment of mitochondrial DNA, was chosen as a test marker due to its highly conserved nature and high copy number. Variation in cytochrome b may be indicative of overall genetic variation which may correlate with population health. A 366 base pair segment of the cytochrome b gene was successfully amplified, cloned, sequenced and analyzed from an E. robustus skin sample. This work provides the basis to analyze the genetic variability of E. robustus and shows the feasibility of performing a population genetic analysis of field-collected samples.

EXPRESSION AND PURIFICATION OF AN INFLUENZA VIRUS NON-STRUCTURAL PROTEIN (NS2) FROM E.COLI

Objective: To express and purify virus NS2 protein from E.coli in order to observe its interactions with mitochondria.

METHODS: Some influenza viral proteins have amino acid sequences which mimic targeting sequences of cytosolic precursors of mitochondrial proteins. We hypothesize that influenza viral proteins might cause the mitochondrial damage observed in Roye's syndrome by interfering with mitochondrial protein import. We have identified four influenza viral proteins - two subunits of RNA polymerase (PA and PB2), a nucleoprotein (NP), and non-structural proteins (NS1 and NS2) that have amino terminal sequences similar to those found in cytosolic precursors of mitochondrial proteins.

METHODS: The cDNAs for the non-structural proteins of influenza A (NS1 and NS2) have previously been cloned into E.coli. Isolation of high molecular weight from the NS2 protein was attempted by an ultrafiltration membrane. Purification methods include gel filtration high performance liquid chromatography (HPLC).

RESULTS: The NS2 protein was found in the supernatant fraction of E.coli upon disruption. The NS2 protein showed a molecular weight of 11kDa which is comparable to the literature. We have purified NS2 to over 60% purity by gel filtration and have produced sufficient quantity to permit structural analysis.

CONCLUSION: We used a E.coli expression system to produce the influenza non-structural protein (NS2) in quantity. Ultrafiltration and HPLC showed that the NS2 was in a monomeric form or complexed with other proteins. The HPLC molecular sieve showed a molecular weight of the NS2 protein above 50 kDa but approximately 12,000 daltons was shown on SDS PAGE (Supported by a grant from Veterans Administration Merit Review and the Minority Biomedical Research Support Program).

MUTATIONAL ANALYSIS OF THE ORIGIN OF CHROMOSOME REPLICATION IN E.coli

David B. Bates, Erik Boye, Tsuneaki Asai and Tokio Kogoma

Traditionally, plasmids into which the E. coli origin of replication, oriC, has been cloned, have been used as reliable models for the initiation of chromosomal replication. However, origin activities of oriC plasmids vary depending on several factors including cloning vectors, fragment orientations, and host strains used. We have developed a phage transducing system by which oriC mutations on plasmids are transferred to the chromosome by a series of homologous recombination events. Using this system we have shown that the deletion of DnaA box R4 (one of four highly conserved DnaA binding sites in oriC) is tolerated on the chromosome. The same mutation on a pBR322 chimeric plasmid renders oriC inactive. The oriC mutant strain exhibited a slowed doubling time, asynchronous initiations, and a lowered DNA content/cell. On the other hand, a much larger deletion including DnaA boxes R2, R3 and R4, was shown to completely inactivate oriC activity on the chromosome. The chromosome's increased tolerance to alterations may reflect its ability to more easily compensate changes in local supercoiling than the topologically restricted plasmid.
REVERSE GENETICS TO DETERMINE THE FUNCTION OF A NEUROSPORA SNZ GENE
Audrey Wells, Don Natvig, and Mary Anne Nelson.

The SNZ gene product was first isolated and identified in late stationary phase in Saccharomyces cerevisiae; it is hypothesized to be part of a response that occurs during nutrient limitation and growth arrest (E.K. Fuge et al.). Through sequencing analysis and low-stringency hybridization, snz was found to be a gene present in all three phylogenetic domains, and to encode one of the most highly conserved proteins yet identified. However, attempts at uncovering function by creating a mutant phenotype in Saccharomyces have not yet been successful. In Neurospora, a naturally occurring mutation process known as RIP (Repeat Induced Point mutation) will be used to create a snz-1 mutant. Upon introduction of an extra copy of a gene, the RIP function serves to mutate both copies. A Neurospora strain was transformed with the snz-1 gene to activate RIP upon crossing; the progeny will be analyzed for mutant phenotypes.

EFFECTS OF FLOODING ON WOODY DEBRIS IN A RIO GRANDE RIPARIAN FOREST
James R. Thibault, Lisa M. Ellis, Manuel C. Molles, Jr., and Clifford S. Crawford

Woody debris constitutes an important structural and functional component of many forest ecosystems, but it has not been well studied in southwestern riparian (riverside) forests. Water regulation along southwestern rivers has decreased historic overbank flooding and led to a build-up of woody debris. The objectives of this study were to develop methods to quantify woody debris in a Rio Grande riparian forest and to use these to estimate its biomass in flooded and non-flooded forest sites. Four study sites were located at the Bosque del Apache National Wildlife Refuge in central New Mexico; one site has been flooded each year directly from the Rio Grande, one site had been isolated from flooding for over 50 years but has received experimental floods during each of the past three years, and two sites were non-flooded controls. Woody biomass was significantly lower at the naturally flooded site than at the other three sites, which did not differ from each other, and wood at the naturally flooded site was in more advanced state of decomposition. These results suggest that flooding influences the accumulation of woody debris in the riparian forests and increases its rate of decomposition.

ANALYSIS OF A TUMOR-SUPPRESSOR PROTEIN IN A MOUSE MAMMARY ADENOCARCINOMA
Kathryn Stack, Patricia Dolan, and Paul Kerkof

Cells derived from a mouse mammary adenocarcinoma tumor, designated MA16C, have been cultured in vitro and shown to be dependent upon estrogen for continued cell division. Genetic screening procedures have established that a tumor-suppressor gene, retinoblastoma, is overexpressed in this tumor and in the cells in culture. The protein product, pRb, of the retinoblastoma gene binds and inactivates transcription factors that are involved in DNA replication leading to cell division. Phosphorylation of pRb results in release of the transcription factors and cell division. In this study the retinoblastoma protein was partially purified from lysates of estrogen-treated MA16C cells by immunoprecipitation. The immunoprecipitate and protein molecular weight standards were electrophoretically separated by SDS-PAGE. The proteins were then electroblotted onto a PVDF membrane and pRb located by standard immunological techniques. The approximate molecular weight of the retinoblastoma protein in the MA16C cells was estimated to be 56 kDa compared with a molecular weight of 110 kDa for this tumor-suppressor protein in normal tissue. The level of phosphorylation of this truncated protein in the tumor cells is being compared in the presence and absence of added estrogen.
NEW CHROMOSOMAL FORMS OF THE GENUS CTENOMYS FROM BOLIVIA

The genus Ctenomys is among the most variable of mammals at the level of the karyotype. Currently, chromosome diploid numbers have been found among species in this genus that range from 10 to 70. In Bolivia alone populations have been found with 2N numbers ranging from 10 to 56.

Chromosomal variation among populations of Bolivian Tuco-tucos was examined from five localities not previously sampled for this genus. Specimens examined, although morphologically similar, were found to vary significantly in both diploid and fundamental number. Diploid numbers were found to range from a 2N=24 to 2N=48. All five localities were found to differ in diploid number, fundamental number, or both. These new findings are assessed in light of previously reported chromosomal variation within the genus.

ISOLATION AND CHARACTERIZATION OF THE TERMINAL DEOXYNUCLEOTIDYL TRANSFERASE GENE OF MONODELPHIS DOMESTICA.
Marcus W. Grandjean, George Rosenberg, Amanda Guth, and Robert Miller

Antibody diversity is generated via several mechanisms, one of which is the addition of nucleotides in a non-template mediated manner. Terminal deoxynucleotidyl Transferase (TdT) is the DNA polymerase which adds deoxynucleotides to the 3' end of DNA increasing antibody diversity. These additional nucleotides are added to the heavy chain of immunoglobin and T-cell receptors during the rearrangement of the Variability, Diversity, and Joining genes in developing lymphocytes and are called N region additions. We wished to study TdT as a marker for lymphocyte development in marsupials because little is known about the ontogeny of this class of mammals.

To isolate and characterize the TdT gene of Monodelphis domestica, a marsupial, we designed oligonucleotide primers for PCR amplification from conserved amino acid sequences of known species. A 188bp fragment was amplified from Monodelphis domestica, cloned, and identified as a fragment from exon 9 of TdT. The DNA sequence was identified as having a > 70% homology to bovine amino acid sequences and a > 65% identity to chicken nucleotide sequences. Furthermore, PCR amplification of age and tissue specific cDNA samples from Monodelphis domestica revealed similarities of TdT expression during lymphocyte development as compared to other species.

BABY CRIES AND ROOSTERS' CROWS: SPECTRAL CUES OF SIGNALLER QUALITY IN VERTEBRATE VOCALIZATIONS.
F. Bryant Furlow, Michael C. Marshall and Rebecca Kimball, Ph.D.

Vocalizing animals are usually attempting to manipulate their social environments--securing mates, challenging competitors, or eliciting parental care. We hypothesize that natural and sexual selection for such vocal signals favors an acoustic structure (i.e., pitch, melody, and/or formant duration) which accurately advertises signallers' phenotypic qualities. Here, we present a review of two vocal signalling systems: offspring solicitation by human infants (baby crying) and assertion of social dominance by junglefowl males (rooster crowing). In both systems, it appears that signal structure may honestly advertise phenotypic quality.
31  RECOMBINANT RAT LIVER PHOSPHOENOLPYRUVATE CARBOXYKINASE (PEPCK) EXPRESSED IN E. COLI: VERIFICATION OF EXPRESSION
Vince N. Montes and John L. Trujillo. University of New Mexico, Department of Biology.

Phosphoenolpyruvate carboxykinase is an enzyme involved in gluconeogenesis, a metabolic pathway that generates glucose. It is induced when blood glucose levels are low. As blood glucose levels rise, insulin is secreted and gluconeogenesis is halted. In insulin dependent diabetes mellitus, PEPCK is continuously induced due to the absence of insulin. Future gene therapy is potentially possible using a designer enzyme of PEPCK that is less active. Thus, a recombinant PEPCK clone was constructed on an E. Coli plasmid. The clone exists on a plasmid that is regulated by a T7 promoter, allowing experimental control of protein induction. Isolating the PEPCK from induced E. Coli cells has been accomplished. Verification of this expression has been achieved utilizing three techniques. They include restriction digest of plasmid DNA, Western blot analysis, and a radioactive kinetic assay.

32  THE ROLE OF CYCLIN D1 IN THE MOUSE MAMMARY ADENOCARCINOMA, MA16C
Karla Melendez, Patricia Dolan, and Paul Kerkof

MA16C is a mammary gland adenocarcinoma that arose spontaneously, and that can be propagated by transplantation, in C3H/HeOuJ mice. Cells from this rapidly proliferating tumor have been successfully maintained in culture for over two years and retain the characteristics of the original tumor including tumorigenicity. Continued proliferation of the cells is dependent upon the presence of estrogen hormone in the nutrient medium. Genetic screening procedures have identified overexpression of a tumor-suppressor gene termed retinoblastoma. The product of the retinoblastoma gene is a protein that functions by binding to, and thus inactivating, transcription factor proteins. These transcription factor proteins are necessary for cells to produce the nucleotides and enzymes needed for the cells to replicate their DNA and divide. When the retinoblastoma protein is phosphorylated it releases the transcription factors and leads to cell division. Phosphorylation of the retinoblastoma protein requires a cyclin-dependent kinase, cdk4, that is inactive unless bound to another protein, cyclin D1. Results of this project have confirmed that the cyclin D1 gene is being expressed in this tumor. The level of this expression is being compared with that in normal mammary tissue, as well as, in the presence and absence of added estrogen hormone.

33  THE EFFECTS OF AN ARTIFICIAL POPULATION SINK ON A DESERT RODENT COMMUNITY.
Jennifer B.M. Miyashiro and Morgan Ernest

Since 1989 the rodents at the Sevilleta L.T.E.R. have been monitored and sampled biannually. The trapping regime is such that, at each of six localities there are five trapping arrays; each array consists of one-hundred forty eight sherman live-traps. At each locality, the mammals trapped on three of the arrays are subject to a mark-release regimen, whereas those trapped on the remaining two arrays are removed from the study area. The purpose of this study is to determine what, if any, demographic effects there are on the communities that recolonize the sampled arrays versus those that inhabit the mark-release arrays. We examine the differences in species composition, average mass of each species, sex ratios of each species, and the total number of animals captured at each locality between the removal and the mark-release study areas.
EXTRACTION AND IDENTIFICATION OF PROTEOGLYCANS FROM HUMAN ROTATOR CUFF TENDON
Jim Langlois and Kathryn Vogel

The amount and type of proteoglycan in tendon is an indicator of the mechanical load on that tissue. The subscapularis tendon of human rotator cuff was extracted in 4M guanidine chloride and the extract was dialyzed to 7M urea. Proteoglycans were then isolated by DE-52 ion exchange chromatography and assessed by 4-20% gradient SDS/polyacrylamide gel electrophoresis. Proteoglycans were further separated by size using CL-4B sieve chromatography. Previous study has shown that the small proteoglycans include decorin, biglycan, and fibromodulin. Western blot analysis will be used to determine whether the large proteoglycan isolated from this tendon is aggrecan (the proteoglycan of articular cartilage) or whether it is a distinct tendon molecule. Rotator cuff tendons experience complex, non-uniform loads. Large proteoglycans may play a lubrication role allowing collagen fibrils to slide easily relative to each other.
There are currently 101 graduate students in the Department of Biology, and 925 undergraduate students listing biology as their major or minor area of concentration. B.S., B.A., M.S. and Ph.D. degrees are offered in the areas of Botany, Evolution/Ecology, Microbiology, Molecular/Cellular Biology and Physiology.

With 32 full-time faculty members and nearly 90 adjunct professors, the Department of Biology includes a diverse range of experience and knowledge.

Undergraduate research opportunities in the department have expanded greatly. Thanks to funding from the Howard Hughes Medical Institute, the department has been able to initiate a 5-year program which has significantly upgraded laboratory teaching in cell and molecular biology, and also provides summer and year-round opportunity for undergraduate students to do research in faculty laboratories. This summer a 13-week program in Field Ecology is being offered for the fifth time. Supported by the National Science Foundation, this program allows undergraduate students to carry out individual research projects while living at the Sevilleta National Wildlife Refuge. An additional grant from NSF supports both field and laboratory work by minority students in ecology. Applications for these programs are due in February for the following summer.

Additional facilities for research and teaching in the Department of Biology include the AT&T computer laboratory (Room 118), the NSF-funded Molecular Biology Laboratory (Rooms 230 & 231), and the Confocal Microscopy Facility (Room 239).

The University of New Mexico was recently awarded a grant from the National Science Foundation to support a Biology Research Training Group in the area of ecological complexity. This interdisciplinary program will be conducted jointly by the UNM Departments of Biology and Computer Science and by the Santa Fe Institute. This grant will support five doctoral graduate trainees each year for the next five years.

Students considering study toward an advanced degree should obtain information about required preparation and tests as soon as possible. Graduate school applications are due February 1 for admission the following Fall.

Further information about all Biology programs can be obtained from the Departmental Main Office.
FIFTH (1996) ANNUAL RESEARCH DAY AWARDS

ORAL PRESENTATIONS

Graduate:
- First Place: Diane L. Rowland
- Second Place (tie): Matthew E. Crawford
- Second Place (tie): Patrick W. Zwartjes

Undergraduate:
- First Place: Gerald M. Herrera
- Second Place: Damien T. Scott
- Third Place: Jason Lett

POSTER PRESENTATIONS

Graduate:
- First Place: David B. Bates
- Honorable Mention: Scott Burt, Wade D. Wilson

Undergraduate:
- First Place: James R. Thibault
- Second Place (tie): T.M. Malecki
- Second Place (tie): Kirsten Meyer
- Honorable Mention: Anne Marie Armijo, Eldon Blueyes, Marianita Gorman, Jason Mitchell, Joe Valentine, Audrey Wells & Sheldwin Yazzie
  - Stephanie Atencio
  - Michela Baca
  - David C. Quintana
1995–96 DEPARTMENTAL SEMINAR SERIES

Dr. Seogchan Kang, Department of Biology, The University of New Mexico, Albuquerque NM, “Molecular Genetics of the Rice Blast Fungus,” August 31, 1995.

Dr. George Stevens, Department of Biology, the University of New Mexico, Albuquerque NM, “Ants and Epiphenomena: Natural History of Leaf-cutting Ants,” September 7, 1995.


Dr. Mark Westoby, Macquarie University, Australia, “Comparative Ecology of Seed Size,” September 21, 1995.

Dr. Robert Baker, Department of Biology, Texas Tech University, Lubbock TX, “Biodiversity and Elevated Mutation Rates at Chernobyl,” September 28, 1995.


Dr. Roy Riblet, Medical Biology Institute, La Jolla CA, “Structure and Evolution of the Mouse Immunoglobulin Heavy Chain Locus,” October 19, 1995.

Dr. Chris Bayne, Department of Zoology, Oregon State University, Corvallis OR, “Manipulating Host-Parasite Interactions,” October 26, 1995.


Dr. Doug Syme, Department of Biology, Leidy Laboratory, University of Pennsylvania, Philadelphia PA, “Metabolic and Mechanical Performances of Muscles: Why and How Do They Do That?,” January 16, 1996.

Dr. James R. Groome, Department of Biology, Utah State University, Logan UT, “Neural Substrates of Ingestive Behavior in the Medicinal Leech,” January 25, 1996.


Dr. David Sherwood, Department of Molecular and Integrative Physiology, University of Illinois, Urbana IL, “The Role of the Hormone Relaxin in Pregnancy,” March 7, 1996.

Dr. Michael Allen, Department of Biology, San Diego State University, San Diego CA, “Mycorrhizal Dynamics in Changing Environments,” March 21, 1996.


Dr. Sherwin Carlquist, Department of Biology, Pomona College, Claremont CA, “Three Discoveries: How Tarweeds Got from California to Hawaii 4 MYA; How Seeds That Reached the Pacific Lost Dispersability; and Solving a 300-Year-Old Problem in Wood Anatomy,” April 4, 1996.

Sam M. Scheiner, Department of Life Sciences, Arizona State University West, Phoenix AZ, “Macroecology: Diversity Patterns from Landscape to Globe,” April 11, 1996.

Dr. Barbara Vertel, Department of Cell Biology and Anatomy, Chicago Medical School, Chicago IL, “The Chondrodystrophy, Nanomelia: a Molecular Defect of Cartilage and its Biological Consequences,” April 18, 1996.

Dr. Howard Snell, Department of Biology, The University of New Mexico, Albuquerque NM, “The Biological Diversity of the Galápagos Islands: Past, Present and Future Patterns,” April 25, 1996.

Dr. Georgiana May, Department of Plant Biology, University of Minnesota, Minneapolis MN, “Evolution of Sexual Compatibility Genes in Fungi,” May 2, 1996.
APPENDIX N

BSNM

ANNUAL
NEWSLETTER,
Vol. 11, 1995
IT IS HARD TO IMAGINE a more exciting time for the science of biology than the present. A wide range of breakthroughs in technologies and concepts have thrust the biological sciences to center stage in such diverse fields as public health, economics, agriculture, genetics and climate, in addition to the more traditional areas associated with the study of life. The decision to maintain our department as a single unit, representing research interests ranging from genes to ecosystems, has positioned us well to be a leading contributor in all of these arenas, and has led to UNM being one of the best graduate and undergraduate educational programs in the biological sciences in the world.

The Department had an extremely successful year in 1995. As of December 31, 1995, our faculty, staff and students had approximately $22,000,000 in current outside-funded research. The number of undergraduate majors has increased more than 100% in just the past five years. Our graduate program has continued to grow as well; last year we had 186 applicants to our Ph.D. Program, compared to 81 five years ago. The Department now has well over 400 employees, 112 graduate students, and more than 100 adjunct professors. These numbers keep our 33 full-time faculty very busy.

Somehow in the midst of this rapid growth, the Department has managed to re-engineer undergraduate education. Few biology programs involve undergraduate students with the degree of hands-on biology that they experience at UNM. Our department has numerous (mostly externally funded) programs that involve our students in real research early in their undergraduate careers. It is now common for UNM biology students to graduate with not only formal course experience, but to have conducted research in the field and the laboratory. This process is producing a better educated student and helping us retain a greater percentage of our undergraduates. We are very excited about the future of this approach.

I anticipate that 1996 will be an even better year. For one thing, we are finally making progress in acquiring desperately needed new space. I invite all of you to visit the Department to see for yourself all the changes. Thank you for your continued support of our programs.
Fourth Annual Research Day

The Department's Fourth Presentation of undergraduate and graduate student research, organized again by Dr. Diane Marshall, was held in April. The guest speaker was Dr. Eva Engvall, Professor of Developmental Biology, University of Stockholm, and Senior Staff Scientist of the La Jolla Cancer Research Foundation, who spoke on "Laminin: The Beauty and the Beast"; her work has demonstrated that mutations in the laminin molecule are the cause of the second most-common form of muscular dystrophy in humans.

This year's event featured 38 posters and 10 talks.

For oral presentations:

- First-place winners: graduate students James R. Robbins and Steven Evanko, who worked with Dr. Kathryn Vogel.
- Second place winners: graduate students Dan Albrecht (Dr. A. Kodric-Brown, Advisor) and Julie Hagelin (Dr. J.D. Ligon, Advisor), who worked together.
- Best Undergraduates: Rachel E. Palmer and S.W. Ruby, who worked together.

For poster presentations:

- Graduate:
  - First Place: Sandra T. Merino, who worked with Dr. Mary Anne Nelson
  - Second Place (Tie): Michael C. Balistreri (Dr. J.S. Altenbach, Advisor) and Pamela A. Padilla, Edwina K. Fuge and Edward L. Braun, who worked with Dr. Margaret Werner-Washburne.
- Undergraduate:
  - First Place (Tie): Kristy Duran, who worked with Drs. Timothy K. Lowrey and Robert Parmenter and Maria A. Gomez and Vickie M. Peck, who worked with Dr. Margaret Werner-Washburne.
  - Honorable Mention: Claire Carpenter, who worked with Dr. Larry L. Barton; Ben Hanelt, who worked with John Hnida, Coen M. Adema, Lynn A. Hertel and Dr. Eric S. Loker; Mark Stewards, D. Reid and K. Nydick, who worked with Dr. H. Maurice Valett; and Jason Mitchell and Marianita Gorman, who worked with Dr. Donald O. Natvig.

For the fourth consecutive year, the La Jolla Cancer Research Foundation provided financial support for the event.

The Biology Department
Now on the Web!

Since September of this year, the UNM Biology Department has been featured on the World Wide Web, a multimedia server available through the Internet. Information on undergraduate degree requirements, the graduate program, and faculty members can be accessed through the Department's home page. The most powerful features of the Web include the ability to transmit complex graphics, sound and even videos via the Internet. Using a series of linked hypertext files, students from all over the world can now request graduate application packets or contact potential faculty advisors. The UNM Biology Department's home page can be accessed through the general UNM home page under the College of Arts and Science (http://www.unm.edu). Carol Brandt designed the home page with help on the computer graphics by Michael Folsom.
New Funding for LTER REU Program

In March 1995, the National Science Foundation awarded $153,000 to Drs. Ann Evans and Bob Parmenter for the Sevilleta LTER Research Experiences for Undergraduates (REU) Program, which will allow it to continue for an additional three years. In making the award, NSF reviewers pointed out that the proposal was successful because of its unique focus on an integrated program that provides students the opportunity to glimpse many aspects of the scientific life.

Several improvements have been implemented, including the addition of an ethics component to the curriculum. A major change was the hire of a half-time post-doctoral fellow, Dr. Ursula Shepherd, to coordinate the program. Ursula’s work is to strengthen the educational component, provide counseling on career and educational matters, coordinate the various student groups, interact with the mentors, and handle the application and admissions procedures for the program.

Despite the fact that funding was not assured until approximately March 1, the REU Program was able to complete the recruitment and admissions process on time, and 10 successful candidates were notified by late March. This was possible only with the assistance of Carol Brandt and Robyn Coté-Schmader.

Students for the 1995 summer came from six universities, and from both the east and west coasts. Two students were undergraduates at UNM and one student came from Western New Mexico State. Students worked on research projects under the direction of three Biology faculty mentors, Drs. Ann Evans, Jim Gosz and Bob Parmenter; the students presented their results at a symposium co-sponsored by the Hughes Program. Each REU student taught a one-day science segment to 7th and 8th graders visiting from the rural science program sponsored by the N.M. Museum of Natural History. A career discussion also was held by several members of the Biology Department and the community.

Recruiting for next summer has begun; the deadline for applications is February 1, 1996. A new World Wide Web page is now online, and application information can be obtained on-line via various bulletin boards. We appreciate any suggestions you have for appropriate places to advertise this program.

Bat Calls in the Night

For the past two years, a handful of researchers (including nine students) have been scanning the night sky for a buzz. The buzz they seek is inaudible to most of us because we don’t have the proper electronic equipment. With the assistance of the N.M. Dept. of Game & Fish and several other agencies, William L. Gannon, Collections Manager of the Mammal Division of the Museum of Southwestern Biology, has been working to detect bats with ultrasonic detectors made specifically to locate and record bat calls. The procedure is fairly simple. Bat nets are erected at sunset in areas where bats are likely to be encountered. As bats are captured, they are carefully removed from the nets and taken to a field laboratory for analysis. These analyses include collecting feces for endoparasites, inspecting the bat’s body for ectoparasites, taking measurements of the wings and body, and deducing age and sexual stages. After a time, the bats are released by hand and followed with a high-powered light and an ultrasonic bat-detector. Shortly after release, the bat resumes its “normal” calls. These calls are being accumulated and identified; some are now available on the Sevilleta LTER Home Page on the World Wide Web (New Mexico Bat Survey and Acoustic Library).

Within the next few years, a complete catalog of the common N.M. bat species will be available. Researchers and others can use this library to compare calls they have recorded. Several projects underway that have resulted from this project include: an examination of the geographic variation of calls within bat species; an analysis of the bat ecto- and endoparasites encountered on these surveys; an update on the distribution of collection localities of N.M.’s bats; a comparison of the morphology of ground-feeding vs. aerial-feeding species; an ecomorphology study of two species of Myotis; and documentation of several new county records and a new site of syntopy. With continued support, the N.M. Bat Project hopes to complete its mission by 1998.
The Hughes Undergraduate Research Program

The UNM Hughes Program is currently in the fourth year of its five-year grant. The grant’s purpose is to increase the number of undergraduate students, including minorities and women, who pursue postgraduate research education and to encourage careers in the biomedical sciences by providing hands-on laboratory experience in cellular and molecular biology. The program supports student research opportunities during the academic year, as well as a ten-week Summer Research Program for students from UNM and around the country. Both programs are designed to give students the opportunity to carry out individual laboratory research projects under the supervision of a professor in the Department of Biology. In addition, the program has provided equipment and personnel to allow a hands-on molecular and cell-biology laboratory course to be taught every semester and each summer. During the spring and summer of 1996, the course will be taught by Dr. Paul Kerkof.

In October, Dr. Kathryn Vogel, Program Director for the UNM project, traveled to the Howard Hughes Medical Institute (HHMI) in Maryland to attend the annual Program Directors’ meeting. The focus of this meeting was on educational technology and it showcased the many examples of computer-based learning programs that are being developed under HHMI auspices. Dr. Vogel distributed a four-disk genetics tutorial designed by Dr. Mary Anne Nelson and graduate student Matt Crawford. She also handed out many copies of the laboratory manual for the Molecular Biology Techniques course put together by Dr. Donald Natvig and Dr. Nelson and graduate students Ken Sylvester and Bill Dvorachek. Both were huge successes.

In response to a personal invitation from the Hughes students, Maria Koszalka, a Program Analyst in the Office of Grants and Special Programs at HHMI, visited our program in November 1995. She met with both past and present students of our Hughes Program to tour laboratories and discuss their research, life goals, and the impact that being part of the Hughes Program has had on their lives. She also met with several members of the Biology faculty involved in the Hughes Program to discuss past program development strategies and potential future program development possibilities. Ms. Koszalka was impressed by the students and also by the faculty’s strong participation.

In the first three years, the Hughes Undergraduate Research Program at UNM has awarded research opportunities to many bright and qualified students. Many of our previous Hughes students are now immersed in graduate education. To name just a few, Peggy Rodriguez Moran is at UNM, Sandra Andaluz is at Harvard, and Maurinne Laughlin is at the University of Oregon. In addition, a number of students are now in medical school: Sarah Higgs, Lance Wilson, Erin Doherty and Kim Rosa are all at UNM, while Jimmy Charlie and Maria Gomez are at Stanford, and Fermin Argüello is at the University of Washington.

Just as students go on to new stages in their lives, so does the staff. Robyn Cort-Schmader was Administrative Assistant to the Program for the first three years; in September, however, she became a Program Specialist at the Latin American Institute on campus, a position closer to her own field of interest (she has an M.S. in anthropology with a specialization in Pre-Columbian art). We’re happy to welcome Laura Freed, who has a B.A. in zoology, as our new Administrative Assistant.

Currently, there are seven students at UNM whose research is being funded by the Hughes Program. They will present their research findings at our 1996 Annual Research Day, scheduled for Friday, March 29. Please send any inquiries or comments to Laura Freed, Administrative Assistant, Hughes Research Program, Department of Biology, The University of New Mexico, Albuquerque, NM 87131-1091.
The Biology Buddy Program

In the spring of 1995, the Biology Department started a mentorship program linking freshmen and transfer students with juniors and seniors in Biology. In this way new students meet their peers who have similar interests and goals. Biology Buddy Program mentors provide encouragement, guidance and peer support to new students. Students are matched not only one-on-one with a mentor, but they are organized also into “academic teams” that reflect their biology career goals. In the fall semester, the Buddy Program sponsored seminars on careers in biology, how to apply to graduate school, and faculty research.

In the 1995-96 academic year, more than 93 students are involved in the Biology Buddy Program. Fifty-seven of these students are freshmen or transfer students, the majority of whom are from underrepresented ethnic groups or rural communities in New Mexico. Because most of the mentors in the Buddy Program are either applying to medical school or graduate school in biology, we hope that their protegees will be encouraged to pursue post-baccalaureate education as well.

While Carol Brandt has organized their monthly meetings, the energy generated in this group comes from our mentors, who have graciously donated their time. One mentor summed up the program perfectly by saying, “I really want to have someone benefit from what I’ve gained here. I want these students to learn from my mistakes as well as my achievements.”

To learn more about the Biology Buddy Program, contact Carol Brandt (505/277-4392; cbrandt@unm.edu).

Historic Bird Specimens Returned to New Mexico

JOHN P. HUBBARD

A collection of bird skins made by Frank Stephens in New Mexico in 1875-1876 has been exchanged with The University of New Mexico Museum of Southwestern Biology (MSB) by the San Diego Natural History Museum (SDNHM). The exchange was arranged and carried out by Robert W. Dickerman, Curatorial Associate in MSB’s Division of Birds, and Philip Unitt, Curator of Birds at SDNHM. The transaction was completed in late December 1993, with SDNHM receiving specimens of California birds in return. The latter represented surplus material in the Amadeo Rea collection, which Dr. Dickerman recently obtained as a donation to MSB.

The Stephens’ material consists of 78 skins of 59 species, most taken in Grant County in the period September 17, 1875 to August 2, 1876. In general, the preparation and labeling of the material is good, considering the era in which it was collected. Although well-curated during their long tenure at SDNHM, most of the specimens have become discolored through natural deterioration and exposure to chemicals used in their preparation or preservation. Consequently, the material is generally not suitable for such purposes as color comparisons, e.g., in determining subspecies. The collection is, however, of both historic and biological importance to the state, as well as constituting MSB’s oldest New Mexico bird skins.

One might ask why bird specimens are important, particularly ones taken in New Mexico in 1875-76. The answer is that such material provides positive, tangible and verifiable evidence of the occurrence of organisms at given times and places. For example, Stephens misidentified some of the species he collected, but these specimens allow us to correct such mistakes. In addition, the specimens provide material that can be reanalyzed over time, as advances in scientific methodology occur. For example, DNA could be extracted from Stephens’ specimens to determine how the genetics of populations or species may have changed in the last 120 years, an unheard of approach only a few years ago. Candidates for such analysis are specimens of such now-endangered, threatened or declining species as the aplomado falcon, yellow-billed cuckoo, buff-breasted fly-catcher, gray and Bell’s vireos, and McCown’s longspur.

MSB efforts are continuing to acquire other historic specimens of birds taken in New Mexico, mainly from museums in the eastern United States. Particularly targeted is material in collections in which New Mexico specimens are small, odd-lot, or otherwise unimportant components. In addition, also being sought is material in collections that may be at risk, mainly because of limited or declining support at the institutions housing them. It is a sad fact that even as the Earth’s biological diversity declines, so have the resources devoted to preserving exemplars of it for posterity. MSB certainly represents an exception to this trend, where the acquisition, curation and use of scientific specimens are recognized as essential elements to overall efforts for elucidating and conserving this diversity.

Dr. John Hubbard is a Research Associate in MSB’s Division of Birds.
ADVANCES IN MOLECULAR BIOLOGY of the past two decades have resulted in a scientific revolution affecting all subdisciplines of biology. Increasingly, some experience with laboratory molecular biology is requisite for biologists with diverse specializations. Because molecular-genetic research is having a direct and dramatic impact on the field of medicine, it is necessary to add physicians and other health professionals to the list of individuals who require training in laboratory molecular biology. Such training is difficult to provide, however, because it is expensive and labor intensive for instructors. Currently, most hands-on training in molecular biology takes place in research laboratories. Even when courses are available, the quality of training does not approach that obtained in a research setting. Unfortunately, in most institutions, hands-on training is available only to a small number of undergraduates.

In the Department of Biology at UNM, we have made excellent progress toward the goal of enriching undergraduate and graduate training in cell and molecular biology. In the past five years, we have obtained several major grants from the National Science Foundation (NSF) and the Howard Hughes Medical Institute to support graduate and undergraduate education in these areas. The Hughes grant supports two laboratory courses and also provides stipends and money for supplies for undergraduate researchers. One NSF grant provided funds to establish a shared-use Molecular Biology Facility, while another supports our current genome project efforts, known as the Neurospora Genome Project (NGP).

UNM falls within the NSF's definition of a minority institution, with approximately 30% of its students from underrepresented groups (primarily Hispanic and Native American). Our major current funding was, in fact, made possible by the Research Improvements in Minority Institutions Program of the NSF. The NGP will strive to include at least 50% women and minorities among the participants; based on previous successes with our undergraduate research programs, this is an entirely realistic goal.

The NGP at UNM began in the summer of 1994 as a Hughes-sponsored project with a single undergraduate researcher; the student, JASON MITCHELL, continued through the 1994-95 academic year. The number of participating students increased to two during the summer of 1995. During this past summer, we received funding from the NSF with substantial matching funds from UNM. This funding made possible the purchase of a state-of-the-art automated DNA sequencer. In addition, we now have a post-doctoral associate, two graduate assistants and six undergraduate researchers working on the NGP. We are now working to obtain funds to hire a technician, one additional graduate assistant and up to four more undergraduates. Our target is to have ten undergraduate researchers working on the NGP at a given time. Three graduate teaching assistants, a technician and one post-doctoral coordinator also will be employed in training and supervision.

Neurospora is a filamentous fungus that has long been and continues to be an important organism in genetic and biochemical research. This genus provides an essentially untapped resource for studies in comparative genetics (biosystematics, population biology, etc.). Hundreds of strains are available from world-wide collection efforts. In addition, the members of the genus are widely distributed, and collectively they exhibit a great deal of life-history diversity. There also are several practical laboratory considerations that make Neurospora an excellent candidate for a genome project driven by undergraduate research. First, the organism is easy to culture and maintain in the laboratory. Second, the laboratory methods required for sophisticated molecular-genetic experimentation are well developed and user-friendly.
friendly. Third, several genomic and cDNA libraries are readily available and in wide use in the Neurospora community. Fourth, a straightforward method exists for mapping cloned gene sequences even when the function of such sequences is unknown. This system is in widespread use and has an ever-growing data base. Finally, the community of Neurospora geneticists is given strong support by the Fungal Genetics Stock Center (FGSC) at the University of Kansas Medical Center; the FGSC serves as a repository for strains, cloned sequences and genomic libraries. By facilitating the exchange of information and strains, FGSC serves to maintain a friendly, cohesive community of Neurospora workers.

In the NGP at UNM, we obtain partial or complete nucleotide sequences from random cDNA clones (representing genes that encode expressed proteins). Computer-assisted similarity searches then are employed to determine whether a given sequence can be matched to a known gene from Neurospora or any other organism. Selected cDNA clones are labeled and used to identify cosmid clones carrying the genomic regions represented by cDNAs. This procedure links cDNA and genomic clones and identifies overlapping clones in the commonly-employed genomic libraries. Cosmid clones are labeled and employed to establish the chromosome map locations of the sequences in question. Currently, we are implementing procedures to identify cDNA clones representing poorly-expressed genes and genes expressed under special conditions (e.g., spore germination and mating). Our research eventually will expand to include efforts to identify a set of contiguous clones comprising the entire Neurospora genome.

Two important goals of the NGP are to increase the number of students receiving training in laboratory molecular genetics and to provide a program that can be sustained long term. Because students are working toward a common goal, this program has the additional advantage of allowing us to ensure exposure of each student to important methods and concepts. From a training point of view, this is an improvement over other undergraduate research programs through which students are assigned to laboratories with diverse interests.

The NGP's complexity provides challenges in administration, in data acquisition using the methods of molecular biology, and in computer-assisted data management and analysis. Our goal is to involve students in problem-solving and decision-making at all levels. By demonstrating success with the NGP, we will provide an example for other undergraduate-based research programs. The NGP's challenges for data management and distribution means our efforts will include development of mechanisms to communicate sequence information to Genbank; development or acquisition of software for analysis, storage and retrieval of chromosome mapping data and data concerning overlapping cosmid clones; and communication of the NGP progress through publications. It also will be important to coordinate efforts with members of the Neurospora scientific community and other genome projects.

The program's current directors are Drs. Donald O. Natvig, Mary Anne Nelson, Margaret Werner-Washburne and Robert D. Miller of UNM's Department of Biology. An advisory panel has been established from the community of fungal geneticists.

Hantavirus Studies

T he sudden outbreaks of Hantavirus Pulmonary Syndrome, Ebola and many other viral epidemics world-wide have led to a great deal of interest and research in the area of zoonotic diseases and their vectors. Currently there are long-term Hantavirus studies being conducted in Arizona, Colorado and New Mexico, as well as various short-term surveys throughout the United States. The Museum of Southwestern Biology (MSB), in association with the Centers for Disease Control and Prevention (CDC), is at the center of this Hantavirus research. Data and specimens from both southwestern and national research projects are being deposited in the Division of Biological Materials in the MSB. In addition to archiving research materials, we are currently running three, long-term Hantavirus monitoring sites here in New Mexico. Our first site is located adjacent to UNM's LTER station on the Sevilleta National Wildlife Refuge, about 20 miles north of Socorro, NM; this is a desert grassland site dominated by Honey Mesquite and One-seed Juniper. The second study site is located in Piñon-Juniper woodland, 15 miles north of Albuquerque, at the base of the Sandia mountains. Our third site is near Vanderwagon, NM, 20 miles south of Gallup, and is dominated by Piñon pine, One-seed juniper and Ponderosa pine.

These sites are composed of two or three specially designed rodent-trapping webs. Each web contains 148 Sherman Live Traps placed at numbered stations in a wagon wheel design; 12 lines radiate from a central point and cover a distance of 100 meters. There are 12 stations per line, one station every 5 meters for the first 20

(continued on p. 9)
Behind the Scenes
(& Nearly in the Basement, Too)

Karl Malivuk doesn’t immediately strike you as a technophile... perhaps a Marxist (his parents named him for that famous Karl), perhaps an itinerant carpenter (he spent 18 years driving nails), maybe even a professor (he’s got the uniform right: flannel shirts and wire-rimmed glasses) ... no, not a technophile and certainly not a certified Novell Computer Network Engineer. He gives too much eye-contact, he listens, he rarely says hexadecimal ... he can’t be a computer nerd.

Yet, if you watch Karl long enough, the telltale signs begin to appear. Yes, he has a portable computer so he can tweak the Departmental network from home ... on weekends ... at odd hours. Yes, he has a foot-high stack of computer magazines on his desk. And yes, the Departmental computer network always seems to crash just one or two days into whatever week Karl takes as vacation.

The “disconnect” (to use the kind of jargon he avoids) is that Karl’s training in conflict resolution clashes with his training in computer network administration. He is entirely too much of a Marcus Welby computer doctor. A Norman Rockwellian version of the harmless but quite helpful computer handyman.

Rather than a cloth bag of full pipe wrenches, he carries nothing in his hands. His fingers are thick from years of construction work, but are nimble enough to glide over the computer keyboard. While redressing your extended memory or reconfiguring your network card, he is more likely to be asking how you are doing than telling you which data compression tools are most used by corporate America. He is fond of saying things like, “When I started, the hardware technology changes were every 18 months, now it is 60 days.” He keeps repeating that just to keep you from feeling intimidated.

Karl personifies the impact of the computer revolution on the Department of Biology. In some ways we are all out of character. Mixing the impersonality of silicon with the folksiness of natural history has produced incongruities throughout the Department. Electronic bulletin boards are replacing paper memos and coffee pot gossip. Fruit flies are being replaced (though not eliminated) by high-speed computerized genetics labs. As a consequence, even the most diehard technophiles are becoming connected, sometimes kicking and screaming, to the Internet. The consequences are always the same. Part awe, part terror. “You mean people can pull files off my computer from as far away as New Zealand?” “Yes,” Karl nods, “and you can do the same to them.”

Who would have guessed in 1994 that in 1996 we would all want Home Pages on the World Wide Web is another of Karl’s oft-asked questions.

Karl is preparing the rest of us for the “Great Leap Forward.” We are all becoming equals on the Internet. There are no electronic elite, no bourgeoisie, at least not in Karl’s thinking. His vision is information to the masses, a minimization of the barriers to information flow, a sharing of resources. Unfortunately, unlike the entrenched bureaucracy produced by the philosophy of his namesake, this computer revolution is being carried forward by an office of one ... Karl. There simply is not the overhead to produce the kind of administrative structure that is required. “At least we will be nimble,” Karl says with a smile.

The debate raging within the Biology Department is: How to grow to meet future computational needs with strategic hardware purchases of today? How should computer hardware be distributed throughout the Department? Shall we allow graduate students (who seem to know everything) to drive computer purchases? Should undergraduate teaching take priority in the allocation of limited computer funds? Since it is research that generates monies for infrastructure improvement, why shouldn’t research needs drive network design? It is here that Karl’s people skills are taxed to the max. Forget conflict resolution. Sometimes Karl just looks for the reset button on particularly argumentative users. “Wouldn’t it be nice,” Karl says while pantomiming a search over a keyboard, “if some people could be rebooted with the keystroke Ctrl-Alt-Del?”

December 1995
Patty Ashby is a biology graduate student of Professor Eric Toolson who is completing her Ph.D. this year. Those who know Patty think highly of her as a person, a student and a biologist. Patty is a native New Mexican, born in Los Alamos. She entered the Biology graduate program with a B.A. in English Literature from UNM; she has also done some graduate work in Chinese philosophy in San Francisco, CA. Since arriving in our Department, Patty has been an active participant on various departmental committees. She is also an enthusiastic and excellent teacher, a fact recognized by our Department when it awarded her an Outstanding Teaching Assistant Award last year.

This year Patty received a UNM Dean’s Dissertation Fellowship Award, which provides one year of financial assistance to graduate students who are in the process of writing their dissertation, and consists of a stipend of $8,000 for the academic year.

Patty’s dissertation research concerns the fitness consequences of inter-individual variation in metabolism in the grasshopper, Xanthismus corallipes. She has studied six populations along an elevation gradient, measuring thermoregulation in the field and metabolism in the lab. She has strong evidence that one important function of thermoregulation is to maintain a constant mass-specific metabolic rate; that is, between populations, mass-specific metabolic rates do not differ despite large differences in mass and ambient conditions. As Dr. Toolson points out, Patty “has developed convincing evidence that her study organism has used its thermoregulatory ability to maintain constancy and integration of metabolic function during evolutionary adaptation to different thermal regimes. This result is contrary to a published hypothesis, long been assumed to be correct but never rigorously tested, that claims that metabolic rates of insects and many other ectotherms change dramatically during evolutionary adaptation to different habitats.”

Patty has also examined the effect of variation in metabolism on female fecundity (which can be determined by counting the number of rings of scar tissue left behind each time an egg passes into the oviduct). The age of adult grasshoppers is determined much like counting tree rings—using a polarized light microscope, the number of daily growth rings in the hind tibia are counted. Thus, the effect of age on egg number can be accounted for and controlled. Patty has found correlations between individual metabolism and fecundity, with the nature of the correlation differing between populations, suggesting that variation in selection is due to local conditions.

Patty’s other research interests include life history evolution, allocation of resources, enzyme kinetics, and complexity.

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Hantavirus (cont. from p. 7)

metabolism in the grasshopper, Xanthismus corallipes. She has studied six populations along an elevation gradient, measuring thermoregulation in the field and metabolism in the lab. She has strong evidence that one important function of thermoregulation is to maintain a constant mass-specific metabolic rate; that is, between populations, mass-specific metabolic rates do not differ despite large differences in mass and ambient conditions. As Dr. Toolson points out, Patty “has developed convincing evidence that her study organism has used its thermoregulatory ability to maintain constancy and integration of metabolic function during evolutionary adaptation to different thermal regimes. This result is contrary to a published hypothesis, long been assumed to be correct but never rigorously tested, that claims that metabolic rates of insects and many other ectotherms change dramatically during evolutionary adaptation to different habitats.”

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The purpose of these studies is to compile a long-term data set of rodent densities, viral prevalence, weather, climate and habitat physiognomy. These data will enable us to see relationships and patterns between rodents and viral elements that occur over a long period of time. We may then be able to better predict future epidemics and understand how viruses, their vectors and the environment are intertwined.

The Emerging Virus Program is under the direction of Dr. Terry L. Yates, UNM Biology Dept.
FACULTY HIGHLIGHTS

Mine Bat Habitat Research

Dr. J. Scott Altenbach, Professor of Biology, was hired in 1972 to teach the large Introductory Biology lecture courses, Biology 121 and 122. Comparative Vertebrate Morphology, Vertebrate Zoology and an innovative Introductory Biology for Non-Majors, "Biology for Living in the Next Century," later expanded the list. His success as a teacher was recognized by the Outstanding Teacher Award in 1983-84 and other teaching honors. In spite of a heavy teaching load, Dr. Altenbach continued his research on bat locomotor morphology and to take bat photographs that have received international acclaim. In 1991, he put the locomotor morphology research on hold and began a nonstop program to evaluate abandoned mines for significant use by bats in an effort to dampen the impact of an aggressive abandoned mine closure program on populations of several bat species. Many bat species have been displaced from traditional roosts by human activity, particularly recreational cave exploration and destruction of a variety of other kinds of habitat. Some abandoned mines provide an appropriate alternative habitat and have been used by displaced bats. Unfortunately, because abandoned mines can be hazardous to unwary humans, they have been subject to destruction on a national scale in the name of hazard elimination. In a cooperative program with the state of New Mexico, Scott has evaluated about 700 abandoned mines in the last four years; he has found some type of bat use in about half of them, and significant use in about 10 percent.

Many of those that have significant bat use have been closed with bat-compatible closures, which hopefully will provide "Noah's Arks" that may get some bat species into the next century and provide time to better protect their natural habitat. For these efforts, as well as other bat conservation efforts in New Mexico, Scott was presented the Nature Conservancy's Aldo Leopold award for 1995.

Dr. Altenbach continues to use his wonderful bat photography as a tool to enhance public awareness of bats. He has taken color photographs of all the bat species (all 43 of them) in the U.S. for a book, coauthored by Dr. Thomas Kunz, entitled Guide to the Bats of North America, due to be published in 1996. Posters featuring his color photographs, Bats of New Mexico and Bats of Idaho, were recently published, and the posters Bats of the Eastern United States and Bats of Ohio are due to be released in 1996.

Dr. Kate Vogel Wins Award

The American Academy of Orthopaedic Surgeons (AAOS) has designated Dr. Kathryn Vogel, Professor, as the recipient of the 1996 Kappa Delta award for Basic Research on the Musculoskeletal System. The award will be presented at the AAOS annual meeting in Atlanta in February, at which time Dr. Vogel will present her paper, "What Proteoglycan Content Says about the Mechanical History of Tendon," at a plenary session. Coauthors on the paper are two recent graduate students from the Biology Department, Stephen Evanko, Ph.D. (now at the University of Washington, Seattle) and James Robbins, Ph.D. (now at Harvard University, Boston). The research is focused on the ability of tendon cells to modify the composition and organization of the tendon extracellular matrix when the tissue is subjected to altered mechanical loads. These tissue changes may be a significant factor leading to tendon rupture or repetitive motion disease.

A major philanthropic interest of the Kappa Delta sorority has been to aid children affected by crippling disease. The award to Kate includes $15,000 to further her research. She has very generously decided to deposit this money with the Biological Society of New Mexico so it can also benefit graduate students in the Department.

Dr. Kate Vogel Wins Award
Dr. Roger Conant Wins Awards

Dr. Roger Conant, world renowned herpetologist and an Adjunct Professor in our Department since 1973 (see 1992 BSNM newsletter), has been awarded the 1995 Nature Educator of the Year Award by the Roger Tory Peterson Institute of Natural History (Jamestown, NY). In a ceremony this past July, 87-year-old Roger Tory Peterson, the most influential artist/ornithologist of the 20th century, presented the award to 86-year-old Roger Conant, considered by many to be the most important herpetologist of the 20th century. The goal of the Peterson Institute is to "create passion for and knowledge about nature in the hearts and minds of children by offering teacher training workshops, national forums, and publications." Dr. Conant was recognized for his outstanding Field Guide to Reptiles and Amphibians in the Peterson Series, now in its third edition, which has helped to educate thousands of people, young and old, about the natural history and captive husbandry of amphibians and reptiles. Countless youngsters over the years have visited the reptile houses designed and curated by Dr. Conant in the Toledo and Philadelphia Zoos, and Dr. Conant's Reptile Study merit-badge booklet for the Boy Scouts of America has been used by 200,000 Boy Scouts to earn a Reptile Study merit badge. Furthermore, Roger has personally encouraged many young people's interest in natural history by answering more than 15,000 letters of correspondence to him in his career.

Roger also was awarded this year the David S. Ingalls, Jr. Award for Excellence by the Cleveland Museum of Natural History.

Dr. Rob Miller, New Faculty Member

In the past few years, the Biology Department has lost three senior faculty members to retirement. In the last three years, we have conducted several faculty searches to replace these professors. Dr. Rob Miller officially joined our department in December 1994 after spending two years as a member of the Department of Immunology at the Scripps Research Institute in La Jolla, CA. Dr. Joanna Hogg, a postdoc with Rob at Scripps, also moved to UNM and is currently a Senior Research Associate in the department. After arriving at UNM, Rob recruited a long-time friend and colleague, George Rosenberg, to join his lab as a Research Associate. George arrived in May, moving to Albuquerque from Jülich, Germany.

Rob spent six years in Southern California, but is a native of Pennsylvania, receiving his BS in Microbiology from Penn State in 1983 and his Ph.D. from Thomas Jefferson University in 1988. Rob is an immunologist by training and has published in several areas of both cellular and molecular immunology, including papers on the regulation of autoimmune diseases and the genetic basis of immune deficiencies.

Recently, Rob's lab has focused their attention on comparative aspects of antibody genetics, studying development of immunocompetence in a marsupial model, the short-tailed opossum. One of the many attractions of moving to this department for Rob was the potential for interactions with colleagues such as Dr. Sam Loker in the area of comparative immunology. Rob and Sam are in the planning stages of a graduate course in comparative immunology to be taught in Spring 1997. In addition, Rob has been interested for several years in the population genetics of immunologically important genes in reptiles. This work began in collaboration with Dr. Ted Case at UC-San Diego and is developing into a logical continuation with fellow UNM Biology faculty member, Dr. Howard Snell.
Ann J.K. Bonnell (BS 1959) is a Seasonal Visitor Center Supervisor at the Roxborough State Park outside of Denver, CO. She is a volunteer naturalist at a number of local parks, a community environmental activist, and is involved in a number of bird population census activities.

Richard Bradley (PhD 1983) is an Associate Professor of Zoology at Ohio State University. He writes that he enjoys “bicycling, running, photography, gardening, birdwatching, hiking, canoeing, basically anything outdoors!”

Karen A. Carlberg (MS 1976, PhD 1981) is Professor and Chair of the Department of Biology at Eastern Washington University in Spokane.

Susan Rose Comfort (BS 1984, MD 1991) reports that her undergraduate interests in molecular biology and genetics are constantly being rekindled and that she is currently a resident physician in training to become a forensic pathologist. Susan recently completed a rotation in DNA typing using PCR-amplified DNA from various forensic samples; “I was very happy that my undergraduate work supplied me with the groundwork for being able to do this kind of work!”

Richard Dow (BS 1966, MS 1971) is a Certified Financial Planner, and the Regional Product Sales Coordinator of Dean Witter in Camarillo, CA. Rick enjoys scuba diving, skiing, fishing, high-school basketball, and world travel.

Brenda (Blea) Edeskuty (BS 1987) is currently a staff member of Water Quality and Hydrology at Los Alamos National Laboratory.

Cheryl Fossum Graham (BS 1968, MS 1970, MD 1978) is a Consultant on Clinical Research and Pharmaceutical Product Development in Rockville, MD. Cheryl enjoys reading, theater and “any outdoor adventure, e.g., biking, hiking, canoeing and watching soccer.”

Lynn Gottschling Gress (BS 1977) is working in industrial hygiene in Boise, ID.

Stephen Kucera (PhD 1993) is an Assistant Professor of Biology at the University of Tampa in Florida. Steve’s research focuses on the life cycle timing traits in insects, and he teaches introductory biology, genetics, and evolution. He enjoys playing soccer and ice hockey.

Esther Larsen (BS 1971) received her JD from the University of California in 1980, and is currently an attorney in private practice in Spokane, WA. She is the mother of three boys and the sole proprietor of Pine Bluff Farms, from which comes timber, sheep, fruit and poultry products. Esther enjoys skiing and bicycle riding.

James W. Lee (MA 1970) is a publisher living in Baton Rouge, LA. He enjoys birdwatching in the tropics.

Harold A. MacKay (PhD 1970) is retired, but still works as a consultant. He also volunteers his time with environmental agencies such as the EPA, USDA and national parks. He is involved with the revision of the Targhee National Forest management plan. He is building a new home and is still active in martial arts.

Marcel M. Mazzoni (BS 1987) is a physician practicing OB/GYN in Southfield, MI.

Barbara Nylund (BS 1965, MS 1969, MD 1976) (a PhD) is a gastroenterologist in private practice in Greenbrae, CA. She reports enjoying sailing, gardening and New Mexico history.

Nancy H. Park (BS 1974) received her MD degree in 1983 from the University of Pittsburgh. She is a physician in private practice in Coraopolis, PA. Nancy's interests include photography and nature/ ecology.
Alumni, Friends & Supporters

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Dr. Bruce A. Shaffer
Mr. David N. Steed
Dr. Stephen A. Stricker
Mr. Alex Wallace
Mr. Daniel Warren
Mr. Roy Whitson
Dr. and Mrs. Robert Woodmansee

Aimee Taylor Reynolds (BS 1990) is working as an environmental scientist for the Montana's Superfund Program to clean up hazardous waste sites. Aimee enjoys hiking, backpacking, mountain biking, cross-country skiing and travel. She reports that she is "coping without Mexican food, trying to find some herps in Montana, and enjoying the wildlife and beauty of Montana."

Lisa Somoz Robles (BS 1988) received her MD degree in 1993 and is now a resident physician in Chicago.

Elizabeth Roorbach (MS 1954) lives in Santa Fe, NM. She spends her retirement skiing, hiking, rafting, and teaching English as a second language (in addition to other various volunteer activities).

James L. Sands (BS 1953, MS 1956) is retired and spends his free time hunting, fishing, golfing and birding.

Christopher A. Schreiner (BS 1990) received his DVM in 1994 from Colorado State University. He is currently a veterinarian living in Albuquerque. He enjoys skiing, backpacking, traveling and his family.

Phyllis E. Schubert (BA 1970) received her MHS from Quinipiac College, Hamden, CT, in 1987. She has been the supervisor of the Clinical Hematology Lab in Albuquerque's University Hospital since 1989. In 1991, Phyllis was named the "Med Tech of the Year" for the state of New Mexico. Since 1994, she has been the President of the New Mexico Society for Clinical Laboratory Science.

Lyman B. Spaulding (MS 1968, PhD 1971, MD 1975) is a physician living in Englewood, CO. Lyman reports enjoying hiking, skiing, reading, theatre and movies.

Cydney Stewart (BS 1977, MS 1981, MD 1985) is an invasive cardiologist and lives in Canoga Park, CA.

Sylvia Tufts (BS 1967) received her MS and is currently a high school biology teacher. Sylvia's interests include wolves (and research on them) and arctic biology. She enjoys travel and hiking.

Elizabeth Ann Vencill (BS 1971) obtained a Medical Technologist license in 1973 and national certification by the American Society of Clinical Pathologists (ASCP). She has enjoyed a 24-year career as a hospital laboratory generalist, and is currently serving as a State Advisor & Legislative Liaison for ASCP's Associate Member Section. "By some stroke of fate," Elizabeth Ann writes, "I am a Multiple Sclerosis patient and therefore active in disability issues."

Gary Zahm (BS 1966) is a Refuge Manager with the US Fish & Wildlife Service in California since 1966. He "manages the San Luis NWR Complex (five refuges and two wildlife management areas); 84,000 acres, 16 habitat communities; 12 listed or proposed T&E and 19 candidate listed species; more than 200 species of migratory birds, including 37 of 55 neotropical bird species experiencing declines." He has also been a "professional nature photojournalist since 1974, with thousands of published credits."
The Biological Society of New Mexico is a tax-exempt organization under the New Mexico Nonprofit Corporation Act and the United States Internal Revenue Code. The object of the Society is to establish and maintain endowments, trusts, foundations, and other funds, all for the purposes of encouraging, fostering, and pursuing excellence in education in the Department of Biology at The University of New Mexico.

Tax-exempt gifts may be given with designation to be used for specific purposes, such as those identified below, as long as the purpose fits the objectives of pursuing excellence in biological education and research at UNM.

Donations and annual membership fees, unless otherwise specified, are placed in our Unrestricted Gift Account. These funds are used primarily to support both undergraduate and graduate student recruitment, research, travel to meetings to present papers, spring graduation, and awards for teaching excellence. In addition, we have many other accounts that may be of special interest to you.

L.D. Potter Endowed Chair in Plant Ecology
This chair, named in the honor of Loren D. Potter, who retired in 1985, recognizes and highlights the importance of plant ecological studies as they pertain to our natural resources. The current holder of the Potter Chair is Dr. Diane L. Marshall.

Melinda Bealmear Scholarship
Melinda Bealmear was a staff member in our Main Office, who died in a tragic car accident in October 1986. Our graduate students, faculty and staff, along with help from her parents Dorothy and Dale, established a scholarship fund in her memory.

We would like to accrue enough principal so that the annual interest could support the program of a needy graduate student in Biology.

Crawford Rio Grande Scholarship
Dr. Clifford Crawford's strong interest in the fate of New Mexico's central waterway and its riparian forest has led him, on his retirement in 1994, to establish a means of funding UNM graduate students whose research addresses this important topic.

Riedesel Physiology Fund
Dr. Marvin "Bud" Riedesel established this fund upon his retirement in 1994 for plant or animal physiology research and teaching equipment.

Rosalie F. Doolittle Scholarship in Botany
This scholarship was established in 1994 by Mrs. Rosalie Doolittle, a well-known gardening expert on the arid southwest. This scholarship is awarded annually to an outstanding New Mexico resident majoring in biology with an emphasis in botany, and may be awarded to the same undergraduate student in successive semesters until graduation.

Tropical Biology Fund
This fund was established last year. The goal is to have an endowment that will help defray the cost that our undergraduate students must pay when they enroll in courses that have out-of-state or out-of-country field trips.

Museum of Southwestern Biology—Mammals
The purpose of this account is to support all aspects of mammalogical research conducted by UNM Biology faculty and graduate students. This fund was developed by Drs. Jim Findley and Terry Yates to supplement state-appropriations and enhance research and teaching in mammalogy programs.

Museum of Southwestern Biology—Ornithology
Established by Dr. Robert Dickerman, the purpose of this account is to support all aspects of ornithological research by UNM Biology faculty and graduate students.

Arrangements for donations to other MSB divisions can be made with the MSB Director, Dr. Howard Snell.

Faculty Excellence Fund
We started this fund to support faculty travel to professional meetings where they present the results of their work.

Membership
Any person contributing $20 or more annually becomes a member of the Society and will receive the annual BSNM newsletter.

All membership contributions are tax exempt.
Please respond even if you can't contribute. If you haven't responded before, we'd really like to hear from you and learn about what you're doing. If you can help us financially, or with donations in kind, please let us know how you want your contribution used:

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Name ___________________________ UNM Degree(s) ___________ Year(s) ___________

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Complete Current Mailing Address ________________________________

Phone No. _______________ Current Occupation ______________________________

Fax No. _______________ E-mail Address ______________________________

Activities and interests: _______________________________________

THANKS FOR YOUR CONTINUED INTEREST & SUPPORT!!

Please mail memberships and contributions to:
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Secretary-Treasurer
The Biological Society of New Mexico
Department of Biology
The University of New Mexico
Albuquerque, NM 87131-1091

December 1995
APPENDIX O

GRADUATE STUDENTS & FACULTY ADVISORS
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### GRADUATE STUDENTS AND FACULTY ADVISORS 95-96

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APPENDIX P

SUMMARY OF & ACTION PLAN
RESULTING FROM FACULTY RETREAT
ONE PAGE SUMMARY OF THE MAJOR POINTS EMERGING FROM OUR DEPARTMENTAL RETREAT (18 NOVEMBER 1995)

1. **A DEPARTMENTAL THEME.** We decided that there was no need for a formal departmental theme. We did agree to recognize areas of strength (omitted to save space) within the department such that they could be used for recruiting and other purposes.

2. **CURRICULUM & RELATED MATTERS.** Our discussions focused primarily on the undergraduate curriculum because we perceive greater needs in this area. We focused on what the goals of our undergraduate program should be, and on how we can reduce the number of majors.

   Regarding goals, an extensive outline was provided by the Curriculum Committee. The core curriculum (Biology 121, 122, 219 & 221) is envisioned to provide a broad base for pursuing more in-depth studies at higher levels. We stressed the need for students to take this core in order, with the proper prerequisites, and in a timely manner. For higher levels, we need to provide more challenging, relevant and personalized learning experiences, preferably ones that provide as many students as possible a research experience. This process currently is hindered by lack of resources and by having too many majors. We also acknowledged the need to prepare our students to do better on the GRE exam.

   Much of our discussion focused on what to do with our burgeoning enrollment. We agreed in principle that we would like to accommodate all people with an interest in our program, but for us to do so would require acquisition of new resources from the state. We can demonstrate pressing needs for more faculty, more staff, more supplies and more space. Assuming such resources are not forthcoming, we decided that we must reduce the number of our majors to the college average of roughly 20 majors per professor. Several good ideas were brought up as to how a reduction in majors might be accomplished. As a related item, we also agreed to discuss further the need to reallocate existing resources, with the thought of providing better learning experiences at and above the sophomore level.

3. **FACULTY SIZE & COMPOSITION.** We decided that approximately 10 additional faculty were needed and could be easily justified if resources were available. However, we also decided that prior to pushing for such hires that we need to take better care of the department we already have. Better office and lab space, faculty salaries, staff lines, staff salaries, teaching equipment, and more teaching assistants are all urgent needs to be addressed before seeking net new faculty lines.

   If new faculty hires are forthcoming, we reaffirmed some old principles (strengthen cell/molecular biology without weakening established organismal programs; seek interactive and collaborative scientists; address pressing curriculum needs; no obligation to replace retirements in kind) and identified some possible areas for future hires.

4. **SUPER STAR HIRE.** Various pros and cons regarding the hiring of a National Academy caliber individual were discussed. There seemed to be mixed opinion about the desirability to pursue such a hire. We identified some possible individuals to consider further.

5. **MISCELLANEOUS ITEMS.** We considered whether to hire non-tenure track teaching faculty and whether staff performance and allocation of staff resources need to be monitored by the faculty.

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**A SUGGESTED ACTION PLAN TO FOLLOW UP ON OUR RETREAT**

Several specific items identified by the faculty taskforces and discussed at the retreat require follow-up action. In some cases, the action required is out of our hands and requires money to be forthcoming from the legislature. In other cases, however, there are specific things we can do to improve our own lot. Rather than provide a long list of tasks that could potentially dissipate our efforts, here is a focused list of high-priority
items over which we can exert considerable control. We suggest that small groups of motivated faculty and students be formed, working in conjunction with the Undergraduate Policy Committee, to provide specific recommendations regarding these items:

1. Devise ways to ensure that students take the core sequence in order and in a timely fashion. This will require coordination with the registrar and other offices in the university and with advisors at all levels.
   - We have been requested by Kathleen Sena from the Registrar’s Office to provide a list of approximately five courses for which we will screen students for prereqs/coreqs and concurrent enrollments, starting in the Fall.

2. Further discuss the advisability of limiting the number of majors and provide a phased-in and humane mechanism for accomplishing this. This is a delicate matter that has to be presented correctly or it could result in bad political fall-out or a cut in the resources we receive.

3. Further discuss the advisability of reallocating our resources to provide higher quality education at the sophomore level and above, and to coordinate these activities with efforts to raise funds (possibly via the Hughes program or NSF initiatives) to help accomplish this goal. Decisions made here will potentially impact other UNM programs, TVI and our branch campuses so can not be made in a vacuum.

4. Formulate a plan to improve the performance of our students on the GRE exam.

5. Reassess student advising so we can better inform them of our new procedures.

All of this can be discussed at an upcoming faculty meeting. You may decide at that time to delete some items from this suggested list and to add others.

Drs. Sam Loker and Terry Yates
15 February 1996
A. Significant Events During Academic Year 1994-95

The past academic year has been a very busy one for the Department of Chemistry. Continued effort has been directed toward the stabilization of the fragile situation with regard to the faculty which had been identified by the graduate program review team in 1993. This fragility has resulted from the ongoing and impending loss of many of the more senior faculty and the potential loss of some of the faculty hired in the course of building the program which has been underway for the past dozen years. Continued efforts have also been underway to provide the additional high-quality space which the review team strongly emphasized that the Department needed if the growth pattern of the preceding dozen years is to continue and the gains made to be consolidated. Fortunately, this was a good hiring year for Chemistry but still the gains were offset by the losses from the existing faculty.

2. Faculty

Several faculty personnel changes occurred during the course of this past academic year. We were successful in hiring Drs. Patrick and Debra Mariano from the University of Maryland. The Marianos are both senior organic chemists and both are well funded. The University allowed Chemistry to retain the overhead generated by the Marianos for the first three years in order to meet the fiscal conditions of their employment. This is an exceptional idea as it greatly minimizes the financial pain of dealing with large set-up packages. The Marianos will join the department in January of 1997.

The department was also successful in making two junior appointments. Dr. Ignacio Villegas and Dr. Deborah Evans will also join the faculty in August of 1996. Both of these young
people are strong appointments. Ignacio is an analytical chemist and he was our first choice of 300 applicants. Deborah is a computational chemist and she too was our first choice in the pool. The department was very successful with affirmative action goals as well. We were able to hire the very best candidates and land two women and an Hispanic.

The department lost the services of Professor Edward Walters as he has become an associate of Dr. Nasir Ahmed, the Associate Provost for Research and will no longer teach in our program. Professor Su-Moon Park announced his intention to retire in December of 1996. Professor Peter Ogilby confirmed that he will accept a position at Aarhus University in November of 1996 and Professor J. Vincent Ortiz has announced he will be leaving UNM in December of 1996 to become a faculty member at Kansas State University. Thus, although we were able to hire four new faculty members, we did not gain in numbers. Currently UNM's Chemistry department has the smallest faculty of any of the peer institutions so faculty numbers are a major concern. Walters and Ortiz are both physical chemists. Fritz Allen, who has just become chair is also a physical chemist. The department is critically short of faculty in this area and we are authorized to make an appointment in this area this coming year.

As a temporary solution to the problem of covering our classes, a search for a Lecturer was conducted during 1994-95. Although the number of applicants was very small, two people, Dr. Jack Houser and Dr. Dana Brabson, were hired from the pool and began assisting with our lower division instruction in Fall 1995. This solution has worked quite well and we are pleased with the quality of the lecturing in our freshman program.

3. Curriculum

With the exception of freshman chemistry which has been impacted by the teaching of these courses at TVI, the demand for chemistry courses continued to grow this past year. Response to this new demand has required the continuing addition of new laboratory sections in Quantitative Analysis, and Organic Chemistry. In Organic laboratory, we are now limited by the number of drawers of glassware which can be checked out to students. A number of the sections are offered in the evening, and on Saturday morning to make them available to the
growing number of non-traditional students who cannot attend the usual weekday/ daytime sections. The Saturday sections in Organic Chemistry Laboratory have been especially popular. The department has continued to offer an honors track for our B.S. majors. In the 96-97 academic year, Professor Ondrias will be on sabbatical at Los Alamos Scientific Lab. He has been offering Chem 131L-132L, the honors freshman course. In his absence, Professor David Keller will give these sections. Professor Holder will once again offer the honors Organic lectures, Chem 307-307. We feel the honors track is an important component of our curriculum. Professors Deck and Hampton-Smith continue to offer the course they began recently, Chem 415L, with excellent success.

The MEMS PROGRAM continues to be a successful approach to improving retention of undergraduate students in the freshman chemistry program. The Teaching Assistants who participate as leaders of the study groups that are a central aspect of the program have been excellent, and the students who have participated have benefited from the experience.

All classes offered by the chemistry department are listed in Appendix B.

4. Facilities

Professor Fritz Allen was appointed to be the Associate Chairman for Facilities during the past three fiscal years. He will continue in the position during the Fall semester of the upcoming year as well, but will take over as Chairman at the beginning of the Spring semester and integrate the two positions at that time. This appointment has provided a single person to oversee and coordinate the efforts to obtain new facilities, to oversee the current facilities, and to allocate the available space to those who are able to justify needing it.

Fritz Allen, under the auspices of his position as Associate Chairman for Facilities, submitted a proposal to the National Science Foundation for funds to renovate the Riebsomer wing of the building as well. Funding in the amount of $1.3 million was awarded late in the fiscal year. The matching funds request of $1.7 million required to claim the NSF funds plus an additional amount to improve handicapped accessibility in the building was considered by the Legislature in January 1994. The Legislature approved some funding from a budget surplus, but
the majority is to come from G.O. bonds approved by the electorate in November 1994. The funding was finally in place early in the Fall of 1995. This renovation began in December 1995, and will improve the quality and safety of the instructional and research laboratories in that wing. It will also represent a component of the work called for in phase 11 of the programming document for Chemistry space that was completed three years ago. The renovation is ongoing at the present time and while it is a major inconvenience, it will greatly improve the safety and functionality of our facilities. However, it will not provide the additional space required by the Department.

An alternative approach to resolving that problem was sought through continued consideration of the long-discussed Science and Technology Research Center. An agreement was reached among the chemistry faculty that, since the Research Center was the building the University seemed to be willing to build, we should seek the space we need in that building. Biology and Earth and Planetary Sciences were contacted and invited to participate in a joint use building providing needed space to those three departments. With this support, a proposal for planning funds for such a building was sought from the 1994 legislative session and $250,000 was provided. Planning carried out during FY 1994-95 and the first half of FY 1995-96 has led to an agreement with the Provost that these three departments and Computer Science will share the space created. However, how the space is to be divided amongst these users has been a source of considerable contention. The plan should be ready for presentation to the 1996 legislative session, but division of the space remains to be resolved until after it is determined what, if any, space will actually be constructed.

5. Graduate-Program

The Graduate Recruitment and Selection Committee was again very active under the leadership of Professor Robert Paine, the Associate Chairman for Graduate Recruitment, and succeeded in attracting average size group of new graduate students to the department for the coming year. The return to a larger class reflects the Committee's efforts to increase significantly the quality of students available to the graduate program. Other methods are being sought to alleviate the on-
going problem of needing to use graduate students who are less than fluent in English to teach undergraduate laboratories. Professor Christie G. Enke has agreed to serve as Associate Chair for Graduate Recruitment in the 96-97 academic year. The department is much in the debt of professor Paine who has acted in this capacity for many years. Appendix A summarizes the recruiting activities.

A tiny increase in the sum available for stipend support that was granted by the Dean has made it possible for us to offer $12,700 teaching assistantships for the class to enter in August 1995. This is a $50 increment. However, for the students entering in August of 1996, the stipend was raised to $13,500. This is a much needed improvement in the stipend if we are to remain competitive in the recruitment process. Dr. Joe Ho, the Laboratory Supervisor has continued his efforts to reduce the average number of laboratories each Teaching Assistant must teach from six per year to five per year. We have continued to guarantee the incoming graduate students a position for the summer and the best students are given added inducements in the form of Daub fellowships in the first year. Although our basic offer is still not as competitive as we would like it to be, the recent change in stipend represents major progress toward building a competitive graduate program. We are grateful to the Dean for his continuing support for our achieving this goal.

6. Undergraduate Program

We had our seventh annual departmental commencement following the general commencement ceremonies at the football stadium, followed by an elegant catered buffet luncheon served on our patio. This year we were not joined by the department of Biochemistry in our graduation ceremony. Over 100 graduates and guests attended, with Dr. Allen presenting certificates to those receiving the B.S., B.A., M.S. and Ph.D. degrees, and to award winners.

Our own undergraduate program produced a small but well prepared group of graduating majors this year. Several will attend graduate or professional schools this fall. Three male students earned a B.S. degree. Fifteen students, nine men and six women, including a total of seven Hispanics also earned the B.A. degree. In addition to these students who completed
chemistry degrees, twenty-one men and twenty-three women earned a minor in chemistry. At the graduate level, ten students earned the M.S. degree (two men and eight women, with two of the women Asian), and eight men, including four Asians and three Woman, including one Asian and one Hispanic, finished the Ph.D. degree. Individuals receiving degrees in Chemistry during the 1995-96 academic year are listed below.

**STUDENTS RECEIVING THE B.A. DEGREE IN CHEMISTRY 1995-96**

Lisa Benski
Pedro Calderon
Joachim Chino
Ricardo Gonzales
Haley Hawkins
Breanna Lackey
Pierre Rija
Timothy Vandejagt

**STUDENTS RECEIVING THE B.S. DEGREE IN CHEMISTRY 1995-96**

Jacob Kaizennnan
Neil Soice

**STUDENTS COMPLETING THE M.S. DEGREE IN CHEMISTRY 1995-96**

Michele Berkey
Adrian Groenendyk
Evangelina Hodge
Gwynne Osaki
Rong Xie

**STUDENTS COMPLETING THE DOCTOR OF PHILOSOPHY DEGREE IN CHEMISTRY 1995-96**

Zsolt Bencze
Ming Cai
Tuqiang Chen
Charles Daitch
Baochen Fan
John Garvey
Fei Liu
Bertha Ortiz

July 1995
December 1995
December 1995
May 1996
May 1996
May 1996
July 1995

Prof Philip D. Hampton
Prof Su-Moon Park
Prof Robert T. Paine
Prof Philip D. Hampton
Prof Mark R. Ondrias
Prof Mark Hampden-Smith
Prof Christie G. Enke
Prof Su-Moon Park
The Department, with Professor Lorraine Deck serving as Principal Investigator, was awarded a continuing renewal of the grant from the National Science Foundation under its Research Experiences for Undergraduates program to host promising undergraduate students for summer research. As in the past, we conducted a national search in the Spring and selected ten students to work intensively with a faculty member for nine weeks during summer. We will track these students in the future so that we will know how our program ultimately affects their future careers.

7. Seminar Program

Once again, the Department was provided with a strong seminar schedule (Appendix C) under the guidance of Vince Ortiz.

8. Research Equipment

The department continued its aggressive efforts to add to its experimental research equipment base. Major pieces of departmental equipment (more than $10,000 in cost) acquired during the reporting year are a UV/Vis/NIR double beam scanning spectrophotometer at $34,500 and a High Performance NMR Spectrometer System at $328,000.

9. Budget

The buying power of the department's budget continues to wane. Fortunately, during FY 1994-95, some flexibility could be created in the staff budget due to the resignations which occurred. Through careful rebudgeting of those funds, the Department was again able to stay almost within its budget this past year. Even so, the department accounts have a large negative balance. This is primarily due to unreimbursed set-up costs. The department is due considerably over $100,000 for these expenses. The funds returned to the Department to compensate for the added cost of
supplies purchased through ChemStores when its budget was separated from that for Chemistry have helped a little bit to improve flexibility, but as prices continue to rise, that flexibility will be lost. Among the costs that must now be met which were not even considered when the S&E budget was established is the cost of disposing of certain chemicals and the cost of shipping. For some chemicals, the cost of shipping can now be several times the cost of the chemical itself. Another demand which now represents a huge fraction of the budget is the purchase of liquid nitrogen to be turned into high purity gas for operating instruments and provide a non-oxidizing atmosphere for chemical reactions. The department is trying to get this demand under control, but the need for the gas is quite legitimate in many cases.

10. ChemStores

The ChemStores operation continues to run smoothly under the guidance of Mr. Carl Hilton. Despite the continued increase in the cost of supplies for scientific research and teaching, the entire campus community continues to benefit from Carl's skill at negotiating outstanding prices each year. He is continually adding new lines of wares such as certain administrative supplies.

11. Personnel and Governance

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 the end of June 1996.

The Director of Undergraduate Studies and Chair of the Undergraduate Curriculum Committee and the Awards Committee during the academic year was the Associate Chair for Undergraduate Programs, Professor Mark R. Ondrias in the Fall semester and these duties moved to Professor Lorraine Deck for The Spring semester as Ondrias prepared for his sabbatical in 1996-97. The Director of Graduate Studies and Chair of the Graduate Studies Committee was Professor Thomas Niemczyk. Other faculty standing committees that were active this year include Executive, 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.

12. Glass Blowing Shop

The Glass Blowing Shop which is managed by the Chemistry Department has accrued a large deficit over the last few years. An audit was performed by the University Auditors and more stringent accounting procedures were put in place. The ultimate solution seems to be merging the glass shop with Chemstores. The management will likely improve as will the accounting and billing procedures. I expect that by next year we will have stopped the losses in the shop and begun to turn a profit.

B. Significant Plans and Recommendations for the Future

We will continue to use our annual faculty retreat in August, before classes begin, to refine our goals and aspirations for the future. At this time, several major issues are apparent. The three most important are faculty recruiting and retention, continued work on the acquisition of new space and changing the perception of our department within the University. We also need to continue to address the issue of how to cover our large lower division and organic chemistry courses as retirements among those carrying heavy teaching loads continue to be common over the next few years. In addition to continuing to hire untenured Assistant Professors, we plan to continue to explore other options, such as teaching faculty, hiring teams (perhaps married couples) for one position with a view to getting extra teaching, etc. Although some faculty oppose the use of Lecturers, this seems to be a temporary method for providing a person who will carry a heavy undergraduate teaching load over a multi-year commitment.

We will continue to press the central administration for approval of, and a high priority for, our plans for additional research space. Frustration is high at our inability to have our needs for space met through construction of the already programmed new wing for Clark Hall, but it is possible that our needs can be met via the Science and Technology Research Center discussed above. Our inability to attract sufficient students into the sciences and to retain the ones who
begin a major in a scientific field has become a national crisis. During the coming year we will continue to try to expand the MEMS programs goals to provide opportunities for success in chemistry courses for more advanced students. A major reexamination of the curriculum is being undertaken by the Undergraduate Committee. Out of this, a more attractive, but still scientifically rigorous curriculum is expected to arise.

C. Appointments to Staff

Ms. Anna Morrato, Department Administrator
Dr. Kuang-chui (Joe) Ho, Lab Director
Ms. Sandra Franks, Accountant
Mr. Leonard Soblick, Accountant
Ms. Julie Dunagan, Editorial Assistant III
Ms. Cheryl Essery, Junior Glass Blower

D. Separations

Ms. Eva Quesnell, Editorial assistant III, resigned

Ms. Monica Anaya, Accounting Clerk, was terminated

Ms. Sandra Franks, Accountant, resigned

Ms. Ruby Ju, Analyst, retired

Ms. Nancy Boldt, Lab Director, resigned

E. Sponsored Research

Our faculty continued to seek and obtain outside research funding at a very high level. Of the seventeen faculty, 12 held one or more active grants or contracts during the 1995-96 academic year. This past year saw 30 new awards having a combined value of $1.4 million dollars in the department, exclusive of grants that are administered through research centers. In addition, 41 new proposals having a combined value of $4.3 million were submitted by 18 investigators from the department. 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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Undergraduate Program

STUDENTS RECEIVING THE B.A. DEGREE IN CHEMISTRY 1995-96

Lisa Benski
Pedro Calderon
Joachim Chino
Ricardo Gonzales
Haley Hawkins
Breanna Lackey
Pierre Rija
Timothy Vanderjagt

STUDENTS RECEIVING THE B.S. DEGREE IN CHEMISTRY 1995-96

Jacob Kaizerman
Neil Soice
Alexander Satz

STUDENTS COMPLETING THE M.S. DEGREE IN CHEMISTRY 1995-96

Michele Berkey
Adrian Groenendyk
Evangeline Hodge
Gwynne Osaki
Rong Xie

Dinorah Frutos
Ling Han
Robert Jones
Stacey Smith
Christine Zawodzinski

STUDENTS COMPLETING THE DOCTOR OF PHILOSOPHY DEGREE IN CHEMISTRY 1995-96

Zsolt Bencze
Ming Cai
Tuqiang Chen
Charles Daitch
Baochen Fan
John Garvey
Fei Liu
Bertha Ortiz
Angela Sower
Travis Wade
Bojie Wang

July 1995
December 1995
May 1996
May 1996
May 1996
July 1995
December 1995
July 1995
July 1995

Prof. Philip D. Hampton
Prof. Su-Moon Park
Prof. Robert T. Paine
Prof. Philip D. Hampton
Prof. Mark R. Ondrias
Prof. Mark Hampden-Smith
Prof. Christie G. Enke
Prof. Su-Moon Park
Prof. Nora Perrone-Bizzozero
Prof. Richard M. Crooks
Prof. Peter R. Ogilby
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# APPENDIX A

**APPLICATIONS RECEIVED FOR GRADUATE STUDY IN CHEMISTRY**

**U.S. CITIZENS**

1995-96

APP - APPLICATIONS RECEIVED  
APR - APPLICATIONS APPROVED  
DIS - APPLICATIONS DISAPPROVED  
INC - APPLICATIONS INCOMPLETE  
DEC - APPLICATIONS APPROVED BUT DECLINED OFFER

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## APPLICATIONS FOR GRADUATE STUDY IN CHEMISTRY
### FOREIGN CITIZENS
#### 1995-96

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### Semester

- F: Fall
- S: Spring
- SS: Summer Session
- I: Independent Study

### Statistics

- Undergraduate Upper Division: 112 courses, 366 CR Hrs
- Undergraduate: 2372 courses, 5699 CR Hrs
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Sub-Total Graduates

GRAND TOTAL - ALL STUDENTS

FACULTY AND STAFF OF THE DEPARTMENT OF CHEMISTRY

PROFESSORS:

<table>
<thead>
<tr>
<th>Name</th>
<th>Degree</th>
<th>Year</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALLEN, Fritz S.</td>
<td>Ph.D.</td>
<td>1969</td>
<td>University of Illinois</td>
</tr>
<tr>
<td>ENKE, Christie G.</td>
<td>Ph.D.</td>
<td>1959</td>
<td>University of Illinois</td>
</tr>
<tr>
<td>HAMPTDEN-SMITH, Mark</td>
<td>Ph.D.</td>
<td>1984</td>
<td>London University</td>
</tr>
<tr>
<td>HOLDER, Richard W.</td>
<td>Ph.D.</td>
<td>1970</td>
<td>Yale University</td>
</tr>
<tr>
<td>MORROW, Cary J.</td>
<td>Ph.D.</td>
<td>1970</td>
<td>Tulane University</td>
</tr>
<tr>
<td>NIEMCZYK, Thomas M.</td>
<td>Ph.D.</td>
<td>1972</td>
<td>Michigan State University</td>
</tr>
<tr>
<td>OGILBY, Peter R.</td>
<td>Ph.D.</td>
<td>1981</td>
<td>University of California, Los Angeles</td>
</tr>
<tr>
<td>ONDRIAS, Mark R.</td>
<td>Ph.D.</td>
<td>1979</td>
<td>Michigan State University</td>
</tr>
<tr>
<td>ORTIZ, Joseph V.</td>
<td>Ph.D.</td>
<td>1981</td>
<td>University of Florida</td>
</tr>
<tr>
<td>PAINE, Robert</td>
<td>Ph.D.</td>
<td>1970</td>
<td>University of Michigan</td>
</tr>
<tr>
<td>PAPADOPOULOS, E. Paul</td>
<td>Ph.D.</td>
<td>1961</td>
<td>University of Kansas</td>
</tr>
<tr>
<td>PARK, Su-Moon</td>
<td>Ph.D.</td>
<td>1975</td>
<td>University of Texas, Austin</td>
</tr>
<tr>
<td>WALTERS, Edward A.</td>
<td>Ph.D.</td>
<td>1966</td>
<td>University of Minnesota</td>
</tr>
</tbody>
</table>

ASSOCIATE PROFESSORS:

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<th>Name</th>
<th>Degree</th>
<th>Year</th>
<th>Institution</th>
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</thead>
<tbody>
<tr>
<td>KELLER, David</td>
<td>Ph.D.</td>
<td>1984</td>
<td>University of California-Berkeley</td>
</tr>
<tr>
<td>MCLAUGHLIN, Donald</td>
<td>Ph.D.</td>
<td>1965</td>
<td>University of Utah</td>
</tr>
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</table>

ASSISTANT PROFESSORS:

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<th>Name</th>
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</thead>
<tbody>
<tr>
<td>DECK, Lorraine</td>
<td>Ph.D.</td>
<td>1989</td>
<td>University of New Mexico</td>
</tr>
<tr>
<td>EVANS, Deborah</td>
<td>Ph.D.</td>
<td>1995</td>
<td>University of Pittsburgh</td>
</tr>
<tr>
<td>HAMPTON, Philip D.</td>
<td>Ph.D.</td>
<td>1989</td>
<td>Stanford University</td>
</tr>
<tr>
<td>KIRK, Martin L.</td>
<td>Ph.D.</td>
<td>1991</td>
<td>University of North Carolina</td>
</tr>
<tr>
<td>VILLEGAS, Ignacio</td>
<td></td>
<td>1991</td>
<td>University of Georgia</td>
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EMERITUS PROFESSORS:

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<th>Name</th>
<th>Degree</th>
<th>Year</th>
<th>Institution</th>
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</thead>
<tbody>
<tr>
<td>CATON, Roy D.</td>
<td>Ph.D.</td>
<td>1963</td>
<td>Oregon State University</td>
</tr>
<tr>
<td>HOLLSTEIN, Ulrich</td>
<td>Ph.D.</td>
<td>1956</td>
<td>University of Amsterdam</td>
</tr>
<tr>
<td>LITCHMAN, William</td>
<td>Ph.D.</td>
<td>1965</td>
<td>University of Utah</td>
</tr>
<tr>
<td>SCHAFFER, Riley</td>
<td>Ph.D.</td>
<td>1967</td>
<td>University of Chicago</td>
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VISITING FACULTY:

<table>
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<th>Name</th>
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<tr>
<td>FALKENBERG, Kenneth</td>
<td>M.S.</td>
<td>1972</td>
<td>University of New Mexico</td>
</tr>
</tbody>
</table>
POSTDOCTORAL AND RESEARCH FELLOWS:

BURANDA, Tione, Ph.D. 1992 Wayne State University
CHEN, Tuqiang 1995 University of New Mexico
CID-AGUERO, Pedro, Ph.D. 1992 University of New Mexico
FRANKE, Fransiska, Ph.D. 1992 Rensselaer Polytechnic Institute
JASPER, Steve, Ph.D. 1995 Indiana University
JI, Qinchung 1996 Michigan State University
KUNZE, Klaus P., Ph.D. 1988 Universitat des Saarlandes
SCURLOCK, Roger, Ph.D. 1988 University of New Mexico
ZAKJEVSKI, Viatcheslav, Ph.D. 1979 Institute of New Chemical Problems Academy of Sciences, USSR

ADJUNCT PROFESSORS:

ALAM, Todd Research Assistant Professor
CAMPBELL, David Lecturer III
DORKO, Ernest Adjunct Professor
ENGLEMAN, Rolf, Jr. Adjunct Professor
HAALAND, David Adjunct Professor
ROWE, Robert Adjunct Assistant Professor
SHELNUTT, John UNM/SNL Adjunct Professor
STALLARD, Brian Adjunct Assistant Professor
WHALEY, Thomas Adjunct Associate Professor

APPENDIX D
FACULTY AND STAFF OF THE DEPARTMENT OF CHEMISTRY

RESEARCH SCIENTIST:


SMITH, Karen An, Ph.D., 1984, University of Illinois - Oversees, maintains, and operates the Department's NMR spectrometers, trains students and faculty in their use, and consults with faculty and students concerning the solution of chemistry problems using NMR.
CHEMICAL ANALYST:

JU, Ruby, K.Y., B.S., 1956, University of Illinois - Does analyses of chemicals 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 across the campus.

INSTRUMENTATION TECHNICIAN:

HARTSWICK, Lewis - Electronics Facility Manager, repairs and maintains instrumentation.

SHAHVAR, Hoshang, B.S., 1981, University of New Mexico - Manufactures state of the arts electronic equipment as requested by faculty and graduate students.

OTHER STAFF:

ADAMS, Ron, Computer Network Technician II - Performs local Area Network, World Wide Web and stand-alone PC hardware and software support.

BAUER, John - Lab Technician III - Performs multi-step tests, analyses, results of experiments, specimens and samples and provides support to students in learning and functional activities within the lab setting.

BUSH, Gary, Laboratory Technician III - Performs multi-step tests, analyses, results of experiments, specimens and samples and provides support to students in learning and functional activities within the lab setting.

CANO, Daniel, Laboratory Technician III - Performs multi-step tests, analyses, results of experiments, specimens and samples and provides support to students in learning and functional activities within the lab setting.

ESSERY, Cheryl, Jr. Scientific Glassblower - Assist the Sr. Scientific Glassblower in the construction and maintenance of glass apparatus for chemical, electronic and ultra-high vacuum use for UNM and the University of New Mexico.

FRANK, Sandra, Accountant - Prepares documents relating to contract/grant purchases. Maintains all contract/grant accounting records.
OTHER STAFF:

GILLESPIE, Dorothy, Department Secretary/Receptionist - Arranges schedules for visitors. Student-Faculty liaison.

HARGIS, Barbara J., Accounting Technician - Prepares documents relating to department purchases. Maintains spending records

HILTON, Carl, C.R.L.S. Operations Manager II - Responsible for the overall operation of C.R.L.S. including budget, buying and inventory control and EPA/OSHA regulations and compliance.

MORRATO, Anna, Department Administrator - Manages, controls and supervises the fiscal system, daily administrative operations and assists the Chairman with departmental matters.

PENHALL, Michele, Storekeeper III - Prepares sale invoices, inventory entries and places orders while overseeing the receiving and proper stocking and delivery of orders.

STANLEY, Kriss, C.R.L.S. Laboratory Facilities Coordinator - Assists Department and UNM personnel with all aspects of ordering, receiving, billing and inventory of chemicals. Responsible for all computer operations in C.R.L.S.

UTTERBACK, Koelle, Program Coordinator - Assists graduate and undergraduate students.

APPENDIX C
DEPARTMENT OF CHEMISTRY
UNIVERSITY OF NEW MEXICO
SEMINAR SPEAKERS
1995-1996

25 August 1995    Dr. Shashi Karna, Seiler Laboratory, U.S. Air Force Academy
                  Theory and Modeling of Nonlinear Optical Materials

01 September 1995 Dr. S. Atlas, Los Alamos National Laboratory

15 September 1995 Dr. H. Noth, Universitat Munchen, Germany
                  Low Coordination in Boron and Aluminum Chemistry
APPENDIX C
DEPARTMENT OF CHEMISTRY
UNIVERSITY OF NEW MEXICO
SEMINAR SPEAKERS
1995-1996

29 September 1995  Professor Kristen A. Peterson, New Mexico State University
Vibrational Dynamics in Proteins: Experimental Studies Using a Picosecond
Infrared Free-Electron Laser

06 October 1995  Professor Richard L. Wells, Duke University
Pathways to Nanocrystals of Gallium Arsenide and Related III-V
(13-15) Compound Semiconductors

20 October 1995  Professor Edward C. Lim, University of Akron
Structure and Excited-State Dynamics of Aromatic Clusters

27 October 1995  Dr. G. Trucks, Gaussian, Inc.

03 November 1995  Professor M. Chisholm, Indiana University

15 November 1995  Professor Debra Dunaway-Mariano, University of Maryland
The Emergence of Phosphonates as an Important New Class of Bioactive
Compounds

01 December 1995  Dr. P.J. Hay, Los Alamos National Laboratory
Theoretical Studies of Zeolite Catalysis and Semiconductor Chemistry

06 December 1995  Dr. Hayashita, Sage University, Japan
A New Strategy in the Design of Highly Selective Metal Ion Receptors

08 December 1995  Dr. O. Eisenstein, CNRS, France
16 Electron Osmium Complexes: Structural Variety and NMR Quantum
Exchange

08 January 1996  Professor John Vaughey, Iowa State University
Structural Control in Solid State Chemistry

11 January 1996  Dr. Ignacio Villegas, Purdue University
Probing Chemical Interactions at Electrode/Solution Interfaces with
Molecular Resolution: Some Current Strategies
APPENDIX C
DEPARTMENT OF CHEMISTRY
UNIVERSITY OF NEW MEXICO
SEMINAR SPEAKERS
1995-1996

16 January 1996
Dr. Watson Lee, Harvard Medical School
Molecular Studies on the First Two Enzymes in Biosynthesis of the Peptidoglycan Layer of Bacterial Cell Walls: MurA and MurB.

18 January 1996
Dr. Paul Selvin, University of California, Berkley
Recent Advances in Resonance Energy Transfer: Lanthanide Luminescence; Single Molecule Detection

22 January 1996
Dr. Cather Simpson, Sandia National Laboratories
A Spectroscopically Correct Classical Forcefield for Metalloporphyrins

02 February 1996
Professor Richard Eisenberg, University of Rochester

09 February 1996
Professor Michael D. Hopkins, University of Pittsburgh
Conjugation in Transition-Metal Chemistry

16 February 1996
Dr. Robert E. Huie, National Institute of Standards and Technology
The Kinetics and Mechanisms of the Reactions of SH and NH₂ with O₂

23 February 1996
Professor John P. Fackler, Jr., Texas A&M
Gold, An Element with Extraordinary Powers

01 March 1996
Dr. Steve Overbury, Oak Ridge National Laboratory
Structure of Surfaces by Low Energy Alkali Ion Scattering: Growth and Sulfidation of Ultra-Thin Metal Layers on W and ZnO

08 March 1996
Professor Lucas Lathouwers, University of Antwerp, Belgium
Generic Methods in Quantum Molecular Dynamics and How-To-Use a Supercomputer to that end

21 March 1996
Professor John F. Holland, Michigan State University
New Approaches to Gas chromatography for High Speed Mass Spectrometry Detection
APPENDIX C

DEPARTMENT OF CHEMISTRY
UNIVERSITY OF NEW MEXICO
SEMINAR SPEAKERS
1995-1996

22 March 1996  Professor Harry Allcock, Pennsylvania State University
Inorganic Elements in Polymers: Design and Synthesis of New Material

29 March 1996  Professor John Nixon, University of Sussex
Phospha-Alkynes, RCP, New Building Blocks in Organometallic Chemistry

05 April 1996  Professor David VanderJagt, University of New Mexico
The Chemistry of Diabetic Complications

12 April 1996  Professor Jack Norton, Colorado State University
Origin of Stereochecmistry in the α-Amino Acid Esters and Amides
Generated from Optically Active Zirconazaaziridine Complexes

19 April 1996  Professor Matthew Zimmt, Brown University
There and Back Again: Probing Electronic Coupling Pathways

26 April 1996  Professor John W. Kenney III, Eastern New Mexico University
Magnetic Circular Dichroism Spectroscopy of Metal-Doped Rage Gas
Solids-Experimental and Theoretical insights

02 May 1996  Dr. Deborah Evans, University of Tel Aviv
Simulation of Photoinduced Electron Transfer and Electron Transmission
Thin Films

03 May 1996  Professor Steve D. Gammon, University of Idaho
Why Does a Chemistry Department Need a Faculty member in Chemical Education?

06 May 1996  Dr. Celeste Rohlfing, Sandia National Laboratories, Livermore
Quantum Studies in Materials and Combustion Research

09 May 1996  Dr. Marcel Nooijer, University of Florida
New Developments in Open-Shell Coupled Cluster Theory

14 June 1996  Professor Berthold Fischer, Ruhruniversity Bochum, Germany
Molybdopterin: A Reactive Molecule in Search of a Function
APPOINTMENTS TO STAFF:

ESSERY, Cheryl, Jr. Scientific Glassblower
FRANKS, Sandra, Accountant
MORRATO, Anna, Department Administrator

CHANGES TO STAFF PERSONNEL:  No changes to Staff Personnel.

SEPARATIONS:  ANAYA, Monica, Accounting Technician, resigned from the Department to accept another position within the University.

JU, Ruby, Chemist, retired from the Department on 31 May 1996.

RESEARCH EQUIPMENT:

Major pieces of equipment (more than $10,000.00 unit price) acquired during the reporting year:

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<th>Equipment Description</th>
<th>Unit Price</th>
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<td>UV/VIS/NIR Double Beam, Monochromater Scanning Spectrophotometer</td>
<td>$34,500.00</td>
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<tr>
<td>HI Performance NMR Spectrometer System</td>
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CONVOCATION CEREMONY 11 MAY 1996
UNDERGRADUATE AWARDS

Natasha Barnes
Leslie Chavez
Gavin Conant
Andrew Kurtz
Theresa Martinez
Yue Yu
Karen Millan
April Martinez
Helen Johnson
Kim Meadows
Alexander Satz
Jacob Kaizerman
Christopher Blackwood
Alicia Fuller
Robert Curtis
Jessica Swanson
Steven Turner
Daniel Banas
Breanna Lackey
Benjamin Padilla
Johnnie Pete

CRC Handbook
CRC Handbook
CRC Handbook
CRC Handbook
CRC Handbook
CRC Handbook
Merck Index
Merck Index
Charles Leroy Gibson Award
Ann Kahn Award
Ann Kahn Award
Mike Millican Award
Paul Mozley Award
Paul Mozley Award
Riebsomer Award
Riebsomer Award
Riebsomer Award
Dean Uhl Award
Dean Uhl Award
Dean Uhl Award
Dean Uhl Award

GRADUATE AWARDS

Luis Espinoza
Steve Meserole
May Nyman

Al Schnoebelen Award
(Clark/Person Award
Smith Dow Award
(for outstanding graduate student)
(for outstanding teaching assistant)
(for outstanding graduate student)
ANNUAL REPORT
University of New Mexico
DEPARTMENT OF COMMUNICATION AND JOURNALISM
Everett M. Rogers, Chair
JULY 1, 1995-JUNE 30, 1996

The past year saw the continued growth of the Department of Communication and Journalism at the University of New Mexico in three specific ways (1) external funding for its research and training projects, (2) the launching of its Doctoral Program in Intercultural Communication, and (3) its efforts to meet increased pressures for enrollment in its undergraduate courses in Communication and Journalism.

The Department was created in 1991 with the merger of the former Department of Journalism, founded in 1947, and the Department of Communication, founded in 1949. This merger led (1) to sharply increased enrollments in the Department's courses and a major enlargement in the number of students majoring in Communication and in Journalism, (2) to an expansion of the Department's funded research program, from a few hundred thousand dollars per year to about a million dollars per year in 1995-1996, and (3) to a new Doctoral Program with a specialization in intercultural communication, founded in 1995.

UNDERGRADUATE STUDIES IN COMMUNICATION AND JOURNALISM

The Department offers two undergraduate degrees: (1) a BA in Communication, with sequences in organizational communication, interpersonal communication, intercultural communication, and rhetorical communication, and (2) a BA in Journalism and Mass Communication, with sequences in print journalism, broadcast news, broadcast management, advertising, and public relations. The 500 majors in the Department include some 300 in Communication, and 200 in Journalism and Mass Communication. Some 125 students receive BA degrees in the Department each year.

More than 30 percent of the Department's Journalism majors are minorities, mainly Hispanics and Native Americans. This
figure is one of the highest proportions of minority students in Journalism and Mass Communication in a U.S. university today, according to annual surveys of departments and schools of journalism. Assistant Professor Diana Ríos serves as the Department’s Coordinator of Minority Affairs.

In 1995-1996, the Department of Communication and Journalism had the largest unfilled demand for its undergraduate courses of any department at UNM. The University’s ITEL (a telephone registration system) identified 251 students who could not enroll in courses that were filled to capacity and closed in Spring Semester, 1996. More than 2,550 students enrolled in the Department’s courses in Spring 1996, another new record. So about 10 percent of the students who wished to enroll in the Department’s courses could not do so. This problem occurred during a year in which the University of New Mexico lost about 2 percent of its total enrollment. The University provided special funding for three additional course sections in Spring Semester, and for six additional courses that will be added in Fall, 1996. The courses with the most pressure for expanded enrollment are C&J 130, Public Speaking; C&J 151, Writing for the Mass Media I; C&J 221, Interpersonal Communication; C&J 270, Communication for Teachers; C&J 323, Nonverbal Communication; and C&J 325, Intercultural Communication.

Dr. Jean Civikly-Powell, Associate Chair of the Department, coordinates course scheduling, directs efforts to improve the effectiveness of the Department’s teachers, and chairs the selection committee for part-time instructors (adjunct professors). She also directs the training program for teaching assistants (TARC) and international teaching assistants (ITAs), programs provided by the Department on a University-wide basis. Civikly-Powell’s training of TAs is assisted by Teaching Assistants Elaine Raybourn and Jennifer Spencer. Professor Civikly-Powell also oversees the Department’s Mediation Clinic, which is directed by Kathy Dominici.

Dr. Civikly-Powell and Professor Tom Jewell were awarded a
University Teaching Allocations Grant of $2,500 for a project to create a series of videotapes for teaching purposes. Civikly-Powell and Jewell, with the help of ten students, are creating 12 videotaped scenarios, each five to eight minutes in length, that depict principles of interpersonal communication. The final product of this project will be an instructional training videotape for teachers of interpersonal communication, accompanied by an instructor’s video guide that will include scripts, the concepts that are illustrated, suggested discussion questions, follow-up class exercises, and potential test questions.

Dr. Civikly-Powell has also received an Effective University Instruction Research Grant of $2,500 from Eastern New Mexico University for research on teaching predicaments of faculty and teaching assistants that are experienced or of concern. Data have been gathered from 137 faculty members and 92 teaching assistants. Civikly-Powell has developed five videotaped scenarios, each with three alternative endings. Results of this project have been presented at UNM and at the National Conference on the Education and Employment of Teaching Assistants.

Professor Hank Trewhitt coordinates the Department’s annual student exchange program with German mass media institutions, in which a dozen majors in Journalism and Mass Communication travel to Germany each summer for a tour of German newspapers, and radio and television systems.

Professor Tom Jewell directs the UNM Forensics Program, which continued its winning ways in 1995-1996. Jewell was assisted by two Teaching Assistants, Christina Wise and Ann Johnson. Jewell also serves as the coordinator of student internships for the Department, and teaches courses in persuasion, interpersonal communication, and the senior seminar.

At the first tournament of the 1995-1996 debate season, held at the University of Utah, the team composed of freshman Mari Herrera and sophomore Adrianne Sloman took third place out of the fifteen regional teams that were competing. The next tournament,
held at the University of Nevada–Las Vegas, had sophomores Jessica Clark and Jackson Stalley placing fifth in a national field of 35 teams. Clark and Stalley went on to take first place honors at San Diego State University’s field of 30 teams, fifth place at the University of Texas (35 teams), fifth place at the University of Utah’s Great Salt Lake Invitational (25 teams), and 20th at the Dixie Classic at the University of Michigan (105 teams).

At the District IX Qualifier, which includes universities from Utah, Wyoming, Idaho, Colorado, Arizona, New Mexico, and West Texas, UNM qualified two teams to the National Debate Tournament (NDT) for the first time in UNM history. Clark and Stalley placed 26th among the 72 teams qualifying for this prestigious national tournament, which was the 50th Anniversary of the National Debate Tournament. This event was held at Wake Forest University.

Considering that the UNM debaters are freshman and sophomore in 1995-1996, and that an excellent class of incoming freshmen are anticipated for next year’s team, the future for the UNM debate team looks bright.

Professor Bob Gassaway serves as Associate Chair and Director of Undergraduate Studies, a position formerly held by Professor Fred Bales until mid-1995.

FACULTY PERSONNEL CHANGES

Professor Diane Furno-Lamude was on sabbatical leave in Spring Semester, 1995. Professor Jack Condon returned in February, 1995 from teaching at International Christian University, in Tokyo. Professor Janice Schuetz was on leave during Spring Semester, 1995, at the University of Minnesota.

Dr. Peer Svenkerud, a recent Ph.D. from Ohio University, was appointed Visiting Assistant Professor in Fall, 1995, and Joe Day was appointed Lecturer II for the 1995-1996 academic year. Dr. Richard Schaefer, formerly on the faculty at Texas A&M University, was appointed Assistant Professor effective Fall,
1996. Professor Fred Bales will be on sabbatical leave during Fall Semester, 1996.

HONORS AND AWARDS

Suruchi Sood, a doctoral participant and Teaching Assistant in the Department, was recognized for her outstanding teaching ability in Spring, 1996, when she received the International Communication Association Outstanding Teaching Assistant Award. Both Sood and Mark Gilboard, an MA student and Teaching Assistant, were nominated for 1995-1996 Awards for Outstanding Teaching Assistants at the University of New Mexico. Janet Shiver, an MA student and Teaching Assistant, won this award in Spring, 1995.

Professor Fred Bales, formerly Associate Chair for Undergraduate Studies, received the University’s 1995 Award for Service to Students. Dr. Jean Civikly-Powell received the University’s 1995 Presidential Teaching Fellow Award for 1995-1996 and 1996-1997. She was also appointed to serve as the Program Coordinator of the University’s New Faculty Orientation, "Teaching-Wise."

An Honors Program for majors in Communication and in Journalism who will have at least a 3.5 grade point average at the time of their graduation was activated in 1995. These students receive a BA degree *cum laude, summa cum laude*, or *magna cum laude*. Jennifer Kemp and Wolfram Koehler received BA degrees *magna cum laude* in 1995.

Dr. Everett M. Rogers was named the Ludwig Erhard Professor at the University of Bayreuth, Germany, where he will give a series of lectures on the diffusion of innovations in summer, 1996. Rogers was awarded an honorary doctorate by the University of Munich in March, 1996. Rogers received the Gerald M. Phillips Award for Distinguished Applied Communication Scholarship, from the Speech Communication Association at its San Antonio convention in November, 1995. In July, 1995, Rogers received the Thomas Jefferson Award from the Technology Transfer Society.

Dr. Nagesh Rao was presented the Outstanding Teacher of the
Year Award by the University of New Mexico in May, 1996.

SUMMER INSTITUTE IN INTERCULTURAL COMMUNICATION

Professor Jack Condon has participated in the Portland Summer Institute in Intercultural Communication for the several decades since its founding at Stanford University. In 1995, Condon was joined by Professors Nagesh Rao and Peer Svenkerud, who also served on the staff of the Institute. All three will teach at the 1996 Summer Institute, along with Ev Rogers. Rao, Svenkerud, Rogers, and Corinne Shefner-Rogers will offer a course on Cultural Factors in Health Communication. Condon will teach a one-week course on Japanese Patterns of Communication: Mindscapes and a New Paradigm of Dynamic Inbetweenness, and a one-week course on Hispanic/Latino Patterns of Communication. Some 800 participants are expected at the 1996 Summer Institute. Several MA and doctoral students in the Department have participated, and/or plan to participate, in the Portland Institute.

DOCTORAL PROGRAM IN INTERCULTURAL COMMUNICATION

The most important single development in the Department during the past year was the launching of the Doctoral Program in Intercultural Communication, with the admission of six doctoral "participants" in August, 1995:

1. Bill Hart, MA in International Relations, American University.
2. Karyn Scott, MA in Public Administration, University of New Mexico.
4. Elizabeth Chestnut, MA in Communication, University of New Mexico.
5. Ann Marie Mayer, MA in Communication, Purdue University.
6. Elaine Raybourn, MA in Communication, University of Miami.

These Doctoral participants were immediately involved in
teaching introductory communication courses (such as C&J 101, Introduction to Communication; C&J 221, Interpersonal Communication; and C&J 240, Organizational Communication), as members of various research teams in the Department, and in enrolling in six core courses: C&J 528, Statistical Methods, Fall, taught by Nagesh Rao; C&J 600, Communication Theory: History and Philosophy, Fall, Ev Rogers; C&J 601, Communication Theory Construction, Spring, Ken Frandsen; C&J 628, Quantitative Research Methods, Fall, Bob Gassaway; C&J 625, Advanced Intercultural Communication Seminar, Spring, Jack Condon; and C&J 638, Qualitative Research Methods, Spring, Brad Hall.

The doctoral participants played an important role in planning their Doctoral Program, including deciding that they would be called "participants," rather than doctoral students or doctoral candidates. Doctoral participants served as voting members of Department committees on faculty hiring, budget, graduate studies (including admissions), computer equipment, etc.

In the 1996-1997 academic year, the six second-year doctoral participants will move into teaching more advanced courses (such as C&J 325, Intercultural Communication), and to playing key roles in the Department's funded research projects. The second year of doctoral study emphasizes course specialization, and the third year stresses dissertation research.

The Doctoral Program in Intercultural Communication admitted the following individuals for Fall 1996:

2. Andrew Lovato, MA in Communication, University of New Mexico.
3. Shaheed Mohammed, MA in Communication, University of Windsor.
4. Brent McCall, MS in Biblical Studies, Abilene Christian University.
5. Sheena Malhotra, MA in Communication, Pepperdine University.
7. Tomoko Masumoto, MA in International Policy Studies, Monterey Institute of International Studies.

The UNM Doctoral Program in Intercultural Communication utilizes the tri-cultural setting of New Mexico in a variety of ways. For example, Professors Bob Gassaway, Jack Condon, and Peer Svenkerud led the doctoral participants in November, 1995 on a three-day field trip to observe a culturally-appropriate drunk driving prevention program in San Juan County, NM; a trading post at Two Grey Hills; the media policies of the Navajo Nation, headquartered in Window Rock, to encourage language and culture transmission; and Acoma (Sky City), NM. In Spring, 1996, Professor Condon and his C&J 625 (Advanced Intercultural Communication Seminar) participants traveled (1) to Santa Fe for a conversation with Dr. Edward T. Hall about the origins of the field of intercultural communication, (2) to Taos in order to visit the Taos Pueblo and the Taos Telecommunity Plaza, an electronic communication system, and (3) the El Paso area to observe U.S./Mexico border problems.

Doctoral participants Bill Hart and Elaine Raybourn played a key role, with Professors Jack Condon, Nagesh Rao, Ev Rogers, Peer Svenkerud, Brad Hall, and Diana Rios, in designing a new freshman-level course, C&J 125, Communication Across Cultures, which will be taught at UNM beginning in 1997. This course deals primarily with understanding the three cultures of New Mexico. A goal of this course is to assist students of diverse backgrounds in their first-year adjustment to campus life.

Doctoral participants during 1995-1996 presented papers at the Speech Communication Association (where Elaine Raybourn received a Top Three Paper Award) in November, 1995 in San Antonio; the Texas Communication Conference in Lubbock in February, 1996; the 1996 Central States Communication Conference
(where Ann Mayer received a Top Paper Award); the 1996 Western States Communication Association in Pasadena; the Theory and Research on Culture and Communication Conference at California State University Fullerton, in March, 1996; and the International Communication Association Conference in Chicago in May, 1996.

The Doctoral Program was ranked as the number one doctoral program in intercultural communication among U.S. universities in a ranking survey conducted by the Speech Communication Association in 1996. These rankings were made by 38 "experts" (scholars particularly knowledgeable about doctoral programs in communication). Some 457 communication scholars ranked the UNM Doctoral Program as tied for third in intercultural communication. The rankings placed the UNM Doctoral Program in the second quartile of all doctoral programs in communication theory and research, organizational communication, applied communication research, and instructional communication, and in the fourth quartile in rhetorical communication.

MA PROGRAM IN COMMUNICATION

The objective of the Department was to launch its new Doctoral Program in 1995 without lessening its existing MA Program in Communication. The number of individuals enrolled in the MA Program has remained at about 40, of which about 15 are supported as teaching assistants and/or research assistants. Most of these individuals came to UNM with BA degrees from various universities in the United States and in Latin America, Africa, Asia, and Europe. Some 14 individuals accepted admission to the MA Program for Fall, 1995; 7 for admission in Spring, 1996; and 19 individuals were offered admission for Fall, 1996.

The MA Program provides specialization in the five areas of the Department’s academic strength: Mass communication, intercultural communication, organizational communication, rhetorical communication, and interpersonal communication. In recent years, the Department has gained considerable strength in health communication.

MA students from the University of New Mexico presented
papers at the International Communication Association, the Speech Communication Association, and the Western States Communication Association.

Recruitment to the Department's graduate programs was facilitated by a seven-minute videotape, produced by Professor Estelle Zannes, and hosted by MA student Jim Stowers. Copies of the video are made available on request, particularly in response to requests from individuals interested in the MA or Doctoral Programs.

In February, 1996, the Department of Communication and Journalism established its web site on the World Wide Web. As of early April, 1996, the Department's web site had been accessed more than 183 times. The web site is designed to provide information to prospective students, current students and faculty, and scholars interested in the research that we conduct. The web site currently contains information about the Department (such as research projects, faculty information, and course descriptions and listings), information about the University of New Mexico (such as a link to Libros), and information about Albuquerque (such as links to web sites about the City of Albuquerque, local media, and relocation help). The Department's web site was developed by Bill Hart, a doctoral participant, and faculty members Bob Gassaway, Ken Frandsen, and Miguel Gandert. The Department's web site can be accessed at the following address: http://www.unm.edu/~wbhart/unmc&j/unmcjhmmp.html.

During 1996-1997, the Department will establish an MA Program in Communication at the UNM North Branch Campus at Santa Fe. Professors Steve Littlejohn and Jim Barker offered graduate-level courses at the Santa Fe Campus in 1995-1996. In Spring, 1996, 41 individuals expressed interest in applying to the Department's MA Program at Santa Fe. Requirements and admission procedures are the same as on the Main Campus.

The following MA theses in Communication were completed or are nearing completion.


UNM MEDIATION CLINIC

Kathy Domenici, an MA graduate of the Department and a part-time instructor, with Professor Jean Civikly-Powell, and with assistance from Adjunct Professor Stephen Littlejohn, established the UNM Mediation Clinic in 1994. It provides a program in teaching, service, and research. Domenici teaches an undergraduate course in the Department, C & J 330, Mediation, which is offered each semester to train mediators. The Clinic serves the UNM community, including students, faculty, administrators, and staff in mediating conflict situations. The UNM Mediation Clinic seeks to advance understanding of the mediation process. Mediation involves interpersonal communication between disagreeing parties, assisted by mediators who act as nonjudgemental facilitators of communication. The Mediation Clinic provided workshops on mediation both on-Campus and to the New Mexico Commission for the Blind at Alamogordo, the
UNM Valencia Campus, the UNM Natural High Program, and the New Mexico Study and Research Council. Forty student-mediators from elementary schools will visit the Mediation Clinic in May, 1996.

FUNDED RESEARCH PROJECTS

The Department of Communication and Journalism at the University of New Mexico has been uniquely successful in recent years in obtaining funded research projects. At present about half of the Department’s faculty member are involved in these funded projects, and several additional proposals are in preparation or under review. The research projects provide research assistantships and research opportunities for MA and Ph.D. students. Eight MA and Ph.D. students were supported on research projects in the past year. Doctoral participants learn the important skills of designing successful research proposals.

One key to success is through collaborative arrangements with other organizations that share a mutual interest in our projects. At present, the Department’s research projects represent collaboration with:

1. The Department of Communication, Michigan State University, East Lansing, MI.
2. The School of Interpersonal Communication, Ohio University, Athens, Ohio.
3. POFLEP (Population and Family Life Education Programme), a research center located in Arusha, Tanzania.
5. IC² Institute, University of Texas, Austin, TX.
6. CASAA (Center for Alcohol, Substance Abuse, and Addictions), University of New Mexico.
7. SHRI (Southwest Hispanic Research Institute), University of New Mexico.
8. Mothers Against Drunk Driving (MADD), Albuquerque.
9. Los Alamos National Laboratory, Los Alamos, NM.
11. Bernalillo County Department of Environmental Health,
Albuquerque.

12. Prevention Research Center, University of California at Berkeley.

In addition to a variety of scholarly research projects that are carried out by individual faculty members, graduate students, and undergraduate students, the following funded research projects are presently underway:

1. EFFECTS OF MADD VICTIM IMPACT PANELS ON DRUNK DRIVING.

This research project, funded by NIAAA (National Institute for Alcoholism and Alcohol Abuse) is now in its second of three years. Dr. Gill Woodall is Principal Investigator, Dr. Everett M. Rogers and Dr. Phil May (Director of CASAA) are Principal Co-Investigators, Dr. Michele Polacsek is Project Director, and Dr. Nagesh Rao, Rick Burris, Research Associate; Naewon Kang and David Diamant, Research Assistants, and Elaine Hunt, Project Secretary, are involved in this project. This communication research evaluates the effects of Mothers Against Drunk Driving (MADD) Victim Impact Panels (VIP) on first-time DWI (Driving While Intoxicated) offenders. Do the Victim Impact Panels deter future drinking and driving on the part of first-time DWI offenders in Albuquerque? This research question is particularly important in New Mexico, which leads the nation in the rate of alcohol-related traffic fatalities.

A monthly VIP consists of several victims making dramatic, emotional presentations about the impacts that a DWI crash has had on their lives. A presenter may break down during a VIP presentation while describing how her/his child was killed in a drunk driving crash. Panelists do not blame the DWI offenders who attend the Panel. Instead they describe the consequences of drinking and driving, and urge the audience members to accept responsibility for their drunk driving.

This research project follows first-time DWI offenders for two years in order to determine the longer-term effects of the VIPs on recidivism. The first-time DWI offenders are randomly assigned either (1) to receive the VIP training, or (2) not to
receive this training. Both treatment and control group receive training of a more informational nature, in the form of a court-mandated DWI School, which consists of six training sessions dealing with the physiological effects of alcohol, the New Mexico DWI law, etc. At present, we are beginning personal re-interviews with the approximately 500 DWI offenders one year after their VIP training session, in order to determine the lasting effects of the highly emotional VIP session.

The characteristics of DWI offenders in Albuquerque set them off from the general population. Some 80 percent are males, minorities are overrepresented, and many are in working class occupations. Most state, immediately following the VIP training, that they will not drink and drive again. Our yearly re-interviews with these respondents and our tracking of their driving record in the computerized state data-base will provide an improved understanding of their drunk driving recidivism. Our randomized experiment is made possible through cooperation with the judges of the Albuquerque Metropolitan Courts.

2. SAN JUAN COUNTY DWI EXPERIMENT.

During 1995-1996, Professors Gill Woodall, Everett M. Rogers, and Nagesh Rao, and Elaine Raybourn, Research Assistant, and Rick Burris, Research Associate, began a related research project on preventing repeated drunk driving, which is carried out in San Juan County (Farmington, NM), site of a unique 28-day training program. Since January, 1995, the approximately 750 DWI offenders per year in San Juan County are sentenced to spend 28 days in a special facility, where they receive Alcoholics Anonymous and other training to encourage sobriety. This training continues for several months after release from incarceration, and their behavior is monitored by staff members of the San Juan County Program.

During the first year of operation of this Program, a recidivism rate of 2 percent was achieved, much lower than the 12 percent recidivism of first-time DWI offenders in the year following their arrest in New Mexico. One reason for the
reported effectiveness of the San Juan County 28-Day Program may be its cultural appropriateness. Some 70 percent of the DWI offenders are Native Americans, mainly Navajo. Program staff include Navajo counselors, monitors, etc. The training includes a sweat lodge, talking circles, and other culturally-appropriate activities. Our research will determine the effectiveness (1) of this culturally-appropriate training, and (2) of a MADD VIP on the DWI offenders in the San Juan County Program.

The 28-day program in San Juan County was modified from a similar program that had been conducted in Prince Georges County, MD. Presently, the 28-day program is diffusing from San Juan County to McKinley County (Gallup) and to Doña Anna County (Las Cruces, NM). We expect to investigate the horizontal diffusion process through which the San Juan County 28-day Program spreads to other sites.

3. TECHNOLOGY TRANSFER IN THE UNITED STATES AND JAPAN.

This research project began by investigating technology transfer from government R&D laboratories to private companies in the U.S. and in Japan. How are technological innovations developed in government R&D labs commercialized by private companies into useful products and services that are sold in the marketplace? In both Japan and the United States, technology transfer from government R&D laboratories enhances international competitiveness, which is the driving force for policy emphasis on technology transfer issues in recent years. Our research was supported by the UNM Japan Center (about $20,000 per year in 1994-1995 and 1995-1996), and by a multi-year grant from the Mitsubishi International Corporation, San Francisco of $97,000 per year.

During 1995-1996, we mainly studied two technology transfer processes in New Mexico:

(1) Technology Transfer via Spin-Off Companies: We investigated the formation and growth of spin-off companies from the three Federal R&D laboratories in New Mexico. Such spin-offs from a Federal R&D lab are one means of transferring
technological innovations. We identified about 70 spin-off companies from Sandia National Laboratories, Los Alamos National Laboratory, and the Air Force Philips Laboratory, and conducted case studies of several of these spin-offs. We also conducted case studies of three high-tech spin-off companies in Japan, where the spin-off phenomena is rare.

(2) Technology Transfer via Cooperative Research and Development Agreements (CRADAs). CRADAs are a Federal mechanism for technology transfer which link a government R&D lab with a private partner. We gathered data about several hundred CRADAs in which New Mexico’s three Federal R&D labs were partners.

Everett Rogers is Principal Investigator of this research, and Manabu Eto (in 1994-1995) and Kazuo Kurihara (in 1995-1996) are Visiting Research Scientists (both are career officers in MITI, the Japanese Ministry of International Trade and Industry); Marcel Allbritton, Research Assistant; and Karyn Scott, Research Assistant, are involved. Dr. Elias Carayannis of the UNM Anderson School of Business collaborates in this research, as does Dr. David V. Gibson of the IC² Institute at the University of Texas at Austin. Gibson conducts similar research on technology transfer through spin-offs and CRADAs at the NASA Ames Center in Mountain View, CA; the NASA Johnson Space Center in Houston; and at Oak Ridge National Laboratory near Knoxville, TN.

A progress report (Kurihara, Rogers, Allbritton, and Carayannis, 1996) with a summary in Japanese, is available upon request, as are several papers from this project.

4. UNIVERSITY-BASED RESEARCH CENTERS.

During 1996, the research program on technology transfer, described above, focused on the process of technological innovation and technology transfer from university-based research centers. A total of 57 research centers were identified at the University of New Mexico, and personal interviews are being conducted with their directors by Professor Everett M. Rogers; Dr. Brad 'J' Hall; Kazuo Kurihara, Visiting Research Scientist; and Marcel Allbritton and Karyn Scott, Research Assistants. This
first phase of our research on university-based research centers will be followed, during 1996-1997, by a detailed study of six of these research centers. The UNM scholars have proposed a comparative research project on research centers with Professor David V. Gibson, IC² Institute at the University of Texas at Austin, and with Professor James W. Dearing, Department of Communication, Michigan State University.

The University of New Mexico has doubled the amount of externally funded research in the past 10 years to $188 million. Almost all of this increase occurred through its 59 research centers, about half of which were established in the past five years. The typical research center at UNM was founded by a scholar-entrepreneur; is multi-disciplinary (in that faculty and graduate students from more than one academic department are involved) in nature, and serves as a boundary-spanner between the university and the organizations (such as private companies, Federal R&D labs, and state and Federal agencies) that provide funding, and that expect to employ UNM graduate students trained by the research center, and to exploit the technological innovations that are developed.

Little past research has been conducted on the role of university-based research centers, despite their important role in the functioning of the research university. No attention has been paid to the role of research centers in the transfer of technological innovations. Several of the research centers have high-tech spin-offs, and one research center has four spin-off companies.

5. HIV/AIDS PREVENTION PROGRAMS IN SAN FRANCISCO AND BANGkok.

A two-year research project in San Francisco was funded at $237,000 by the U.S. Agency for Health Care Policy and Research (AHCPR), and was carried out in collaboration with five scholars in the Department of Communication at Michigan State University: Dr. James W. Dearing, Principal Investigator, Dr. Geoffrey Henderson, Dr. Gary Meyer, Mary K. Casey, and Michelle (Shelly) Campo. Principal Investigator for the UNM Project was Everett M.
Rogers. Dr. Nagesh Rao and Research Assistant Gary Betts at the University of New Mexico participated in the research.

San Francisco has the highest death rate due to AIDS of any city in the world, and today has the most effective HIV/AIDS prevention effort. Some 100 programs are targeted at unique audiences of high-risk individuals. We gathered data through personal interviews and by other means with 40 administrators of the 20 most effective, and least effective, HIV prevention programs in San Francisco, in order to understand the programs’ communication strategies, which are based on the diffusion of innovations model, and the social marketing model.

We investigated the most highly targeted HIV prevention programs in San Francisco, which were aimed at unique populations characterized by at least five uniqueness factors (for instance a program directed at young gay Vietnamese immigrants who are commercial sex workers and injection drug users, has six uniqueness risk factors). Program staff, often share the unique characteristics of their intended audience, and many are HIV positive. Such homophily with the programs’ audiences leads to credible messages that are appropriate in language and in cultural meanings.

A summary report from this research project is available on request, as is an article in Communication Research on the impacts of the AIDS epidemic in San Francisco (Rogers, Dearing, Rao, Mayer, Casey, Campo, and Betts, 1995). Another article from the San Francisco Project, dealing with the use of diffusion theory and social marketing theory by HIV/AIDS prevention programs, is forthcoming in the Journal of Health Communication.

The San Francisco model of HIV/AIDS prevention, centering on programs targeted to unique audiences, is being applied by other cities in the world where the AIDS epidemic poses a very serious threat. Professor Peer Svenkerud conducted his dissertation research (for his Ph.D. degree at Ohio University) in Bangkok in 1995 as a replication and extension of the San Francisco Project. Bangkok has a very high rate of HIV/AIDS infection, which mainly
occurs through heterosexual contact involving commercial sex workers. The city is a key node in the international transmission of HIV/AIDS because of the large number of foreigners who visit the red light district of Bangkok.

As in the San Francisco study, Svenkerud found that cultural appropriateness characterized the more effective prevention programs in Bangkok, although the typical program was much less targeted to unique populations than in San Francisco. Several papers about the Bangkok study by Svenkerud and Dr. Arvind Singhal are available, as well as papers comparing cultural factors in HIV/AIDS prevention programs in San Francisco and Bangkok, by Svenkerud and Dr. Nagesh Rao and Dr. Peer Svenkerud.

Dr. Rao and other scholars in the Department are presently designing research on HIV/AIDS prevention programs in Madras, India, another city strongly impacted by the AIDS epidemic. Ev Rogers has been appointed as a consultant to UNAIDS, the newly established United Nations agency in Geneva that is concerned with the international spread of AIDS.

6. THE ENTERTAINMENT-EDUCATION STRATEGY FOR FAMILY PLANNING AND HIV/AIDS PREVENTION IN TANZANIA.

The two-year broadcasts of a 205-episode entertainment-education radio soap opera by Radio Tanzania began in July, 1993. Funding was provided by the UNFPA (United Nations Population Fund), with technical assistance in implementing the entertainment-education strategy by Population Communications International (CPI) of New York. "Twende na Wakati" (Let's Go with the Times) deals with family planning and with HIV/AIDS prevention in Tanzania. The Tanzania Project is the first entertainment-education soap opera whose effects are evaluated by a quasi-experiment over time in which one area of Tanzania (Dodoma) with a population of 3.5 million people does not receive the radio broadcasts, while the rest of the nation (with a population of about 23 million) receives the radio broadcasts.

This effects research is led by Dr. Everett M. Rogers, and involves Dr. Peter Vaughan, Dr. Nagesh Rao, Dr. Peer Svenkerud,
and Research Assistants Rima Montoya, Krista Alford, Suruchi Sood, and Ramadhan Swalehe. Swalehe is presently completing his M.A. in Communication at UNM, supported by a $15,000 grant from the UNFPA. Swalehe is the Technical Director of POFLEP (Population and Family Life Education Programme) in Arusha, Tanzania, with whom the UNM communication scholars collaborate in the research project. We gathered data from a sample of 3,000 Tanzanian households in 1993, prior to the broadcasts, in 1994, and in mid-1995, when the two years of radio soap opera broadcasts terminated. The entertainment-education soap opera is now broadcast for two years in the Dodoma (control) area. The third year of the radio soap opera is being broadcast in the rest of Tanzania. We gather data on the effects of "Twende na Wakati" from new adopters of family planning at 79 Ministry of Health clinics in the treatment and control areas.

A progress report from the Tanzania Project, and several papers, are available on request. Funding for the Tanzania Project is provided by the Lang Foundation ($10,000), the Rockefeller Foundation ($99,750), the Weyerhaeuser Family Foundation ($50,000), and the UNFPA ($117,000).

The Tanzania Project led to a similar research design in China, scheduled to begin during 1996, with a control group in Shansu Province that will be utilized to measure the effects of the television soap opera, "Ordinary Chinese People," which deals with family planning and HIV/AIDS prevention. Funding for this research is provided by the Ford Foundation to Dr. Arvind Singhal at Ohio University. Ev Rogers serves as a consultant to the evaluation research in China, and also to a field experimental study of the effects of a radio soap opera, "Tinka Tinka Sukh" (Little Pleasures), whose broadcasts began in February, 1996. This research is led by Arvind Singhal and Peter Vaughan, and is conducted in collaboration with the Centre for Media Studies in New Delhi, directed by Dr. Bhaskara Rao.

7. CULTURAL MAINTENANCE AND THE MASS MEDIA FOR HISPANIC AUDIENCES
IN NEW MEXICO.

Dr. Diana Ríos, with support from the Southwest Hispanic Research Institute (SHRI) and the Center for Regional Studies (CRS), investigates the effects of the mass media on culture change and preservation among Spanish and Mexican heritage people in the Albuquerque area. Professor Ríos' research explores how Spanish/Mexican heritage audiences use the mass media for cultural maintenance and for cultural assimilation. The Albuquerque Project is a comparative analysis with Ríos' previous investigation in Austin, Texas.

Diana Ríos also investigated the effects of viewing "Like Water for Chocolate," a Mexican film which women around the world find relevant to their personal lives. Ríos compared the film’s impacts on Mexican/Spanish and Anglo/American women viewers in New Mexico.

8. SUBSTANCE ABUSE PREVENTION.

Dr. Gill Woodall is the Principal Investigator and Associate Professor Nina Wallerstein in the UNM School of Medicine is Co-Principal Investigator for a research project on preventing alcohol and tobacco use via the Adolescent Social Action Program (ASAP). This proposal was funded by the Drug Free Schools and Communities Division of the U.S. Department of Education, 1993-1995 at $386,435. This Project expands the ASAP prevention model and curriculum to include tobacco as a substance for prevention, along with alcohol and other drugs. In addition to Woodall and Wallerstein, the project staff includes Soo-Jin Yoon and Randall Starling, Research Assistants.

9. MINORITY ALCOHOL AND SUBSTANCE ABUSE PREVENTION.

Dr. Nina Wallerstein is Principal Investigator and Gill Woodall is Co-Principal Investigator for this five-year project, funded by NIAAA at $1,610,332, which began in 1994. This Project evaluates the Adolescent Social Action Program (ASAP), a substance abuse prevention program for minority youth in New Mexico.

10. DRUG AND ALCOHOL PREVENTION AT UNM.
Professor Gill Woodall is Principal Investigator and J. Miller, Joyce Lisbin, and Dr. Orcilia Zuniga-Forbes are Co-Principal Investigators for this media campaign and peer education for substance abuse prevention on college campuses. This Project was funded by FIPSE (Fund for the Improvement of Post-Secondary Education) of the U.S. Department of Education, for two years (1993-1995) at $107,894. This project evaluates the effects of peer education and media campaign drug and alcohol prevention strategies for university students at UNM.

11. UNIVERSITY CONSORTIUM FOR SUBSTANCE ABUSE.

Gill Woodall is Principal Investigator and S. Comer and J. Miller are Co-Principal Investigators of this project for a substance abuse prevention consortium of institutions of higher education in New Mexico. This research was funded by FIPSE (the Fund for the Improvement of Post-Secondary Education, of the U.S. Department of Education) at $36,688 for 1993-1995. UNM hosts the consortium, which provides a forum for the exchange of information, training, and research concerning substance abuse.

12. PROJECT SIRVE.

Project SIRVE (Server Intervention, Research, Verification, and Evaluation) consists of (1) telephone interviews with liquor license holders about the Server Training Act in New Mexico, (2) a pseudo-patron study in which trained actors simulate intoxication in liquor establishments to determine whether they would be served, and (3) in-depth interviews with servers about server training. This research project is funded by the National Institute on Alcohol Abuse and Alcoholism (NIAAA), and carried out in collaboration with Dr. Bob Saltz of the Prevention Research Center at the University of California at Berkeley. This initial research project led to a three-year project funded by NIAAA in 1995 at $923,861 for several waves of pseudo-patron surveys, random telephone interviews with servers, and qualitative interviews with servers. Gill Woodall is Principal Investigator; the Project SIRVE staff also includes Dr. Michele Polacsek and Research Assistant Randall Starling.
13. ENVIRONMENTAL HEALTH COMMUNICATION.

The Bernalillo County Department of Environmental Health (BCDEH) provided the Department with a grant of about $17,000 in 1995-1996 for formative evaluation research on how the BCDEH could more effectively convey to its audiences the services that are available to them. Personal interviews, focus group interviews, and observation were utilized by the project staff of Ev Rogers, Corinne Shefner-Rogers, Dr. Michele Polacsek, Dr. Jean Civikly-Powell, and Leslie Fagre. Needs (1) for pamphlets, videos, and other media materials, and (2) for staff training in public speaking and in mediation skills, were identified. These media materials and training courses will be designed, implemented, and evaluated in a second phase of the Project, in 1996-1997, under a grant of $41,000.

14. COMMUNICATION FOR NUCLEAR WEAPONS DIVERSIFICATION.

Professor James R. Barker is Principal Investigator, and Professors Estelle Zannes and Janice Schuetz are Co-Principal Investigators, of a project on Research and Development of Communication Messages and Practices for the Nuclear Weapons Diversification and Industrial Partnerships Program, funded for one year at $75,600 by Los Alamos National Laboratory. Janet Shiver, a 1995 MA graduate, is employed as a Research Assistant on this project. The UNM communication scholars are working in collaboration with Los Alamos scientists to develop methods and processes for disseminating information regarding the Laboratory’s Nuclear Weapons Diversification Program to various audiences, including oil and gas industry executives, U.S. Department of Energy officials, and members of Congress. The research team is presently negotiating continuation of this project for the next year.

In summer, 1996, Jim Barker received a $5,000 grant from the UNM Vice-Provost for Research, allowing him to explore possible research projects at Los Alamos National Laboratory. The Nuclear Weapons Diversification Project is one result.

15. RESTRUCTURING OF WORK ROLES PROJECT
Dr. Jim Barker leads a project studying the development of research methods to explore the information-processing needs of workers in high-technology organizations. Sandia National Laboratories funded this project at $10,000 for one year. Barker collaborates with Dr. J. Pace VanDevender, Director of the National Industrial Alliances Center at Sandia Lab. This project has tested a variety of research instruments with which to collect data from Sandia Labs staff on the restructuring of work roles. Barker and VanDevender recently presented their research at a symposium in Chicago sponsored by the Army research Institute. Their findings will appear in a forthcoming book, *Leadership Challenges for the 21st Century Army*.

**FUTURE RESEARCH PROJECTS**

Department faculty and graduate students have submitted, or are preparing, proposals for investigating the following topics:

1. The Diffusion of Self-Managed Work Groups from Baldrige Award-Winning Companies in the U.S. by Jim Barker and Ev Rogers, with Hans Hilgerman and Dr. John Sherblom, University of Maine.

2. Decision-Making about School-Based Drug-Prevention Programs, Jim Barker, Ev Rogers, Nagesh Rao, Peer Svenkerud, Corinne Shefner-Rogers, and Elaine Raybourn.

3. Effects of Media Consumption on Preadolescent and Adolescent Sexual Attitudes and Sexual Activities, Professor Diane Furno-Lamude, Professor C. Victor Strasburger (Division of Adolescent Medicine, UNM Medical School), and Ev Rogers.


5. Community Empowerment for Environmental Health, Ev Rogers, Peer Svenkerud, Corinne Shefner-Rogers, Diana Ríos, Miguel Gandert, Bill Hart, and others.

6. Organizational Communication in the Gas Operations Division of Public Service of New Mexico (PNM), James R. Barker, Everett M. Rogers, and Karyn Scott.
### FACULTY, STAFF, PART-TIME INSTRUCTORS, TEACHING ASSISTANTS AND RESEARCH ASSISTANTS, 1995-1996

#### Faculty

<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Position</th>
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<tbody>
<tr>
<td>Fred V. Bales</td>
<td>Associate Professor</td>
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<tr>
<td>James Barker</td>
<td>Assistant Professor</td>
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<tr>
<td>Jean M. Civikly-Powell</td>
<td>Professor, Associate Chair, and Director of TARC</td>
</tr>
<tr>
<td>John Condon</td>
<td>Professor</td>
</tr>
<tr>
<td>Joseph Day</td>
<td>Lecturer II</td>
</tr>
<tr>
<td>Karen Foss</td>
<td>Associate Professor and Director of Woman Studies Program</td>
</tr>
<tr>
<td>Kenneth D. Frandsen</td>
<td>Professor and Associate Dean, College of Arts and Sciences</td>
</tr>
<tr>
<td>Diane Furno-Lamude</td>
<td>Associate Professor</td>
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<tr>
<td>Bradford &quot;J&quot; Hall</td>
<td>Assistant Professor</td>
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<tr>
<td>Miguel Gandert</td>
<td>Assistant Professor</td>
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<tr>
<td>Bob M. Gassaway</td>
<td>Associate Professor and Director of Undergraduate Studies</td>
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<tr>
<td>Thomas E. Jewell</td>
<td>Lecturer III and Director of Forensics</td>
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<tr>
<td>Michele Polacsek</td>
<td>Visiting Assistant Research Professor</td>
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<tr>
<td>Nagesh Rao</td>
<td>Visiting Assistant Professor</td>
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<tr>
<td>Diana I. Rios</td>
<td>Assistant Professor</td>
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<tr>
<td>Everett M. Rogers</td>
<td>Professor, Chair, and Director of Graduate Studies</td>
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<tr>
<td>Janice E. Schuetz</td>
<td>Professor</td>
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<tr>
<td>Peer Svenkerud</td>
<td>Visiting Assistant Professor</td>
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<tr>
<td>Henry L. Trewhitt</td>
<td>Associate Professor</td>
</tr>
<tr>
<td>W. Gill Woodall</td>
<td>Associate Professor</td>
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<tr>
<td>Estelle Zannes</td>
<td>Professor</td>
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#### Adjunct Professor

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<tr>
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<tr>
<td>Stephen Littlejohn</td>
<td>Fall</td>
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#### Visiting Research Scientist

<table>
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<tr>
<th>Name</th>
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<tr>
<td>Kazuo Kurihara</td>
<td>Fall, Spring</td>
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#### Part-Time Instructors

<table>
<thead>
<tr>
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<tr>
<td>Janet Blair</td>
<td>Fall</td>
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<tr>
<td>Jane Blume</td>
<td>Fall</td>
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<tr>
<td>Wardene Crowley</td>
<td>Fall</td>
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<tr>
<td>Kathy Domenici</td>
<td>Fall, Spring</td>
</tr>
<tr>
<td>Leslie Fagre</td>
<td>Fall, Spring</td>
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<tr>
<td>Al Fiegel</td>
<td>Spring</td>
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<tr>
<td>Judith Hendry</td>
<td>Fall, Spring</td>
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<tr>
<td>Neil Riley Kirby</td>
<td>Spring</td>
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<td>Erica Landry</td>
<td>Fall, Spring</td>
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<tr>
<td>Gene Levine</td>
<td>Spring</td>
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<tr>
<td>Gaylord Mance</td>
<td>Fall, Spring</td>
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</tbody>
</table>
Jill Marron  Fall, Spring
Bruce Noll  Spring
Kevin Reilly  Spring
Ann Skinner-Jones  Fall, Spring
Ron Steiner  Fall, Spring
Nancy Traver  Spring
Wendy Walsh  Spring
Linda Ward  Fall, Spring

Teaching Associates
John Griffin  Fall, Spring
Janet Shiver  Fall, Spring
Nancy VanDevender  Spring

Teaching and Research Assistants
Jennifer Adams  Fall, Spring
Krista Alford  Fall, Spring
Marcel Allbritton  Fall, Spring
Cynthia Beck  Spring
Gary Betts  Fall, Spring
Heidi Carr  Fall
Elizabeth Chestnut  Fall, Spring
Tom Cochran  Spring
David Diamant  Fall, Spring
Mark Gilboard  Fall, Spring
Bill Hart  Fall, Spring
Ann Johnson  Fall, Spring
Naewon Kang  Fall, Spring
Ann Mayer  Fall, Spring
Emily Plec  Spring
Elaine Raybourn  Fall, Spring
Karyn Scott  Fall, Spring
Suruchi Sood  Fall, Spring
Jennifer Spencer  Fall, Spring
Randall Starling  Fall, Spring
James Stowers  Fall, Spring
Ramadhan Swalehe  Fall, Spring
Carina Wilmot  Fall, Spring
Christina Wise  Fall, Spring
Soo-Jin Yoon  Fall, Spring

Staff
Kerrie Cubberly  Work-Study Assistant
Lorraine D. Gutierrez  Research Projects Secretary
Elaine Hunt  MADD Project Secretary
K. Jenison Klinger  Department Administrator
Patrick Kiska  Electronic Technician
Diana Martínez  Work-Study Assistant
Mary Alice Strain  Department & Undergraduate Secretary
Katherine Vazquez  Staff & Graduate Secretary
Barker, James, R.

Condon, John C.


Foss, Karen A.


Furno-Lamude, Diane


Gandert, Miguel

Miguel Gandert (1995), Blue Mesa Review #7, Albuquerque, University of New Mexico, Department of English, Contributing Photographer.

Miguel Gandert (1995), Luna Córnea, #7, Centro de la Imagen, Mexico City, Contributing Photographer.

Miguel Gandert (1995), Cuando Hablan Los Santos, Albuquerque, University of New Mexico, Maxwell Museum of Anthropology, Contributing Photographer.


Gassaway, Bob M.
Bob M. Gassaway (1995), "Of the Dine, by the Dine and for the Dine: The Navajo Nation Would Like a More Grassroots Form of


Hall, Brad 'J'


Ríos, Diana I.


Rogers, Everett M.


James W. Dearing, Everett M. Rogers, and others (1995), Strategies of HIV Prevention Programs in San Francisco, East Lansing, Michigan State University, Department of Communication; and Albuquerque, University of New Mexico, Department of Communication and Journalism, Final Report to the Agency for Health Care Policy and Research.


Ramadhan Swalehe, Everett M. Rogers, Mark J. Gilboard,
Krista Alford, and Rima Montoya (1995), A Content Analysis of the Entertainment-Education Radio Soap Opera "Twende na Wakati" (Let's Go with the Times) in Tanzania, Albuquerque, University of New Mexico, Department of Communication and Journalism; and Arusha, Tanzania, Population Family Life Education Programme (POFLEP), Report.

Schuetz, Janice


Svenkerud, Peer


Trewhitt, Henry

Woodall, W. Gill

Everett M. Rogers, W.Gill Woodall, Nagesh Rao, Philip A. May, Michele Polacsek, Joseph Milan (1996), "Prevention of Drunk Driving by the Victim Impact Panels of Mothers Against Drunk Driving," in Joachim Knuf, Lewis Donohue, & James Applegate
Zannes, Estelle


Estelle Zannes (1995), "SPM-2," Two videos produced for Sandia National Laboratories regarding a new decision-aided tool used by WIPP, Presented to U.S. Secretary of Energy Hazel O'Leary, and disseminated to all DOE facilities in the U.S.


1. Significant developments during the academic year, 1995-1996

Research
A plan was agreed upon with the College of Electrical Engineering and Computer Engineering (EECE) to provide approximately 1,000 square feet in the EECE building for housing a sound booth (valued at $80,000) acquired by our department. The space is to be used for joint research projects. The project will begin with a particular focus on speech synthesis and augmentative communication as well as hearing aid development.

Computers were redistributed so that all faculty, professional staff, and office personnel have computer in their office and are set up for communication through the use of E-mail. Mirada software was acquired as well as software programs in speech and hearing sciences. Twelve additional computers were acquired. Older models were distributed to clinical satellite locations in Albuquerque Public Schools.

Curriculum and Advisement
In addition to orientations for faculty, new graduate students, and new clinic students, a convocation was held for all Communicative Disorders faculty, staff, graduate, nondegree, and undergraduate students. The practice of assigning each graduate student to a faculty mentor continued. Advisement was split among four individuals to include an undergraduate advisor, a nondegree advisor, a speech-language pathology graduate advisor, and an audiology graduate advisor. All 400 and 500 level courses remained restricted with advisement required to obtain access. Brochures on Support Systems, the UNM-APS Program, Graduate Programs accredited by the American Speech-Language-Hearing Association, Questions and Answers for
undergraduate and nondegree students, Comprehensive Examinations, the Master’s thesis, and 500-level elective courses were developed and maintained on display in a student waiting area. New curricular requirements appeared in the Graduate and Undergraduate catalogues released in Fall, 1995. Over the course of the year, an undergraduate internship was also added and the number of courses eligible for meeting the 500-level elective requirement was increased to include choices from Psychology, Anthropology, Communication, Linguistics, Family Studies, Nursing, Sociology, Bilingual Education, Spanish, Sociology, Special Education, Psychological Foundations of Education, Physical Education, Art Education, Health Education, English, Management, Public Administration, and Training and Learning Technologies. The Comprehensive Examination plan was replaced with a new plan entailing the use of the National Teachers Examinations in Speech-Language Pathology and Audiology as well as a Comprehensive Issues Paper.

Scholarships
An endowment fund designated in honor of Bruce E. Porch was initiated for scholarships for speech-language pathology students. A scholarship fund designated in honor of Richard Hood was established for audiology students.

ASHA Accreditation Report
The Site Visit for Reaccreditation by the Council on Academic Accreditation (formerly the Educational Standards Board) was completed. The exit interview was very positive.

The UNM Speech-Language-Hearing Center
The name of the Speech and Hearing Center was changed to the UNM Speech-Language-Hearing Center. A payment at time of service policy was implemented.

The Speech and Hearing Center Test and Materials Library
A $10,000 grant from the New Mexico State Department of Education to fund early childhood therapy materials was acquired. Additionally, the Albuquerque Public Schools Child Find
Program provided the department with two computers for therapy use. More tests were also acquired.

**Audiology Clinic**

The Audiology Clinic has had two primary efforts during this past year that will significantly effect service to clients as well as the education of both Audiology and Speech-Language Pathology graduate students. These efforts have been to (1) broaden student and faculty knowledge of hearing aids and (2) develop a universal newborn hearing screening program.

Siemens and Resound Hearing Aid Manufacturers provided our Audiology students and faculty hands-on workshops during May and June. Starkey Labs hosted a similar opportunity for our faculty and students in Anaheim, California, providing transportation, lodging and food for a two day meeting including a tour of the facility, hands-on hearing aid modification and repair instruction, a short-course on fitting completely-in-the canal hearing instruments, and an evening at Disneyland. Participants included 11 graduate students and 3 professional staff.

The Audiology Clinic was selected by the Maternal Child Health Bureau to lead the effort of The National Consortium on Infant Hearing in New Mexico through the 1996 New Mexico Newborn Hearing Screening project. The mission of the project is to promote, support and facilitate hearing screening of all newborns in New Mexico so that children with congenital hearing impairment will be identified before 6 months of age using transient evoked otoacoustic emissions (TEOAE) and/or Automated Auditory Brainstem Response testing (AABR). The project will also provide state support to initiate audiologist-managed, universal screening programs throughout New Mexico. The project, as implemented in University Hospital and directed by Ms. Susan Rush, will entail screening the hearing of 4,000 babies each year, and will provide excellent training for audiology and speech-language pathology graduate students.
Special Programs

Augmentative Communication Program

The Augmentative Communication Grant continued. Additional funds were provided by the New Mexico Technical Assistance Program through the State of New Mexico Department of Vocational Rehabilitation. Projects were also initiated with the University Affiliated Programs and Training and Learning Technologies in the UNM Department of Special Education. Augmentative Communication evaluations and therapy continued to be offered as well as an open house. The Augmentative Communication Summer Clinic directed by Dr. Sandra Damico was extended to 20 sessions with scholarships and other support provided by the Sertoma Club of Albuquerque. The program included daily group interactions, sharing, singing, and telling jokes. Each client also spent about 3 hours per session reading, writing, and learning to operate and program equipment. Participation in the program was widespread and included one out of state participant whose family moved to Albuquerque for the summer so that he could participate.

Villahermosa Program

Drs. Deborah Detorie and Linda Riensche visited Dr. Gustavo Sala Villanueva and Dra. Yaxavira Florville Alejandra in Villahermosa in November and reached an agreement regarding an exchange program. Two students and 1 supervisor visited Villahermosa in May, 1996. They resided in the home of the physicians and worked in the small clinic attached to their home. It is anticipated that two speech therapists in the Villahermosa clinic will visit UNM in October.

Mexico City Interdisciplinary Program

Drs. Sandra Damico and Linda Riensche visited Comunidad Crecer, a school in Mexico City that had previously been used for a departmental program that had been privatized two years ago and ceased to exist last year. A plan was agreed upon for renewal of the program in July and August, 1996.

Albuquerque Public Schools Programs

The Albuquerque Public Schools (APS) program was modified so that the four supervisor positions previously supported through the contract were replaced with supervisors provided on
loan from APS, thereby providing support for more experienced supervisors. Site selections were adjusted to include Longfellow Elementary School (served by Yvonne Soto-Gomez), Lou Wallace Elementary School (served by Elayne Kessler), Albuquerque High School (served by Linda Bivins), and the Child Find program located within our facilities (served by Nadynne Myers). The diagnostic program for the schools continued under the supervision of Kate Blaker. Additionally, the contract included the funding of students to serve in the schools as well as part of their education.

**Leadership Training Program**

The grant for the Leadership Training Program (LEND) began a new 5-year funding cycle. Student participants included an audiology student (Brenda Robertson) and a speech-language pathology student (Larry Grall). The program provides students multicultural clinical opportunities, interactions with many disciplines, professional travel, and experiences with the legislative process.

**Allied Health Interdisciplinary Program for Rural Areas**

This allied health program completed the first year of a new 5 year cycle. It is designed to provide an opportunity for students in the various health related disciplines to learn together and gain an understanding and appreciation for the expertise that each brings to the solution of health problems. The program uses the Problem-Based Learning Approach of the UNM School of Medicine with the experience extended to the rural setting through clinical placements and the use of centralized library resources such as computer-aided instruction, electronic mail network, and accessing library resources. This year, students were placed at Gila Regional Medical Center in Silver City, San Juan Regional Medical Center in Farmington, and UNMH/Moriarty.

**Special Events**

**Convocation**

A Convocation was held at the Nursing and Pharmacy building for faculty, staff, undergraduate, non-degree, and graduate students. Students were provided professional and departmental information. Faculty, staff, and officers of the UNM Chapter of the National Student Speech,
Language and Hearing Association were introduced. Program requirements, special events, and plans were discussed. Approximately 70 persons attended.

**Annual Picnic**
The Department held its fifth annual picnic on Saturday, September 9 at Holiday Park. Faculty, staff, undergraduate, non-degree, and graduate students were invited. Approximately 70 persons attended.

**Faculty-Student Attendance at National Conventions and Conferences**
Eight audiology graduate students attended the American Academy of Audiology Convention in Salt Lake City, UT in April with 2 professional staff. Three faculty attended The American Speech-Language-Hearing Association Convention. The low attendance was due to an unprecedented change in the schedule of the convention.

**Holiday Party**
The Annual Holiday Party was held at the Continuing Education Building. The event was a potluck and included a questionnaire in a 'guess which faculty member' format for entertainment. Dr. Teri Hamill was presented a farewell gift and recognized for her service to department. Approximately 100 faculty, staff, students, and family members were in attendance.

**December Graduation Reception**
The December Graduation was celebrated by a catered reception at the Family Practice Center following the UNM Commencement ceremony. Bachelor’s level graduates were presented certificates and master’s level graduates were presented a UNM pin by Dr. Richard Hood, Professor Emeritus and past departmental chair. The event was attended by approximately 70 faculty, staff, graduates, and family members.
Interdisciplinary Career Fair

Speech-Language Pathology students were again included in the Interdisciplinary Career Fair hosted by the UNM Physical Therapy Club and the UNM Student Occupational Therapy Association.

NSSLHA Fifth Annual Southwest Conference

The Fifth Annual Southwest Conference on Communicative Disorders was held February 23 and 24, 1996. It was designed for attendance by both students and professionals, though it was put on by students. There were 16 speakers and 363 participants including 156 students and 207 professionals from New Mexico (336), Texas (3), Arizona (2), Colorado (2), Wyoming (1) and Missouri (3). A preconference activity consisted of the Communication Aid Manufacturers Association (CAMA) show on Thursday, February 22. An opening dinner, held at El Pinto Restaurant on Thursday night provided students with an informal opportunity to meet out-of-town speakers. The conference itself was held at the Albuquerque Convention Center and was comprised of four blocks of four simultaneous sessions throughout the day on Friday and one keynote speaker on Saturday. An awards banquet and ceremony followed the Friday sessions at the Double Tree Hotel. Speakers included the following:

“Authentic Classroom Assessment: Addressing Language and Communicative Issues”
by Jack S. Damico
Doris B. Hawthorne Chair in Communicative Disorders and Special Education,
University of Southwestern Louisiana

“Management of Communication Disorders Associated with Right Hemisphere Damage”
by Penelope Myers
Section of Speech Pathology
May Clinic
Rochester, Minnesota

“Literacy Issues in Augmentative and Alternative Communication”
Karen Erickson
Coordinator of Educational Services
Center for Literacy and Disability Studies
Chapel Hill, NC

"Infection Control for the Professions of Audiology and Speech-Language Pathology"
by Bopanna Ballachanda
Associate Professor,
Department of Communicative Disorders
The University of New Mexico

"Private Practice: Health Care Providers in a Changing Environment"
by Carol L. Clifford
Audiology Clinic Director
The University of New Mexico

"Using the Strengths of Children with Autism for Diagnosis & Assessment"
by Pat Osbourn
University Affiliated Programs
The University of New Mexico

and

Cate McClain
Department of Pediatrics
The University Affiliated Programs
The University of New Mexico

and

Karen Wright
University Affiliated Programs
The University of New Mexico
“Hearing Aid Selection and Verification: As Easy as A.C.T. (Audible, Comfortable, and Tolerable)”
H. Gustav Mueller
Private Practitioner
Audiology Consultants
Boulder, Colorado

“Differential Diagnosis of Acquired Speech Motor Disorders
by Joseph R. Duffy
Head of the Section of Speech Pathology
Department of Neurology
Mayo Clinic
Rochester, Minnesota

“Medicare/Health Care Reform: The Future of Our Profession”
by Marjean Norland
Rehabilitation Specialist
Cannon & Associates
Arvada, Colorado

“Liberation Theology: The Role of Theory in Communication”
by Gerald Siegel
Professor, Department of Communication Disorders
The University of Minnesota

“The Changing roles of the Speech Pathologist”
by Deb Wilson
Educational Assessment Systems, Inc.,
Albuquerque, New Mexico

and
Laurie Steinberg  
President, Educational Assessment Systems, Inc.,  
Albuquerque, New Mexico

“Auditory Evoked Potentials to Complex Stimuli: Issues Related to Brain-Behavior Relationship and Clinical Implications”  
by Bopanna Ballachanda  
Associate Professor, Department of Communicative Disorders  
The University of New Mexico

“New Advances in Otitis Media:”  
Pamela Nicklaus  
Department of Surgery/Otolaryngology  
The University of New Mexico Hospital

“Assessment and Intervention of Communication Disorders in Culturally and Linguistically Diverse Populations”  
by Dolores E. Battle  
Professor, Speech-Language Pathology  
State University College at Buffalo, New York

The Conference Chairs of the last five years were honored at the Awards dinner. They included the following:

Katharine (Kate) Blaker  1992  
Debra Harbaugh  1992  
Desiree Stone (Whalen)  1993  
Elynn Cowden  1994  
Michael Hoeft  1995  
Katie Funk  1996
Annie Rowland, former undergraduate advisor and clinical supervisor who now resides in Texas, was the Honored Guest. Janet Patterson was the recipient of the TOADY award (Teacher of the Year).

May Graduation Reception
The May Graduation was celebrated by a reception at the Family Practice Center following the UNM Commencement ceremony. Bachelor's level graduates were presented certificates and master's level graduates were presented a UNM pin by Dr. Richard Hood, Professor Emeritus and past departmental chair. The event was attended by approximately 225 faculty, staff, graduates, and family members.

Other Activities

NSSLHA Monthly Meetings

NSSLHA meetings were held at the Nursing and Pharmacy Building.

<table>
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<tr>
<th>Month</th>
<th>Speaker and Topic</th>
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<tbody>
<tr>
<td>September</td>
<td>Lisa McNiven</td>
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<td>Community Outreach program for the Deaf</td>
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<td>“Deaf Culture and how it relates to our profession”</td>
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<td>October</td>
<td>Kim Kerschen</td>
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<td></td>
<td>President, New Mexico Speech, Language and Hearing Association</td>
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<td></td>
<td>“Legal and professional issues within our field”</td>
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<td>November</td>
<td>Theresa Nuanez</td>
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<td></td>
<td>Bilingual diagnostician, Albuquerque Public Schools</td>
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<tr>
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<td>“The importance and ‘how to’ of proper assessment of limited English proficient children in the schools”</td>
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February
Noelle Melhorn
Audiologist, Albuquerque Public Schools
"Auditory Training—What is it and who benefits?"

March
Suzanne Barslund
Speech-Language Pathologist
Albuquerque Veterans Administration Hospital
"Computer Access and A.A.C.—What are the outcomes?"

April
Marcie Laurel
Speech-Language Pathologist
University Affiliated programs
"Sensory Integration—What it is and why we use it."

Grand Rounds

9/26
Teresa Hayden, R.N.
University Hospital
University of New Mexico
Pediatric Head Injury

10/24
Robert Waterman, Ph.D.
Departments of Anatomy and biology
The University of New Mexico
Problem-Based Learning
11/28
Bopanna Ballachanda, Ph.D., CCC-A
Department of Communicative Disorders
The University of New Mexico
Identification of Outer and Middle Ear Pathology:
Effects on Early Speech and Language

3/26
Nancee Dixon, M.S., CCC-SLP
University Hospital
The University of New Mexico
Effects of Head Injury on Swallowing

4/30
Patrick Finn, Ph.D., CCC-SLP
Department of Communicative Disorders
The University of New Mexico
Unassisted Recovery from Stuttering

Public Information

b. Damico, S., Guest on Public Broadcasting, Channel 19, Albuquerque, NM, April, 1996.
h. "Assistive Technology Funding with Augmentative Communication Systems." Presented by Bill Newroe, Assistive Tech Funding Specialist, (Community Workshop)

i. "Orientation and Overview of AAC." Presented by Sandy Damico, Desiree Whalen, & Kathy Dieruf, July, 1996. (Community Workshop)

j. "Orientation and Overview of AAC." Presented by Sandy Damico, Desiree Whalen, & Kathy Dieruf, August, 1996. (Community Workshop)

k. "Nonelectronic and/or Low Technology AAC Systems." Presented by Sandy Damico, Desiree Whalen, Kathy Dieruf, August, 1996. (Community Workshop)

ASHA Continuing Education Units sponsored by Communicative Disorders

a. Linguistic Institute, presentations by many speakers, Albuquerque, NM, Summer, 1995. (25.5 CEUs).

b. Supervision and Student Rights presented by D. Detorie & A. Thomas, Albuquerque, NM, August, 1995. (.1 CEU).

c. New Mexico Augmentative and Alternative Communication (New MAAC '95) Fall Conference with presentations by Stuarts, Levine, and R. Radecki, September, 1995. (.1 CEU)

d. "Problem Based Learning" presented by R. Waterman, at the UNM Department of Communicative Disorders Grand Rounds, Albuquerque, NM, October, 1995. (.1 CEU).


f. "Pediatric Head Trauma" presented by T. Hadden at the UNM Department of Communicative Disorders Grand Rounds, Albuquerque, NM, January, 1996. (.1 CEU).

g. The Southwest Conference on Communicative Disorders presented by the UNM Chapter of the National Student Speech, Language, and Hearing Association, Albuquerque, NM, February, 1996. (1.1 CEU).


i. "Unassisted Recovery from Stuttering," by P. Finn, at the UNM Department of Communicative Disorders Grand Rounds, Albuquerque, NM, April, 1996 (.1 CEU).
Burton, P., "Advanced Compression Technology in Hearing Aids." Presented by the UNM Department of Communicative Disorders, Albuquerque, NM, April, 1996 (.4 CEUs)

Glass, R., & Wolf, L., "Feeding and Swallowing Disorders in Infancy", May, 1996. (1.3 CEUs)

Resound Hearing Aid Manufacturer’s Seminar, June, 1996. (.4 CEUs)


"TEOAE-Based Newborn Hearing Screening" by K. White, Y. Weirather, & S. Rush presented by the UNM Department of Communicative Disorders, June, 1996. (1.5 CEUs).

Facility Modifications

The front and back parts of the house were divided and the back part was remodeled into an office and a lab for brain stem evoked response testing. The areas in the main building used for Augmentative Communication were divided and a research lab for adult communication disorders and a research lab for augmentative communication were developed. A new landing was built at the top of the ramp leading to Buildings M and N. Also, landings and stairs were added to the north side of Buildings M and N. The men’s restroom in Building M was converted into a toy cleaning room. New sound systems were installed in the therapy and observation rooms.

Security systems were added to all those areas not previously served. Landscaping was added to the front side of the main building as well as the back of the house.

2. Significant plans and recommendations for the near future.

a. Review the Speech-Language Pathology curriculum and make appropriate adjustments.

b. Follow through on the development of a research laboratory to be shared by Communicative Disorders and Engineering.

c. Examine the possibility of a departmental honors program.

d. Develop a plan for course work in multicultural and/or bilingual speech-language pathology.

e. Develop a plan for course work in business administration and speech-language pathology or audiology

f. Rename the department to reflect its scientific basis.
f. Rename the department to reflect its scientific basis.
g. Implement the new comprehensive exams plan.
h. Re-carpet and establish adequate office furnishings for the receptionist.
i. Establish one additional clinical funding source.
j. Actively pursue a plan for a different facility.
k. Examine the feasibility of providing program offerings at the Gallup and/or Santa Fe campus.

3. Appointments to staff.
   a. Elayne Kessler, Lecturer II, joined the Department on loan from Albuquerque Public Schools.
   b. Nadynne Myers, Lecturer II, joined the Department on loan from Albuquerque Public Schools.
   c. Yvonne Soto-Gomez, Lecturer II, joined the Department on loan from Albuquerque Public Schools.
   d. Linda Bivins, Lecturer II, joined the Department on loan from Albuquerque Public Schools.
   e. Bopanna Ballachanda, Associate Professor, joined the Department July 1, 1995.
   f. Carol Clifford, Director of the Audiology Clinic, joined the Department in July, 1995.
   g. Holly Oeltjen, Department Administrator, joined the Department on a permanent basis in March, 1996.
   h. Pamela Montano, Clerk, joined the Department August 29, 1995.

4. Separations from staff.
   a. Derron Sanchez, Department Administrator, did not complete his probationary period.
   b. Teri Hamill, Audiology Assistant Professor, resigned effective December 31, 1995.
   c. Elizabeth Braught, Clinical Supervisor.
   d. Annie Rowland, Clinical Supervisor.
5. Publications of the division: publication of individual faculty/staff.


6. **Outside professional activities of staff members.**

**Presentations**


z. Parent, T., Chmiel, R., & Jerger, J., “TranSonic: A frequency transposition hearing system.” Presented to the Department of Otorhinolaryngology and Communicative Sciences Grand Rounds, Baylor College of Medicine, Houston, TX, December 35.


bb. Patterson, J., “Predictors of clinical and academic performance among graduate students.” To be presented at the American Speech-Language-Hearing Association Convention, Seattle, WA, November, 1996.


Professional Memberships and Leaderships

b. Ballachanda, B.B., Member, Convention Program Committee for Hearing Sciences, the American Speech-Language-Hearing Association.
c. Ballachanda, B.B., Editorial Consultant, American Journal of Audiology
d. Blaker, K., Member, Membership Committee, New Mexico Speech, Language and Hearing Association.
e. Blaker, K., Member, Training and Recruitment Committee, New Mexico Speech, Language and Hearing Association.
g. Blaker, K., Consultant and Clinical Supervisor, Augmentative Communication Training Project, Mexico City, July-August, 1996.
h. Brown, C., Continuing Education Coordinator, New Mexico Association for Augmentative and Alternative Communication, 1992-1996.
i. Clifford, C., Chair, National Steering Committee On Collaborative Marketing, American Academy of Audiology
j. Clifford, C., Managed Care Liaison, The Academy of Dispensing Audiologists
k. Damico, S., Board Certified Member, New Mexico Autism Project.
l. Damico, S., Board Member, Friends in Time. Volunteers for services to ALS and MS patients in New Mexico.
m. Damico, S., Reviewer, Language Speech and Hearing Services in the Schools.
q. Detorie, D., Trialliance Consortium for Clinical Education, The University of New Mexico.
s. Detorie, D., The Individuals with Disabilities Education Act Panel, The State of New Mexico Department of Education.
t. Detorie, D., Task Force on Recruitment, The State of New Mexico Department of Education.
u. Finn, P., Reviewer, Journal of Speech and Hearing Research.
v. Finn, P., Reviewer, American Journal of Speech-Language Pathology.
w. Finn, P., Member, 1997 Convention Program Committee for Fluency and Fluency Disorders, American Speech-Language-Hearing Association.
x. Finn, P., Member, Fluency Special Interest Division of the American Speech-Language-Hearing Association.
z. Lobato, J., Member, Multicultural Caucus of the American Academy of Audiology
aa. Lobato, J., Audiology Core Faculty Member, New Mexico Maternal & Child Health Interdisciplinary Leadership Education Program for Children with Neurodevelopmental and Related Disabilities (LEND) Program.
bb. Lobato, J., Member, Board of Directors, Columbus Club Association.
d. Myers, N., Participant, Project Access, The State of New Mexico, Department of Education.
e. Oelschlaeger, M.L., Board Member, Albuquerque Stroke Club.
g. Oelschlaeger, M.L., Member, Healthcare Advisory Board, American Heart Association.
hh. Oelschlaeger, M.L., Board Certified Member, The Academy of Neurologic Communication Disorders and Sciences.

ii. Oelschlaeger, M.L., Faculty Mentor, The University of New Mexico Research Opportunity Program.


ll. Patterson, J.L., Faculty Mentor, The University of New Mexico Research Opportunity Program.

mm. Riensche, L., Member, Easter Seals Board, Albuquerque, NM.

nn. Riensche, L., Participant, Project Access, The State of New Mexico, Department of Education.


pp. Soto-Gomez, Y., Team Member, United Student Centered Curriculum Planning Team, Longfellow Elementary School, Albuquerque, NM.

Continuing Education


e. Blaker, K., Attended The Southwest Conference on Communicative Disorders, presented by the UNM Chapter of the National Student Speech, Language, and Hearing Association, Albuquerque, NM, February, 1996.


o. Damico, S., Attended the Center on Literacy and Disability Studies, Summer Training Institute, University of North Carolina, Chapel Hill, NC, July, 1995.


r. Damico, S., Attended the C-Sun Conference on Technology, Los Angeles, CA, March, 1996.
s. Damico, S., Attended The Southwest Conference on Communicative Disorders, presented by the UNM Chapter of the National Student Speech, Language, and Hearing Association, Albuquerque, NM, February, 1996.
t. Damico, S., Attended the CAMA Tour Conference on Technology, Albuquerque, NM, February, 1996.

v. Detorie, D., Attended the Southwest Conference on Communicative Disorders, presented by the UNM Chapter of the National Student Speech, Language, and Hearing Association, Albuquerque, NM, February, 1996.
x. Detorie, D., Attended the OPTIONS Workshop presented by the New Mexico Speech, Language and Hearing Association, Albuquerque, NM, April, 1996.
z. Finn, P., Attended the Southwest Conference on Communicative Disorders, presented by the UNM Chapter of the National Student Speech, Language, and Hearing Association, Albuquerque, NM, February, 1996.


gg. Lobato, J., Attended the American Academy of Audiology Convention, Salt Lake City, UT, April, 1996.

hh. Lobato, J., Attended the Southwest Conference on Communicative Disorders, presented by the UNM Chapter of the National Student Speech, Language and Hearing Association, Albuquerque, NM, February, 1996.

ii. Lobato, J., Attended “Supervision and Student Rights.” Presented by the UNM Department of Communicative Disorders, Albuquerque, NM, August, 1995.


kk. Lobato, J., Attended “Advanced Compression Technology in Hearing Aids.” Presented by the UNM Department of Communicative Disorders, Albuquerque, NM, April, 1996.

ll. Lobato, J., Attended “Resound Hearing Aid Manufacturer’s Seminar.” Presented by the UNM Department of Communicative Disorders, Albuquerque, NM, June, 1996.


nn. Lobato, J., Attended “TEOAE-Based Newborn Hearing Screening.” Presented by the UNM Department of Communicative Disorders, Albuquerque, NM, June, 1996.

oo. Myers, N., Attended The Council of Graduate Programs in Communication Sciences and Disorders, San Diego, CA, April, 1996.


qq. Myers, N, Attended The Southwest Conference on Communicative Disorders, presented by the UNM Chapter of the National Student Speech, Language, and Hearing Association, Albuquerque, NM, February, 1996.


uu. Parent, T., Attended the American Academy of Audiology Convention, Salt Lake City, UT, April, 1996.


ww. Patterson, J.L., Attended The Southwest Conference on Communicative Disorders, presented by the UNM Chapter of the National Student Speech, Language, and Hearing Association, Albuquerque, NM, February, 1996.


yy. Riensche, L., Attended The Council of Graduate Programs in Communication Sciences and Disorders, San Diego, CA, April, 1996.


bbb. Rush, S., Attended “Resound Hearing Aid Manufacturer’s Seminar.” Presented by the UNM Department of Communicative Disorders, Albuquerque, NM, June, 1996.


Individual and Program Affiliations

a. Academy of Dispensing Audiologists
b. American Academy of Audiology
c. American Auditory Society
d. American Educational Research Association
e. American Heart Association
f. American Speech-Language-Hearing Association
g. American Association for Supervision and Curriculum Development
h. Autism Society of America
i. Council of Graduate Programs in Communication Sciences and Disorders
j. Easter Seals Society
k. International fluency Association
l. International Society of Augmentative/Alternative Communication
m. National Stroke Association
n. New Mexico Augmentative/Alternative Communication Association
p. Partners for the Americas
q. SERTOMA Club of Albuquerque
r. The International Society for Augmentative and Alternative Communication
t. The New Mexico Speech, Language and Hearing Association
u. The United States Association for Augmentative and Alternative Communication
Internal Fundings


b. Oelschlaeger, M.L., “Bringing the Real World into the Classroom: Combining Academic and Clinical Concerns through Videotape Presentations.” Teaching Allocation Grant ($1,497)


d. UNMHTelethon ($15,500).

7. **Outside sponsored research and training.**

a. Maternal and Child Health Interdisciplinary Leadership Training Program, .50 FTE of Pat Osbourn’s salary for service as a clinical supervisor to our program from July 1, 1995 through June 30, 1996. Funds were directed through the University Affiliated Program. ($24,000).


c. Damico, S., New Mexico Technological Assistance Program ($40,000).

d. Damico, S., SERTOMA ($5,000).

e. Riensche, L., “Early Childhood Activities”, State of New Mexico, Department of Education Grant ($10,000).

f. Riensche, L., and Detorie, D., UNM-APS SLP Program ($115,000 + 4 professional staff).

Honors

a. 1996 The Saturn Teamwork Challenge Award was presented to the UNM Chapter of the National Student Speech, Language and Hearing Association for their work on the Southwest Conference on Communicative Disorder

b. Patterson, J. received the Teacher of the Year (TOADY) Award, Department of Communicative Disorders.

c. Blaker, K., received the “Hall of Fame Award” presented to Chairs of the Southwest Conference of Communicative Disorders

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d. Funk, K., received the “Hall of Fame Award” presented to Chairs of Southwest Conference of Communicative Disorders

e. Esquibel, K., received the Honors of the UNM Chapter of the National Student Speech, Language and Hearing Association.

f. Buck, M., received the Honors of the UNM Chapter of the National Student Speech, Language and Hearing Association.

g. Student honors and awards reported to the department included the following:
   • Julie Beery was named to the Golden Key National Honor Society and was on the Arts and Sciences Honor Roll
   • Stacey Burke was named to Phi Beta Kappa
   • Bryan Gabaldon was named to the Golden Key National Honor Society, was on the Dean’s list, graduated Summa Cum Laude
   • Jenny Rosazza was named to the Golden Key National Honor Society Order of Omega Honor society, and was a YWCA Student Woman on the Move Nominee
   • Mieke Marie Weger was named to Phi Beta Kappa, graduated Summa Cum Laude, and graduated with Honors from the Honors Department
   • Monica Zellner was named to the Golden Key National Honor Society, Phi Beta Kappa, and the National Honor Society
### Appendices

#### Program Inquiries

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#### Enrollments

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Percentile Scores on CCC (National) Examination* by Semester of Exam Taken.

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Mean for 1995-96=697

*The procedures for reporting scores on the national examination changed for Fall, 1993 with the result being that percentiles were no longer reported. However, according to p. 17 of the May 1994 copy of the American Speech-Language-Hearing Association Journal, “NESPA exams are designed and administered by the Educational Testing Service. The average score is 600.

Between 1988 and 1991, 26% of speech-language pathology examinees and 22% of audiology examinees failed. In that same time period, students scored a mean of 625 in speech-language pathology and 652 in audiology.” Note also that on a national basis, the distributions of scores for the audiology and the speech-language pathology exams are different, with the audiology exam having scores distributed lower than the speech-language pathology exam scores.
### Enrollment Statistics

#### Summer 1995

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## Enrollment Statistics

### Fall 1995

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*Course # represents the course number.*

*Section denotes the section number.*

*Instructor provides the name of the instructor.*

*Credit indicates the number of credits.*

*Enrolled shows the number of students enrolled.*

*Hours represent the total hours.*
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Total: 581 1,826
Clinical Hours
SUMMER 1995

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FALL 1995

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SPRING 1996

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ANNUAL TOTAL FOR SPEECH-LANGUAGE PATHOLOGY 8,979 hours; 33 minutes*

*The decrease in total hours from 1994-1995 is due to the faculty decision to downsize the number of hours that each student is placed in his/her medical site.
### Audiology Clinic

#### Diagnostic Evaluations (Number of appointments based on an average of one hour each):

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<thead>
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<th></th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
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<td>158</td>
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#### Newborn Screens (Number of baby screens):

<table>
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<th>Aug</th>
<th>Sep</th>
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<td>25</td>
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#### Hearing Screening (Number of Patients seen for Screens including Adolescent Mental Health Screens):

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<thead>
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<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
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#### Number of Aural Rehab Sessions:

**Individual**

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<th>Aug</th>
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<th>Oct</th>
<th>Nov</th>
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**Group**

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<th>Oct</th>
<th>Nov</th>
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<td>13</td>
<td>27</td>
<td>7</td>
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</tbody>
</table>

#### Hearing Aids Fit (Number of Hearing Aids Sold):

<table>
<thead>
<tr>
<th></th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
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THE ANNUAL REPORT
OF THE
DEPARTMENT OF EARTH AND
PLANETARY SCIENCES

July 1, 1995 to June 30, 1996
Department of Earth and Planetary Sciences

Annual Report

July 1, 1995 - June 30, 1996

Barry S. Kues, Chair
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I. GENERAL DEPARTMENTAL INFORMATION
FACULTY AND STAFF

PROFESSORS:
Rodney C. Ewing, Ph.D., Stanford University, 1974. (Regents Professor)
John W. Geissman, Ph.D., University of Michigan, 1980.
Karl E. Karlstrom, Ph.D., University of Wyoming, 1981.
Cornelis ('Kase') Klein, Ph.D., Harvard University, 1965.
Albert M. Kudo, Ph.D., University of California, San Diego, 1967.
Barry S. Kues, Ph.D., Indiana University, 1974.
Leslie D. McFadden, Ph.D., University of Arizona, 1982.
James J. Papike, Ph.D., University of Minnesota, 1964. (Regents Professor)

ASSOCIATE PROFESSORS:
Michael E. Campana, Ph.D., University of Arizona, 1975.
David Gutzler, Ph.D., Massachusetts Institute of Technology, 1986.
Stephen P. Huestis, Ph.D., University of California, San Diego, 1976.
Jane Selverstone, Ph.D., Massachusetts Institute of Technology, 1985.
Gary Smith, Ph.D., Oregon State University, 1986.

ASSISTANT PROFESSORS:
Yemane Asmerom, Ph.D., University of Arizona, 1988.
Frank Pazzaglia, Ph.D., Pennsylvania State University, 1993.

SENIOR RESEARCH PROFESSORS:
Wolfgang E. Elston, Ph.D., Columbia University, 1953.

RESEARCH PROFESSORS:
Charles K. Shearer, Jr., (Institute of Meteoritics), Ph.D., University of Massachusetts, 1983.

RESEARCH ASSOCIATE PROFESSORS:
Adrian J. Brearley, (Institute of Meteoritics), Ph.D., University of Manchester, Great Britain, 1984.

PROFESSOR EMERITUS:
J. Paul Fitzsimmons, Ph.D., University of Washington, 1949.
RESEARCH STAFF:

Bruce Allen, Post-Doctoral Scientist, Ph.D., University of New Mexico, 1993.
Peter Burns, Post-Doctoral Scientist, Ph.D., University of Manitoba, 1994.
Mostafa Fayek, Post-Doctoral Scientist, Ph.D., Saint Petersburg State University, Saint Petersburg, Russia, 1992.
Mary Caress, Post-Doctoral Scientist, Ph.D., University of California, Santa Barbara, 1995.
James Connolly, Research Associate (Institute of Meteoritics), M.S., University of New Mexico, 1981.
Steve Getty, Senior Research Associate III, Ph.D., Brown University, Rhode Island, 1990.
John Husler, Senior Staff Chemist, M.S., University of New Mexico, 1968.
Rhian H. Jones, Senior Research Associate (Institute of Meteoritics), Ph.D., University of Manchester, Great Britain, 1986.
Graham D. Layne, Senior Research Associate (Institute of Meteoritics), Ph.D., University of Toronto, 1988.
Rick Livaccari, Post-Doctoral Scientist, Ph.D., University of New Mexico, 1994.
Mark L. Miller, Senior Research Associate, Ph.D., University of New Mexico, 1992.
Roberto S. Molina-Garza, Senior Research Associate, Ph.D., University of Michigan, 1991.
Horton Newsom, Senior Research Associate, (Inst. of Meteoritics), Ph.D., University of Arizona, 1981.
Michael N. Spidle, Research Associate (Institute of Meteoritics), M.S., South Dakota School of Mines and Technology, 1987.
Padinare V. Unnikrishna, Post-Doctoral Scientist, Ph.D., Utah State University, 1995.
Michael Wiedenbeck, Senior Research Associate, (Inst. of Meteoritics), Ph.D., Australian National University.

ADJUNCT PROFESSORS:

Gary Aston, Ph.D., Northwestern University, 1990.
Warren S. Baldridge, Ph.D., Caltech University, 1978.
M. Susan Barger, Ph.D., Pennsylvania State University, 1982.
Alan Cheetham, Ph.D., Columbia University, 1959.
Michael Fehler, Ph.D., Massachusetts Institute of Technology.
Ernest S. Gladney, Ph.D., University of Maryland, 1974.
Robert J. Glass, Ph.D., Cornell University, 1988.
Fraser E. Goff, Ph.D., University of California, Santa Cruz, 1977.
Charles D. Harrington, Ph.D., Indiana University, 1970.
Grant H. Heiken, Ph.D., University of California, Santa Barbara, 1972.
A. William Laughlin, Ph.D., University of Arizona, 1969.
Spencer G. Lucas, Ph.D., Yale University, 1983.
Matthew Nyman, Ph.D., Virginia Polytechnic Institute and State University, 1992.
John Shomaker, M.S., University of New Mexico, 1965.
Daniel B. Stephens, Ph.D., University of Arizona, 1979.
Erik Webb, Ph.D., University of Wisconsin, Madison.
Stephen G. Wells, Ph.D., University of Cincinnati, 1976.
Thomas Williamson, Ph.D., University of New Mexico, 1993.

STAFF:

Christopher Adcock, Lab Technician (IOM)
George Carnako, Building Systems Mechanic
Mabel T. Chavez, Editorial Assistant II
Sara Lentz, Staff Assistant, Institute of Meteoritics
Grant Fowler, SIMS Technician, Institute of Meteoritics  
Yongxiang Guo, STEM Lab Technician  
Gilbert E. Griego, Harding Mine Maintenance Mechanic  
Patricia Haleli, Editorial Assistant II  
Sally E. Hayes, Accounting Technician  
Cindy Jaramillo, Staff Assistant  
Robert Macy, Electronics Technician  
Alice Quattrocchi, Department Administrator  
Florine Rietmeijer, Lab Aide  
Mary Sisley-Franson, Administrative Assistant, Institute of Meteoritics

VISITING SCIENTISTS (in residence, 1995-1996):

Dr. Weiliang Gong, Institute of Geochemistry, Chinese Academy of Sciences, visiting scientist working with R. Ewing.  
Dr. Janusz Janeczek, Silesian University, Sosnowiec, Poland, working with R. Ewing, May-July, 1995.  
Dr. Boris Burakov, Khlopin Radium Institute, St. Petersburg, Russia, working with R. Ewing, Dec. 1995-Jan. 1996.  
Sergey Usghov, Khlopin Radium Institute, St. Petersburg, Russia, working with R. Ewing, Mar-May, 1996.  
Lifan Chen, Institute of Physics, Chinese Academy of Sciences, Beijing, working with Lu-Min Wang, arrived Feb. 1996.  
DEPARTMENTAL STANDING COMMITTEES, 1995-96

GRADUATE COMMITTEE

J. GEISSMAN
G. SMITH
K. Karlstrom
J. Papike
F. Pazzaglia
J. Selverstone

UNDERGRADUATE COMMITTEE

L.D. McFADDEN
L. Crossey (sabbatical, Fall)
M. Elrick
R. Ewing
C. Klein
L. Woodward

SCHOLARSHIP COMMITTEE

B. KUDO
L. Crossey (sabbatical, Fall)
M. Elrick
S. Huestis

FACILITIES COMMITTEE

J. PAPIKE
Y. Asmerom
A. Brearley
R. Ewing
J. Geissman

COMPUTER COMMITTEE

S. HUESTIS
J. Connolly
D. Gutzler
M. Miller
F. Pazzaglia
M. Spilde
Graduate student (to be determined)

COLLECTIONS COMMITTEE

G. SMITH
R. Ewing
C. Klein

GRADUATE ADVISORS

Geissman (petitions, progress, etc.)
Smith (admissions, TA matters, etc.)

UNDERGRADUATE ADVISOR

L. Crossey

HONORS ADVISOR

R. Ewing

THIN SECTION LAB

K. Karlstrom

LIBRARY LIAISON

S. Huestis

LECTURES AND COLLOQUIUM

B. Kudo
G. Smith

ALUMNI RELATIONS

L. Crossey

VEHICLES

M. ELRICK
G. Carnako
A. Quattrocihi
Graduate student (to be determined)
APPOINTMENTS AND SEPARATIONS

APPOINTMENTS TO FACULTY

David Gutzler, Associate Professor (August, 1995)
Jane Selverstone, Associate Professor (August, 1995)

SEPARATIONS FROM FACULTY

None

APPOINTMENTS TO STAFF

Dr. Mostafa Fayek, Post-Doctoral Scientist, January 1996.
Dr. Peter Burns, Post-Doctoral Scientist, June 1, 1996
Dr. Padinare Unnikrishna, July 1, 1995.
Dr. Steve Getty, February 1, 1996.
Dr. Michael Wiedenbeck, April 1, 1996.

SEPARATIONS FROM STAFF

Bruce Allen, June, 1996.
Alice Quattrocchi, June 30, 1996.
II. ACTIVITIES, ACHIEVEMENTS, AND PLANS
INTRODUCTION

This annual report summarizes the activities, accomplishments and plans of the Department of Earth and Planetary Sciences (E&PS), including the Institute of Meteoritics (10M), during the 1995-96 academic year. Most details of faculty activities (Part III) are derived from biographical supplements for 1995, whereas the general discussions and information on other aspects of the Department include the period from July 1, 1995 to June 30, 1996. This inconsistency in reporting UNM data (calendar year for individuals; academic year for departments) is unfortunate, and UNM should choose one or the other period for its standardized reports. As this is the only document that comprehensively summarizes the Department’s history during the past year, and is used as a source of information by many people both within and outside of the University, we have endeavored to make it as complete as possible.

During the 1995-96 academic year, the faculty of the Department of Earth and Planetary Sciences consisted of 18 regular tenured or tenure-track faculty (17.5 FTE), 2 senior Research Professors, 2 Research Professors and 2 Research Associate Professors. In addition, 12 Ph.D.-level research scientists (3 within 10M) filled a variety of non-faculty positions within the Department. Most are scientific staff with specific responsibilities relating to analytical laboratories and departmental research endeavors; 6 were post-doctoral scientists. The Departmental faculty is thus augmented by a significant number of other doctoral-level geoscientists, who in some cases participate in teaching and advising of graduate students, and add to the research capabilities and scholarly reputation of the Department.

Permanent scientific staff also include several technicians and Research Associates, and the office administrative, clerical, and support staff also contribute vitally to the functioning of the Department. Several other geoscientists affiliated with other institutions were in residence in the Department for periods ranging from weeks to the entire year, conducting research as visiting scientists and working with faculty and staff members. The names of all these departmental personnel are included in Part I of this report.

FACULTY AND STAFF ACCOMPLISHMENTS

Position Changes in Faculty

Two faculty vacancies existed in the Department in 1995-96, in paleoclimatology (created by Dr. Roger Anderson’s retirement in June, 1993), and in stable isotope geochemistry, (because of Dr. Crayton Yapp’s resignation in June, 1995). The Department began searches to fill both positions in Fall, 1995. The geochemistry search was put on hold in January, 1996, because of University budget cutbacks; we expect to revive that search in Fall, 1996. The paleoclimatology search was completed in Spring, 1996, with the offer of the position to Dr. Peter Fawcett (Ph.D., 1994, Penn. State). Dr. Fawcett will finish his post-doctoral appointment at the University of Toronto, Canada, and join the faculty in January, 1997. The Search Committee (G. Smith, Chair; F. Pazzaglia, L. McFadden, M. Elrick, D. Gutzler, L. Scuderi, Geography Department and graduate student C. Treadwell) devoted a large amount of time to this process, especially during the Spring semester.

Two new faculty joined the Department in Fall, 1995, Dr. Jane Selverstone, (Ph.D., MIT, 1985) and Dr. David Gutzler (Ph.D., MIT, 1986), both as tenured Associate Professors. Dr. Selverstone works in metamorphic petrology and tectonics, particularly the application of petrologic techniques to interpretation of tectonic processes, the determination of P-T-T deformation paths, and fluid-rock interactions. Dr. Gutzler is a climatologist whose faculty position is jointly with the E&PS and Geography Department. His research on modern climates adds a new dimension to UNM’s effort in studying past and present global climate changes, and enhances the Department’s strength in the area of Quaternary Studies.
Following discussion and approval of Departmental guidelines last year, Drs. Frans Rietmeijer and Charles Shearer were appointed Research Professors and Drs. Adrian Brearley and Lu-Min Wang were appointed Research Associate Professors effective July 1, 1995.

A search was initiated in May, 1996 for the next Caswell Silver Research Professor, an endowed Chair supported by the Caswell Silver Foundation for two years. We expect to complete the search by the end of the Fall semester, 1996, with the successful candidate arriving in Fall, 1997.

In Spring, 1996, discussions were initiated with Dr. Susan Kieffer (University of British Columbia and member of The National Academy of Sciences) regarding a possible faculty appointment in the Department, but these discussions did not reach fruition.

Other Position Changes

Following a national search, Dr. Steve Getty, (Ph.D., Brown University, 1990) was appointed as a senior research associate in the Department's radiogenic isotope lab. A similar position in the stable isotope lab remained vacant in 1995-96, and will be filled upon the arrival of a new stable isotope geochemist on the faculty, probably in Fall, 1997. New post-doctoral research scientists in the Department are Dr. Peter Burns and Mostafa Fayek, both working with Dr. R. Ewing, and Dr. Padinare Unnikrishna, working with Mike Campana.

Jim Connolly continued as quarter-time manager of the Department's computer network for most of the year, and was raised to 0.5 FTE in March. The Department also began supporting Mike Spilde, supervisor of the SEM and Microprobe labs, at 0.5 FTE in March; previously he had been entirely supported by IOM.

Faculty Advancement

Associate Professor Gary A. Smith was awarded tenure effective Fall, 1995. Assistant Professor Maya Elrick was reviewed and recommended for tenure and promotion to Associate Professor, effective Fall, 1996. Yemane Asmerom's Code 3 review was positive, and he will begin his second three-year term in Fall, 1996. The Department also conducted a Code 2 review of Frank Pazzaglia this year.

Staff Award

The Main Office Staff (M. Chavez, P. Halei, S. Hayes, C. Jaramillo and A. Quattrocchi) received the Provost's Outstanding Staff Workgroup Award in recognition of the high quality of their work in the Department. Many faculty and students nominated them for this award, which is richly deserved, and reflects their considerable contribution to the success of the Department. The awards were presented in a ceremony in the Bobo Room of Hodgin Hall, on March 8, 1996. The citation noted "the Earth and Planetary Sciences Department is well organized and managed due, in large part, to the knowledge, experience and helpful attitude of these people. These staff form a "wonderfully efficient and cordial team." The office must cope with a constant stream of faculty, students and visitors requesting information and assistance, and seeking advice. This is a group of people who do not believe in the words "that can't be done."

Sabbatical Activities

Two faculty were on sabbatical leave in 1995-96; Michael Campana for the entire year, and Laura Crossey in Fall, 1995.
Mike Campana spent most of the Fall semester (late August through mid-November) in Egypt at the Research Institute for Groundwater (RIGW), a government run research institute. His original objective was to conduct field tracer tests to verify a lumped-parameter mathematical model he developed with Dr. Isam E. Amin of CSU-Long Beach. Logistical problems precluded conducting the test, so he concentrated on assisting RIGW scientists and engineers in the collection of field data for use in a numerical hydrologic model he designed. Samples were collected from the Cretaceous fissured carbonate and Nubian aquifers for geochemical and environmental isotopic analyses; these data will be used as input data from a groundwater flow model of the Cretaceous fissured carbonate aquifer. Additional sampling may be needed, for which he will likely write a proposal to obtain more funding. In addition, Mike 1) mentored several Ph.D. students at the RIGW; 2) helped RIGW engineers design a dewatering scheme for an antiquities excavation at Siwa Oasis; 3) lectured at a short course sponsored by the Ministry of Public Works and Water Resources (topic: "Mathematical modeling of stable isotopes in groundwater"); 4) gave several informational lectures at the RIGW; and 5) improved the aforementioned hydrologic model. He also attended the International Symposium and Field Seminar on Karst Waters and Environmental Impacts, September 10-20, Antalya, Turkey, presented a paper ("Delineation of a carbonate-alluvial groundwater flow system using a mixing-cell model and the spatial distribution of deuterium") and went on the field excursion.

Mike spent the spring semester as a Fulbright Scholar at University College of Belize (UCB) in Belize City, Belize. He was to 1) teach two courses, Environmental Geology and Watershed Management; 2) assist UCB in the development of its Natural Resource Management Program (of which the two courses were part); and 3) help develop a "research culture" at UCB. The former class failed to attract any students and was cancelled; he also designed syllabi for two other NRMP courses: Geologic Hazards of Development and Waste Management. Mike met with government officials and others to ascertain Belize's problems vis-a-vis water quality and quantity. These meetings led to writing of two preproposals: Caye Groundwater Development Using Scavenger Wells (a technology discovered while in Egypt) and The Hydrogeology of Belize, an ambitious project to delineate Belize's groundwater flow systems. These preproposals were distributed to various official and agencies for comments and potential funding; no financial support has been forthcoming although Belizean official are enthusiastic about the propose work. Mike will seek funding from outside sources, such as foundations and has already begun work on writing full-scale proposals.

During Fall, 1995, Laura Cressey attended the IVth International Conference on Advanced Materials from August 27-September 1, 1995 and co-chaired a symposium on "Planetary Impacts: Materials Response to Dynamic High Pressure" (with Randall Cygan, Sandia National Labs and Luis Marin, Universidad Nacional de Mexico). The meeting was located in Cancún, Mexico, near the putative Cretaceous-Tertiary impact site on the Yucatan peninsula. She also gave an invited lecture at Louisiana State University on September 15, 1995. Having been selected as an American Association of Petroleum Geologists Distinguished Lecturer for 1995-1996, the first two-week tour occurred from November 27 - December 8, 1995. The lecture (titled "Cementation of Sandstone: Reflections of Cyclic Sedimentary Processes") was given at: The University of Arkansas (Fayetteville), University of Alabama (Tuscaloosa), Memphis State University (Memphis), University of New Hampshire (Durham), Laval University (Quebec), Brooklyn College (New York), Case Western Reserve (Cleveland), Michigan State University (East Lansing), and Washington University (St. Louis). Other activities during the sabbatical period were related to the development of an interdisciplinary project located in the Jemez Mountains of northern New Mexico involving collaboration between E&PS and UNM's Biology department (H. Maurice Valett). The culmination of these efforts was the submission of an interdisciplinary proposal to the Environmental Biogeochemistry Program at the National Science Foundation which was subsequently funded in June, 1996 ($290,000 for three years).
**Instructional Activities**

1. Student enrollments

Student enrollments in Department of Earth and Planetary Sciences courses during the 1995-96 academic year, as indicated by total student credit hours (SCH), was 6524, a decline of 3.5% from the previous year. These figures include academic year courses plus field courses (EPS-319,-420) taught during the summer. The Department's SCH figures (adjusted to include these field courses) for the past 5 years are given below. Recent departmental declines in SCH mirror a general decline in A&S enrollment, over the past two years, thought to be mainly related to Albuquerque's booming economy and high employment rate. There is also some evidence of a pervasive decline in enrollment in science courses across campus, possibly due to an increase in transfer students who have fulfilled science requirements at other institutions.

<table>
<thead>
<tr>
<th>Year</th>
<th>SCH</th>
<th>% change from previous year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
<td>7679</td>
<td>0</td>
</tr>
<tr>
<td>1992-93</td>
<td>8190</td>
<td>6.7</td>
</tr>
<tr>
<td>1993-94</td>
<td>7249</td>
<td>-11.5</td>
</tr>
<tr>
<td>1994-95</td>
<td>6763</td>
<td>-6.7</td>
</tr>
<tr>
<td>1995-96</td>
<td>6524</td>
<td>-3.5</td>
</tr>
</tbody>
</table>

The number of declared undergraduate E&PS majors stood at 88 during the Spring, 1996 semester. During Fall, 1995, 33 M.S., and 25 Ph.D., students were pursuing degrees in the Department. In Spring, 1996, there were 29 M.S., and 21 Ph.D., students. Additional, more detailed information about the graduate students and their activities and accomplishments are presented in Part V of this report.

2. Degrees Awarded

20 students received Bachelor's degrees from Fall, 1995 through Summer 1996:

B.A. - Anna Collingwood, Deborah Corrao, Diana Crowson, Tiffani Fiedler, Henry Gabaldon, Brian Gallagher, Paul Giarratano, Frank Jaramillo, Timothy Lusk.


11 students received Masters degrees during this period:

Joseph Andrew, Kyle Gay, Thomas Goodspeed, Leslie Hohweiler, Jimmie Hutchison, Alexis Lavine, Marc Melker, Paula Newcomer, John Rogers, Harold Rowe, Suzanne Meuret.

10 students received Doctoral degrees from Fall, 1995 - Summer, 1996.

Charles Bryan, Michael Grubensky, Bradley Ilg, Jennifer Loomis, Jane Pedrick, Aurora Pun, Mark Servilla, Amy Thompson, Carol Treadwell, Paula Watt.
3. Adjustments in Normal Course Offerings

Current faculty vacancies slightly decreased course availability this year, but did not impact on courses required for our undergraduate majors. As in the past, Ph.D. students taught two lecture sections of EPS-101 (one at Kirtland Air Force Base) during the year, in order to broaden their preparation for academic careers. A few other courses were taught by part-time instructors, but as is our tradition, members of the regular faculty taught the great majority of E&PS course offerings. In Spring, several new, successful courses were offered for the first time. Frank Pazzaglia taught EPS-103, Earth Environment and Global Change, to an audience of 66 students; this course will probably be offered twice a year in the future. Adjunct Professor Susan Barger conducted (as EPS-300) a seminar course on the Materials Science of Art Objects, an unusually interdisciplinary subject which attracted nearly 30 students, mostly from the College of Fine Arts. Gary Smith, Frank Pazzaglia and Les McFadden co-instructed, together with faculty from the Anthropology Department, a seminar (EPS-400) on Geoarcheology, again with about 30 students. Rod Ewing co-instructed a graduate seminar (with the Department of Chemical and Nuclear Engineering) on the materials science of radioactive waste forms. These interdisciplinary courses indicate the broad nature of the earth sciences in the 1990s. Visiting Professor Robert Doremus, who spent his sabbatical in the Department, voluntarily taught a graduate seminar on his specialty, entitled "Kinetics and Phase Transformations".

4. Summer Course Offerings

During summer, 1995, the Department conducted its seven-week Beginning and Advanced Field Geology sequence (EPS-319 and EPS-420), instructed by J. Geissman and K. Karlstrom, respectively, as well as a section of EPS-101 and its lab course EPS-105. These same courses are scheduled for summer, 1996, except that a reduction in this summer's budget required cancellation of the lab section. In addition, in July-August, 1996, Gary Smith, together with Los Alamos National Lab volcanologists, will teach the Volcanology field course (EPS-451) which is now on an alternate-summer schedule.

5. Curriculum Changes

No major changes in the undergraduate curriculum were implemented in 1995-96, following a significant revision of our BA/BS degree programs the previous year. The new programs are in place and the revised core courses have all been taught for the first time. Following the graduation of this year's seniors, most undergraduate students in the Department are now progressing through the new programs.

Modification of the exam procedures for M.S., and Ph.D., students, and changes in admission procedures (students are not generally admitted unless we can offer them 2 or 3 years of assistantship or other full-time support) instituted one to three years ago, appear to be working well. The faculty clarified breadth requirements for the 2 Ph.D., proposals, and approved some minor adjustments to the admissions policy relating to applicants for entry in Spring semester; TA-ships or RA-ships may be offered as part of a 1-year package of support to these students. Also the faculty developed a schedule of 400 and 500-level courses to be taught over the next 3 years, in order to facilitate advisement and student planning of their course work during their graduate careers, and produced a new graduate student program of studies form. The Graduate Committee took the lead in bringing these items to the full faculty.

6. Non-traditional Undergraduate Education

During 1995-96 the Department again participated in the MEMS (Minorities in Engineering, Math, and Science) program, funded at UNM by the DOD and designed to increase the recruitment and retention of minority students in science and engineering fields. L. Crossey and Y. Asmerom served as departmental co-coordinators for this program. Components of the program include organized study groups, detailed tracking of students through their science/engineering courses, undergraduate scholarships, research support, tutoring opportunities, graduate teaching assistantships, and a summer bridge program. Graduate students Tony Garcia
and Aurora Pun were MEMS Teaching Assistants; organizing and leading small study groups and providing individual tutoring of students as well. Y. Asmerom supervised the Department's portion of the 1995 summer bridge program, which provided incoming freshmen with declared interests in math, science and engineering the opportunity to participate in a variety of laboratory and field trip experiences in the earth sciences, and perhaps to kindle an interest in majoring in this subject. The MEMS program of 1995-96 is its third and last year.

The Department also continued as an REU (Research Experiences for Undergraduates) site, based on a two-year, $98,000 NSF grant to K. Karlstrom and J. Geissman. This program provides support for undergraduate students to work on research projects with faculty advisors, in effect broadening the training of these students beyond the context of formal courses, and stimulating enhanced interest in the geosciences through the research experience. Many students present professional talks on their research and some will publish upon it as well. On October 20, 1995 the 17 students currently working in the REU program gathered to report on their research in a departmental Undergraduate Research Symposium. A list of these students and their research appears in Part V of this report.

The Department decided to terminate correspondence courses in EPS-101 and EPS-102, offered through UNM's Continuing Education Division. For many years there had been no direct involvement or oversight by the E&PS faculty in these courses, and there was found to be little current interest among the faculty in supervising these courses.

Research and Publication

The faculty, research staff and students of the Department continued their high level of productivity in research in 1995-96. Research—contributing to human knowledge in one's discipline—is an essential and fundamental function of the Department of Earth and Planetary Sciences at UNM. The Department's status and respect within its discipline depends primarily on the quality and quantity of its research, just as a university's stature depends mainly on the scholarly activities of its entire faculty. In addition, active research programs form an essential teaching tool in keeping students up to date, in educating them not only about facts but also about how knowledge is gained, and (especially with graduate students) providing support for thesis/dissertation work and in the mentoring process of future geoscientists.

During 1995 members of the Department and Institute of Meteoritics (including faculty, research scientists and students) produced a total of 231 publications, in the following categories:

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books Written</td>
<td>1</td>
</tr>
<tr>
<td>Books Edited</td>
<td>2</td>
</tr>
<tr>
<td>CD ROM</td>
<td>1</td>
</tr>
<tr>
<td>Scholarly Papers</td>
<td></td>
</tr>
<tr>
<td>Refereed Journals</td>
<td>47</td>
</tr>
<tr>
<td>Edited Volumes</td>
<td>52</td>
</tr>
<tr>
<td>Book Reviews</td>
<td>3</td>
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<td>Other Publications</td>
<td>2</td>
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<tr>
<td>Technical Reports</td>
<td>5</td>
</tr>
<tr>
<td>Published Abstracts</td>
<td>118</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>231</strong></td>
</tr>
</tbody>
</table>

As in past years, graduate students and even some undergraduates participated significantly in the Department's publication effort. Some 19% of refereed papers published in 1995 had student coauthors and students contributed to about 47% of the published abstracts based on presentations made at professional meetings; in many cases students were the presenters. These figures testify to the importance the faculty places on involving students in research and to presenting the results of their research through professional talks and...
publications, an important part of their preparation for careers in the geosciences. All 1995 departmental publications are listed by author in Part III-2 of this report.

Faculty and research scientists also continued their success in attracting external funding to support their research. About 70 different externally funded grants and contracts were in effect among Department and Institute of Meteoritics scientists in FY 1995-96, (see Part III-3 for a complete list), having a total value of about $5.2 million. At a single representative point in this year (December 31, 1995), the total value of active grants and contracts was about $4.0 million, a figure that provides a snapshot of external funding activity during the year. Some 25 new grants, worth about $1.75 million, were awarded to Department and Institute of Meteoritics personnel in FY 1995-96.

The great majority of these awards was from Federal agencies, especially the National Science Foundation, Department of Energy, the National Labs, and the National Aeronautics and Space Administration Competition for these awards with scientists across the country has always been rigorous, but has become increasingly severe in recent years, which makes the success of the Department and IOM in 1995-96 all the more noteworthy. The amount of new research funding received each year by the faculty and research scientists exceeds the entire state/university-supported budget of the Department. Not only do these grant and contract funds support a large proportion of departmental research, and benefit the University as a whole through the overhead funds they generate, but many graduate students are supported as research assistants by these funds as well (see Part V). Also, because most of these external funds are expended in the state, they represent a significant addition to New Mexico's economy.

In addition to publications and grant/contract-supported research, the E&PS faculty and research staff also pursued a wide variety of other research projects during 1995-96 that were not externally funded or published upon during the year (see Part III-4).

**Other Scholarly Activities**

Most of the faculty and research staff participated widely in professional societies and organizations, presenting numerous talks and poster sessions, organizing and chairing symposia, leading field trips, and serving as officers. Such activities are a form of service to the profession, but also increase professional recognition, contacts, the exchange of ideas and potential for joint research, and leads to greater visibility for UNM and the work of its faculty. This participation is summarized in Part III-5 of this report, and other professional activities are listed in Part III-6.

The faculty's total involvement in professional activities is too lengthy to completely survey here, but some of these contributions were especially important nationally and internationally, and are worth mentioning.

Several faculty participated as panel members for various Federal agencies, providing review, guidance, and comment at the national level. For NSF, J. Geissman served on the earth sciences instrumentation and facilities program panel; K. Karlstrom on both the tectonics and continental dynamics panels; and J. Selverstone was appointed to the tectonics panel. A. Brearley (IOM), H. Newsom (IOM) and F. Rietmeijer served on several different NASA review panels. R. Ewing served on National Academy of Sciences/National Research Council Panels on the Waste Isolation Pilot Plant, on remediation of build and tank wastes, and on an international workshop on glass as a waste form and verification technology, and also as co-chair of Basic Energy Sciences panel on radiation effects in nuclear waste forms, and on a National Advisory Council on environmental policy and technology for the Environmental Protection Agency. J. Papike is a member of the Advisory Committee for the Institute of Geophysics and Planetary Physics for Los Alamos National Lab and the University of California. M. Campana served as Chair of the technical committee for the 3rd USA/CIS joint conference on environmental hydrology and hydrogeology in Tashkent, Uzbekistan.
Participation by the faculty and research staff as Associate Editors and on Editorial Boards of international journals was substantial in 1995-96, as indicated by the following list: A. Brearley (American Mineralogist), M. Campana (Environmental and Engineering Geoscience), L. Crossley (Geology, Geological Society of America Bulletin), R. Ewing (Journal of Materials Research, Journal of Nuclear Materials), J. Geissman (Chief editor, Geological Society of America Bulletin; Journal of Geophysical Research; Geology), D. Gutzler (Journal of Climate), K. Karlstrom (Precambrian Research); C. Klein (Precambrian Research; McGraw-Hill Encyclopedia of Science and Technology); L. McFadden (Catena); H. Newsom (Geochimica et Cosmochimica Acta); G. Smith (Geological Society of America Bulletin, Sedimentology, Journal of Sedimentary Research).

Notable contributions to professional societies include J. Papike's service as President of the Mineralogical Society of America; R. Ewing, Vice-President, International Union of Materials Research Societies and C. Klein, Treasurer, International Mineralogical Association; L. Crossley was an American Association of Petroleum Geologists Distinguished between 1995-96, giving 9 lectures at universities in 6 eastern states plus Quebec in the Fall and several additional lectures in the Spring.

Several faculty participated in professional and scholarly activities outside the U.S. during 1995-96, including Canada, Mexico, Poland, Denmark, Sweden, Italy, Germany, Egypt, Belize, China, Turkey, the Netherlands and Hungary.

*University and Public Service.*

Service to the University and to the public is an important component of the Department’s activities. During the past year, Geology faculty participated on numerous College and University committees. J. Geissman served on the Faculty Senate during 1995-96, and L. Crossley was elected to the Senate in Spring, her term to begin in Fall, 1996. The faculty also served as a resource of expertise in the geosciences for individuals, groups and organizations outside the University (see Parts III-7 and III-10 for lists of these activities). Members of the Department routinely identify rock, mineral, fossil and suspected meteorite specimens for the public, give talks to civic groups and public school classes, judge in science fairs, answer questions for radio, TV and newspaper reporters, and host open houses for local gem and mineral groups.

An important resource provided by the Department to the University and the public is maintenance (without specified University support) of two public museums, one devoted to geology (rocks, minerals, fossils, New Mexico geology) and the other to meteorites. These museums are open each weekday, are free, and are visited by thousands of school children and adults each year. A free pamphlet provides information for a self-guided tour, and faculty and graduate students on occasion lead tours when arrangements have been made in advance. A more complete description of activities involving the Department’s museum and geological collections is presented in Part IV of this report.

The Department also maintains the Harding Pegmatite mine in southern Taos County, donated to UNM by Dr. Arthur Montgomery, as an unusual mineral-collecting locality and outdoor geological laboratory. Mr. Gilbert Griego, a Department staff member, is the long-time caretaker of the property. Last year about 557 people visited the Harding Mine. An article in the June, 1996 issue of New Mexico Magazine led to a large increase in visitation during the summer months. The Department welcomes visitors, but permission from the Chairperson must be obtained prior to each visit.
GENERAL DEPARTMENTAL ACTIVITIES

Caswell Silver Foundation 15th Anniversary

A series of events on May 2-4, 1996, commemorated the 15th anniversary of the establishment of the Caswell Silver Foundation, which has provided tremendous support to the Department over the years. Established by alumnus Caswell Silver (B.A., 1940; M.S., 1946), with the encouragement of former Chair, Vin Kelley and following a blueprint created by former Chair, Rod Ewing, the Foundation supports an endowed professorship, 2 full-time graduate fellowships, a distinguished lecturer series, and faculty and student travel to professional meetings. The 15th Anniversary events included many alumni of the Department as well as many members of the Silver Family. Dr. Clark Burchfiel, (M.I.T.), Caswell Silver Distinguished lecturer, gave two lectures (May 2, 3); an informal discussion by alumni, students and faculty considered the present state of the discipline of earth sciences, jobs and academic training and where the discipline is likely to go in the future; a gala banquet at the LaPosada Hotel Friday evening featured reminiscence and testimonials of Caswell Silver and the Foundation; and several field trips for participants were conducted Saturday morning to nearby areas of geologic interest. The celebration wound up with a barbecue picnic on the lawn in front of Northrop Hall, put on by the graduate students. These events focused attention on the Department and Silver Foundation, and also reflected the great appreciation the Department feels towards the Silver family in creating and maintaining this source of outstanding support for our academic endeavors.

Television Program

The Department's research on the geology of New Mexico was the focus of an hour-long television program "Deep Time", which aired on October 17 and 21, 1995. More than a year in the making, this program was produced by KUNM-TV and the UNM Office of Research Administration as part 3 of its series "Field Notes". Several faculty and graduate and undergraduate students were featured in "Deep Time", which portrayed some of New Mexico's outstanding geological features, and some of the ways in which UNM earth scientists learn about various aspects of New Mexico's geology. The program was quite well done (special thanks to Larry Walsh and Denise Wallen) and has been subsequently used in some E&PS classes as an introduction to the earth sciences.

Minerals of New Mexico Reception

On March 2, 1996, The Department hosted a reception in recognition of publication of the Third Edition of "Minerals of New Mexico" by Stuart Northrop, (UNM Press), and in honor of Florence LaBruzza who authored the revised third edition. Stu Northrop (faculty member in E&PS from 1928 to 1969, and Chair for most of that time) wrote the first 2 editions of this book, the Second Edition of which appeared in 1959. Florence LaBruzza has been a volunteer curator in the Department for several years.

Budget Cut

In September 1995, UNM suffered a budget cut of 2.5%, mandated by the Governor retroactively to the beginning of the fiscal year. The cuts were passed along to individual departments; E&PS lost several thousand dollars of its general supplies and expenses budget. Although not impacting the Department in a major way, this cut did require postponement of some needed expenditures, especially in additional computer hardware and microscope equipment for students.
Facilities

1. Capital Improvements

There were no major capital improvements to Northrop Hall in 1995-96. A long-standing proposal to enclose the area along the north wall of the basement for a secure storage and work area was again not acted upon, but remains the Department's highest priority.

2. Science-Technology Building

Some planning for a proposed new Science-Technology Building, which would house the Computer Science Department and provide expansion space for E&PS, Chemistry and Biology, continued in Fall, 1995. This culminated in a meeting with the Provost and architectural consultants in September in which it was decided to propose an approximately 160,000 ft² (total space) building, with E&PS allocated about 12 to 20% of usable space. However, the project did not advance during the 1996 legislature session and currently appears to be indefinitely postponed. This is unfortunate, as the Department's need for additional space continues.

3. Analytical facilities

No significant new analytical facilities were added. The Facilities Committee reviewed most of the major analytical labs during the year. Sustaining the operation and maintenance of these labs (mainly from faculty grants and user fees) is for the most part successfully accomplished, but generally rather precariously for some labs. The costs of instructing students in these labs is a persistent drain on their budgets, which could only partially be recompensed from the Department budget. Annual university support for the operation of our multi-user analytical labs is far less than it should be; only one lab (TEM) received any UNM support during the year.

Funds for equipment allocated to the Department in August, 1995, aided significantly in bringing the new radiogenic isotope lab to operational status. The ICP-Mass Spectrometer suffered considerable water damage in September, 1995, and was down most of the year for repairs.

In Spring the Institute of Meteoritics and the Department wrote a proposal (to NSF and NASA with University and Department matching commitments) to acquire a new Scanning Electron Microscope, both to replace our current instrument which is obsolete and ending its useful life, and to take some user pressure off the Microprobe (some high-resolution imaging work would shift from the microprobe to a new SEM).

4. Other Research/Teaching Facilities

A portion of equipment funds allocated to the Department in August, 1995, was used to pay most of the purchase price of the new 9-passenger field vehicle acquired the previous year. Plans for purchase of a 2nd new vehicle had to be postponed, but remains a high department priority, given the increasing age and increasing repair bills on our heavily used vehicle fleet.

5. Computing Facilities

Tight budgets precluded significant expansion of the Department's computing facilities in 1995-96, but minor additions and upgrades were made. The departmental file saver crashed in April, with insufficient backups to prevent a fair amount of data loss in the main office and among faculty and students. New components, plus a complete tape backup for the departmental network were installed, and the system is now operating well.
The Department with assistance from Lu-Min Wang and J. Connolly, established a World-Wide Web site, linked with a separate site for the Electron Microscopy lab and with the University's site. Expansion of information on our "web page" will continue in the Fall.

Library Journal Cancellations

In May, 1996, escalating journal subscription prices and unsufficient budgets required Centennial Library to request cancellations of about $11,000 in geoscience journal subscriptions, the second round of cancellations in 4 years. The Department chose 19 journals which library records and faculty input indicated were relatively little used, but the trend is an obvious one. It appears that the library increasingly will be depending on meeting requests for individual articles through inter-library loan or computerized retrieval systems, and will maintain subscriptions only to a relatively small core group of "essential" titles.

Positions for Students

For the first time in several years the petroleum industry, until the mid-1980s the largest employer of geoscience students, was represented in the Department by recruiters (from Conoco), and one undergraduate student was hired. Several other job announcements from Industry were also received by phone or mail in the Department.

Department/University Affairs

During 1995-96, there were significant changes in UNM administrators: a new Provost; new Dean of our College of Arts and Sciences; and new Associate Provost for Research Administration and Director of Graduate Studies, which, with the budget cut, produced a somewhat uncertain atmosphere on campus. In the Fall, the National Research Council of the National Academy of Sciences produced its long-awaited national rankings of university departments in many different disciplines - the first such rankings since 1982. Unfortunately, most UNM departments, including E&PS, were not included, because the necessary information was not provided by the UNM Administration. This omission was a deep disappointment to many departments, as much progress had been made since 1982, and an opportunity to highlight the university's best departments was lost.

During the past year E&PS faculty also discussed two other University-wide initiatives, plans for post-tenure review of faculty and a core curriculum. The plan for post-tenure review developed by the Faculty Senate, involving reviews of each tenured faculty member annually, was not favored by E&PS, which believes that less frequent reviews would suffice. The plan was changed somewhat by the UNM Regents and its status is uncertain at present. The proposed core curriculum, which includes EPS-101/EPS-105 as one of the science group options, will continue to be discussed next year across campus.

The Department's graduate and undergraduate committees developed plans for outcome assessments of graduating students, which will be presented next year as part of the general university effort to meet requirements of its accrediting agency.

Guest Lecturers

Each year the Department invites a large number of earth scientists from other institutions to visit and present lectures based on their research to faculty and students. This very important departmental activity is an essential part of educating E&PS students, widens faculty interactions with colleagues, both nationally and internationally, and offers us the opportunity to inform colleagues about our research and facilities. Many of these visitors speak at the weekly Thursday morning colloquium. During the Fall semester each talk was followed by a pizza lunch for continued informal discussion; in spring, groups of graduate students escorted the speaker to lunch.
Professional lectures given in the Department during the 1995-96 academic year are listed below:


Dr. Heidi Hamel, Massachusetts Institute of Technology: "New Views of the Gas Giants: Hubble Space Telescope Images of Neptune, Uranus, Saturn, and Jupiter" (September 7, 1995)

Dr. Julie Morris, Washington University: "Geochemical Imaging of Sediment Accretion and Subduction at Convergent Margins" (September 14, 1995); "From Slab to Surface: Transit Times and Slab-Derived Elements Constrained From Be and U-Series Isotopes" (September 15, 1996)

Dr. Elizabeth Anthony, University of Texas at El Paso: "A Tale of Two Rifts: Magmatism in the Rio Grande Rift of Southern New Mexico and in the East African Rift" (September 21, 1995);

Dr. Elizabeth Anthony, University of Texas at El Paso and Dr. Jane Poths, Los Alamos National Laboratory: "Recent Advances in Surface-Exposure Dating of Quaternary Volcanic rocks" (September 22, 1995)

Dr. Jim Cole, University of Canterbury, Christchurch, New Zealand: "Volcanology and Structure of the Taupo Volcanic Zone, New Zealand" (September 25, 1995)

Dr. Harry McSween, University of Tennessee: "And Not A Drop To Drink: Water on Mars and in SNC Meteorites" (October 5, 1995)

Mr. Roger Brown, Conoco, Exploration Manager for North America: "3D Seismic Utilization in Field and Stepout Development" (October 16, 1995)

Dr. Thomas Gardner, Trinity University: "Tectonics of Costa Rica: Active Forearc Deformation Along A Thinly Sedimented, Rough/Smooth Subduction Boundary" (October 19, 1995)

Dr. James Papke, University of New Mexico, Institute of Meteoritics: "Pyroxene as a Recorder of Cumulate Formation Processes; Asteroids, Moon, Mars, Earth: Reading the Record with the Ion Microprobe" (October 26, 1995)

Dr. Robert Smith, University of Utah: "The Yellowstone Hotspot" (November 2, 1995); "Active Tectonics of the Intermountain Region" (November 3, 1995)

Dr. Stephen Ruppel, University of Texas Bureau of Economic Geology: "Recent Improvements in the Strontium-Isotope Record of the Middle Paleozoic Using Conodonts" (November 16, 1995)

Dr. Steve Getty, University of California, Berkeley: "Latest Advances in Geochronology" (November 27, 1995)

Dr. Bruce Harrison, New Mexico Institute of Technology: "The Use of Relative Dating Technology To Evaluate Tectonic Events In An Extremely Arid Environment" (November 30, 1995)

Dr. Paul Warren, University of California-Los Angeles: "Pyroxene Crystallization Trends in Lunar Meteorites" (January 17, 1996); "Petrology of Giant (>100 km diameter) Impact Melt Bodies: Earth and Moon" (January 18, 1996)

Dr. John Anderson, Rice University: "Collapsing Marine Ice Sheets, Rapid Sea-Level Change Events and their Impact on Coastal Systems" (January 25, 1996); "Evolution of High-Versus Low-Sediment-Yield Depositional Systems on the Texas Shelf in Response to the Last Glacial Eustatic Cycle" (January 26, 1996)

Dr. Cornelis Klein, University of New Mexico: "New Advances in Mineralogy Teaching techniques" (February 1, 1996)

Dr. Phyllis Budka, General Electric Co.: "Solidification of Iron-Nickel Meteorites in Microgravity" (February 2, 1996)

Dr. Winthrop Means, SUNY - Albany: "A New Approach to Understanding Igneous Textures: Live Thin Sections" (February 8, 1996)

Dr. Frans Rietmeijer, University of New Mexico: "The Mineralogy of Presolar Dusts" (February 15, 1996)

Dr. Mark Abbott, University of Massachusetts: "Holocene PaleoHydrology of the Subtropical Andes From Lake Records" (February 22, 1996); "Late Quaternary Climatic Shifts in the North American Arctic" (February 22, 1996)

Ms. Lora Stevens, University of Minnesota, Minneapolis: "Varves, Isotopes, and Pollen: A High-Resolution Record of the Late-Glacial/Holocene Transition in Minnesota" (February 29, 1996); "Analysis of Lake Systems: What do the Isotopic Compositions of Carbonates Really Tell Us?" (February 29, 1996)
Dr. Kirsten Menking, Franklin and Marshall College: "Reconstructing Paleoclimate of the Eastern Sierra Nevada Region From 800 ka to the Present" (March 4, 1996); "Using Modeling as a Tool in Lake Studies" (March 5, 1996)

Dr. Peter Fawcett, University of Toronto: "Global Climate Models: How Can They Be Applied to the Study of the Geologic Record in a Useful Way?" (March 7, 1996); "The Younger Dryas Termination and North Atlantic Deepwater Formation: Insights From Climate Model Studies and Greenland Ice Core Data" (March 7, 1996)


Dr. Ian Dalziel, University of Texas: "Earth Before Pangea" (March 28, 1996); "Reality Checks for Hypothetical Pre-Pangea Supercontinents" (March 28, 1996)

Dr. Lynn Soreghan, University of Oklahoma: "The Influence of Glacio-Climatic Change on Pennsylvanian Cyclostratigraphy" (April 4, 1996); "Accretionary Complexes as an Exploration Frontier: An Example From New Zealand" (April 4, 1996)

Dr. Michael Carr, Rutgers University: "Cycling of Cocos Plate Sediments Through the Volcanoes of Central America" (April 11, 1996)

Dr. Mark Rowan, University of Colorado: "Gulf of Mexico Salt Tectonics - A Different World" (April 18, 1996)

Mr. Sean D. Connell, New Mexico Bureau of Mines and Mineral Resources: "Late Cenozoic Stratigraphy, Soils and Geomorphic Evolution of a Rift-Margin Piedmont, Sandia Mountains, New Mexico" (April 25, 1996)


Dr. B. Clark Burchfiel, Massachusetts Institute of Technology: "Tibetan Plateau: How Does Inhomogeneous Intracontinental Deformation Lead to Formation of a Homogeneous Topographic Plateau?" (May 2, 1996); "Interactions Between Surface and Lithospheric Processes: Atmosphere to Mantle" (May 3, 1996)


**ALUMNI PROGRAMS AND SUPPORT**

The Department is very fortunate in being supported by a large group of active and enthusiastic alumni. Individually and collectively these graduates provide generous financial, advisory and moral support for many departmental activities, which contribute significantly to our success in our educational and research missions.

First among sources of alumni support is the Caswell Silver Foundation. Funds generated by the investments of the Foundation in 1995-96 provided generous stipends supporting two Leon Silver/Vincent Kelley graduate student Fellows (Tracey Cascadden and Brad Ilg), and subsidized the bulk of faculty travel to scientific meetings the past year. No Silver Research Professor was in residence this year. The Foundation also supports the visits of distinguished geoscientists as Caswell Silver Distinguished Lecturers.

This year's Silver Lecturer was Dr. Clark Burchfiel, Massachusetts Institute of Technology, who presented two lectures in the Department in early May, 1996, in conjunction with the commemoration of the 15th Anniversary of the Silver Foundation (see summary of these events earlier in this report).

The Silver Foundation also made possible, as it does each year, the presentation of two $500 Caswell Silver Meritorious Staff Awards to outstanding non-academic staff members. These awards are a tangible way the faculty expresses its deep appreciation to the Department staff for its efforts in contributing to the operation and advancement of the Department. This year's recipients were Bob Macy (Electronics Technician), and a joint award to the staff of the Main Office (A. Quattrocchi, C. Jaramillo, S. Hayes, M. Chavez and P. Halcli).
Donations and contributions from alumni, faculty and friends of the Department support about a dozen scholarship funds, mostly managed by the UNM Foundation. The interest generated by these funds annually is utilized to award scholarships to undergraduate and graduate students. Such scholarships are augmented by other scholarships awarded by the Department, and scholarships from institutions outside the University and occasionally fellowship funds from the University. A full summary of scholarships and fellowships received by Earth and Planetary Sciences students is presented later in this report. Here we note that in 1995-96, scholarships derived from alumni-supported funds amounted to $17,790 awarded to 12 undergraduate students (Leonard, Campbell and Pfeiffer Scholarships), plus $11,450 awarded to 10 graduate students (Alumni Fellowship, Miossec, Rhodes, Vann Wanek and Wengerd Scholarships).

A new fellowship was established in May, 1996, by alumni Patrick and Jean McKinney Gratton. This will alternate between the English and E&PS Departments, and in E&PS the Fellowship is to support students with demonstrated strong interest in natural resource exploration development and/or research. First award to an E&PS student is anticipated in 1998. The Department greatly appreciates the generosity of its alumni, such as Pat and Jean Gratton.

The Department also maintains contact with its alumni through gatherings at professional meetings, newsletters and many personal and professional contacts. In summer 1995, the fourth edition of the Department’s newsletter, Geologic Tracks, was mailed to nearly 1,000 alumni and friends. This newsletter was compiled and organized by L. Crossey, and is published annually.

PLANS AND GOALS

During the 1996-97 year, the Department will pursue several goals to increase our ability to carry out our educational and scholarly missions to the best degree possible.

1. Conduct a search for, and hire a new tenure-track junior faculty member in stable isotope geochemistry, to arrive in Fall, 1997. This person will replace Dr. Yapp, who resigned in June, 1995, and is essential for our educational and research programs in geochemistry.

2. Conduct a search for and hire a Caswell Silver Research Professor for a 2-year period beginning in Fall, 1997. This position is an endowed chair supported by the Silver Foundation, and will not be constrained by searching within a particular earth sciences discipline.

3. Evaluate the status of a volcanologist as the Department’s top priority for an additional faculty position if one becomes available.

4. Continue to press for 0.5 FTE state-funded support for the microprobe/SEM lab technician.

5. Continue efforts to obtain a 0.5 FTE staff position line for management of the Department’s computer and networking facilities. Currently this function is supported at 0.17 FTE, with the Department adding sufficient funds to bring the manager's position to 0.25 FTE, and (temporarily in 1996-97) using additional funds in a vacant staff line to bring the position to 0.5 FTE. In 1997-98 a true half-time line will be urgently needed.

6. Work to attain a more equitable and realistic distribution of support for the operation and maintenance expenses of the Department's teaching and research facilities. Current support for the analytical laboratories is mainly from faculty grants and user fees, but 25% (~$50,000/year) of lab expenses are created by activities relating to the education and training of students, which should be supported to a much greater extent by the University. The Department will continue to return some funds from its I & G account for the analytical labs, to the best of its limited ability, and to support, through equipment-use scholarships, student use of the labs.
7. Continue to push for needed capital improvements to Northrop Hall, including especially walling in of the external stairwell along the north side basement for a secure storage and work area. In addition, other improvements needed include renovation of room 105 to serve the needs of structural geology as well as petrology laboratories; installation of a new elevator to replace the increasingly unreliable elevator that dates back to the original construction of Northrop Hall 43 years ago; and renovation of the radioactive minerals storage area in the Collections room to alleviate an excess radon problem.

8. Continue to monitor closely and reallocate as needed, space in Northrop Hall. Presently, space is very limited and requires juggling of room uses each year to accommodate graduate students, visiting faculty, research scientists, and some laboratory functions. Expansion space (in a new Science-Technology building or elsewhere) is becoming a critical need. With the construction of a new classroom building on campus, the Department will request in Northrop Hall return of two rooms (114 and 116) to its exclusive use.

9. Upgrade or add new teaching equipment and facilities, as allowed by the departmental budget and the coming year's equipment fund allocation. A second new 9-passenger field vehicle is the top priority among major pieces of equipment, followed by two fully equipped petrographic microscopes and a high-resolution video camera and monitor for teaching. Replacement of a large slab saw for cutting rock specimens for teaching and research is also needed.

10. Continue to upgrade and maintain the Department's expanded computing facilities. More work stations are needed in the student computer pod, and a work station capable of running CD-ROM programs should be installed in the physical geology laboratory for teaching purposes. Ideally we would like to place work stations in several undergraduate teaching labs, and/or develop and outfit an undergraduate computer room, to integrate new instructional software for various areas of the geosciences into the curriculum of our undergraduate courses. Additional memory for some stations is planned, as is upgrading the word-processing computers and backup in the main office. The department's world wide web page will be expanded to incorporate more information on faculty, research staff, and undergraduate and graduate programs, and analytical labs.

11. The Department will co-sponsor the 47th annual New Mexico Geological Society Field Conference; several faculty and students will be contributing to this 4-day event in late September.

12. Finalize Department's outcome assessment plan for undergraduate and graduate students and improve data base on the current employment of its graduates.

13. Compile and send out an expanded departmental newsletter to alumni and friends, and revise the current departmental faculty/programs brochure, which is sent mainly to potential graduate students.

14. Although we regard the Faculty Senate annual post-tenure review plan as severely flawed and unnecessary, the Department may have no choice but to institute an annual review process for tenured faculty if the current plan is adopted by the UNM Administration.
III. ACTIVITIES OF THE FACULTY AND RESEARCH SCIENTISTS
(Calendar Year 1995)
1. TEACHING ACCOMPLISHMENTS

Yemane Asmerom

Courses taught

Spring: E&PS 101 - Physical Geology (90 enrolled)

Fall: E&PS 333 - Environmental Geology (30 enrolled)

Developed a new course Principles of Radiogenic Isotopes [E&PS - 534]

I spent and am spending a great deal of time bringing the lab on line; construction is done!

Graduate Student Advising:

Carter Dunaway (Isotope Geochemistry), Rebecca Gardner [committee member], Sharon Minchak [committee member], Dezbah Tso [Undergraduate, MEMS]

Adrian Brearley

Courses taught

Fall: E&PS 265 - "Exploring the Solar System" Presented guest lecture, November 15, 1995

E&PS 518 - "Electron Microprobe Analysis" Cotaught with Mike Spilde, (15 enrolled)

Served as Advisor and PhD committee member for Nicolaus Hanowski and Ivan Thorsos.

Member of PhD thesis committee for Jane Pedrick.

PhD committee member for Tahar Hammouda, PhD candidate, University of Orléans, France.

Michael Campana

Courses taught

Spring: E&PS 472 (with L.J. Crossey) - Groundwater Analysis (11 enrolled)

E&PS 562 - Groundwater Mechanics (7 enrolled)

New courses developed

E&PS 464 - Environmental Mechanics

E&PS 472 - Subsurface Fate and Transport Processes (substantial revision of an existing course, Groundwater Analysis).
Graduate students

Student Advisement/Thesis Supervision (*indicates support provided)
James Brainard, Sharman Carpenter, Leslie Hohweiler, John Appel, Gregory Wroblicky, Jerry Bird*, Robert Gray (all M.S.)

John Appel, 1995 (M.S.)
Hydrogeologic framework of the high Creek calcareous fen, South Park, Park County, Colorado.

Gregory J. Wroblicky, 1995 (M.S.)
Numerical modeling of stream-groundwater interactions, near-stream flowpaths, and hyporheic zone hydrodynamics of two first-order mountain stream-aquifer systems.

A. Kyle Harwood, 1995 (MWRA Project)
The urban stormwater contribution of dissolved trace metals from the North Floodway Channel, Albuquerque, NM, to the Rio Grande.

Leslie A. Hohweiler, 1995 (M.S.)
A method for predicting land subsidence as a result of groundwater withdrawal, Albuquerque, New Mexico.

Service on Thesis/Dissertation Committees

Andrika Kuhle (M.S.), Jerry Bird (M.S.), Robert Gray (M.S.), Sharman Carpenter (M.S.),
James Brainard (M.S.), Leslie Hohweiler (M.S.), Rhawn Denniston (M.S.), A. Kyle Harwood (MWRA), Sally Reeves (M.S. in Civil Engineering), Jeff Johnson (M.S. in Civil Engineering),
Armand Groffman (Ph.D.), Allen Gellis (Ph.D.), David Ward (Ph.D.), Jennifer Loomis (Ph.D.),
Drew Baird (Ph.D. in Civil Engineering), Kathleen Bower (Ph.D. in Civil Engineering), John Morrice (Ph.D. in Biology), Michelle Baker (Ph.D. in Biology), M. Tad Crocker (Ph.D. in Biology)

Service on Examination Committees

Jerry Bird (M.S.), Robert Gray (M.S.), Andrika Kuhle (M.S.), Jean Witherspoon (MWRA),
Armand Groffman (Ph.D.), Allen Gellis (Ph.D.), John Morrice (Ph.D. in Biology), Michelle Baker (Ph.D. in Biology)

Laura Crossey

Courses taught

Spring: E&PS 472-001 (21 enrolled)
Gen. Hon. 302 (10 enrolled)
E&PS 699 (1 enrolled)

Fall: Sabbatical leave
Ph.D. Committees:

Chair: Deborah Bergfeld, Jennifer Loomis, Armand Grossman (co-chair),

Committee member: Bruce Allen (reader) Michelle Baker (biology), John Morrice (biology), Paula Watt.

M.S. Committees:

Chair: Rebecca Gardner

Exam committee and/or committee member: John Appel, Jerry Bird, Carter Dunaway, Bob Gray, Skip Hobweiler, Greg Wroblicky

Student Grant Support:

Graduate: Jennifer Loomis (full)

Undergraduate: Karen Holmes (partial), Joseph Sterling (partial), Devin Castenyek (partial).

Maya Elrick

Courses taught:

Spring: EPS 102 - Historical Geology (40 enrolled)

Fall: EPS 304 - Sedimentology-Stratigraphy (23 enrolled)

developed all new laboratory exercises

EPS 537 - Basin Analysis (5 enrolled)

Graduate student advised

M.S.: Todd LaMaskin (defended 2/95)

Thesis committee member

Ph.D.: Jennifer Loomis, Ancheng Ma

M.S.: Andy Heckert, Harold Rowe, Tom Goodspeed

Wolfgang Elston

Courses taught:

Spring: E&PS 492 - Problem (1 enrolled)

E&PS 699 - Dissertation (1 enrolled)

Fall: E&PS 491 - Problem (1 enrolled)

E&PS 699 - Dissertation (1 enrolled)
Graduate Student Committees

Co-chair: Ph.D. candidate, Charles Bryan (graduated Fall 1995)

Committee member: M.S. candidate, Kyle Gay (graduated Fall 1995)

Curriculum

On-going development of courses of UNM-Los Alamos National Laboratory Volcanology Program (for details, see 1993 Biographical Supplement).

Rodney Ewing

Courses taught

Spring:
- Gn. Honors 302 (with L. Crosse) - In Darwin's Footsteps (10)
- E&PS 493 - Independent Study (1)
- E&PS 548 - Seminar/Solid-State Processes (9)
- E&PS 599 - Masters Thesis (1)
- E&PS 699 - Dissertation (2)

Fall:
- E&PS 495 - Senior Thesis (1)
- E&PS 547 - Seminar/Radioactive Waste Disposal (12)
cross-listed with Chem. Nucl. Eng. 575 (W. Lutze)
- E&PS 599 - Masters Thesis (1)
- E&PS 699 - Dissertation (2)

Graduate students

Ph.D. Candidates (advisor):
- Paul Eberly (supported by SKB, withdrew from graduate program), Al Meldrum (supported by TA/UNM), Shixin Wang (supported by BES), Keld Jensen (Aarhus University)

M.S. Candidate (advisor):
- Paula Newcomer (supported by SNL): "Temperature Dependent Irradiation-Induced Modification of Thallium Containing Perovskite Cuprates", completed Fall, 1995.

M.S. Examination committee:
- Robert Gray

Honors, undergraduates:
- Kerim Martinez, Kate Helean

Special Programs for Undergraduates

Summer Research Opportunity Program funded by the Center for Regional Studies and the Office of Graduate Studies (student: K. Martinez)

Minority Engineering, Mathematics and Science Program (student: K. Martinez)

Research Enhancement of Undergraduates/NSF (student: K. Helean)
Outside Reader or Jury Member


John W. Geissman

Courses taught

Spring: E&PS 307 - Structural Geology (with K. Karlstrom and L. Woodward) (28 enrolled)
E&PS 490 - Geological Presentations (13 enrolled)

Summer: E&PS 319L - Introductory Field Geology (13 enrolled)

Fall: E&PS 101 - Physical Geology (78 Enrolled)
E&PS 490 - Geologic Presentations (10 enrolled)

Graduate students supervised: Mike Grubensky, Ph.D. (co-advised), Tim Wawrzyniec, Ph.D., Suzanne Meuret, M.S., Eileen Romano, M.S., Marc Melker, M.S., Harry Rowe, M.S.

Exam committee: Tim Wawrzyniec, (Ph.D.), Al Meldrum, (Ph.D.)

Graduate Students financially supported: Suzanne Meuret, Tim Wawrzyniec, Marc Melker, Harry Rowe

Course Development:

Continued to organize, with Roberto Molina, a non-credit weekly "seminar" meeting for the users of the paleomagnetism laboratory, focussing on laboratory improvements, current research by users of the laboratory, and controversial research topics in paleomagnetism. Continued to modify/improve undergraduate field geology program and introduced one new project in E&PS 319L.

Guest lecturer: E&PS 101 and E&PS 533 (Extensional tectonics).

Undergraduate Research Advising: Tony Feig, Alfred Gomez

Graduate Theses Completed:

M.S., Suzanne Meuret - A paleomagnetic and rock magnetic study of a ca. 1.4 Ga regional metamorphic pulse in central New Mexico, 70 p.

M.S., Harry Rowe (Co-chair) - A rock magnetic and paleomagnetic record for the latest Pleistocene from the Estancia Basin, central New Mexico, 116 p.

Reader - Brad Ilg, Ph.D.
David Gutsler

Courses taught

Fall:  E&PS 547 - El Niño and Climate (5 enrolled; new course)
      E&PS 551 - Problems (1 enrolled)

Stephen Huestis

Courses taught

Spring:  E&PS 101 - Physical Geology (31 enrolled)
        E&PS 115 - Geological Disasters (44 enrolled)
        E&PS 492 - Problems (1 enrolled)

Fall:  E&PS 101 - Physical Geology (42 enrolled)
      E&PS 225 - Oceanography (23 enrolled)
      E&PS 418 - Statistics and Data Analysis in Earth Science (6 enrolled)
      E&PS 551 - Problems (1 enrolled)

New courses developed

E&PS 418 - Statistics and Data Analysis in Earth Science

M.S. Exam Committee:  Merri-Lisa Formento-Trigilio, Carter Dunaway

Ph.D. Exam Committee:  Timothy Wawrzyniec

Rhian Jones

Courses taught

Spring:  E&PS 493 - Independent Study (1 enrolled)
        E&PS 495 - Senior Thesis (1 enrolled)

Fall:  E&PS 265 - "Exploring the Solar System". One guest lecture, one lab session

Student Advisement:

Undergraduate advisor, Lisa Danielson
Senior thesis, "Experimental and petrologic investigations of reduced olivine in ordinary chondrites", May 1995

Advisor for Malinda Stanley, REU project, "Preparation of a Meteorite Museum Guide for use by visiting school parties". Summer semester, 1995
Karl Karlstrom

Courses taught

Spring:  
E&PS 307 - Structural Geology (27 enrolled)  
E&PS 307L - Structural Geology Lab (27 enrolled)

Summer:  
E&PS 420 - Advanced Field Geology (9 enrolled)

Fall:  
E&PS 528 - Regional Tectonics (11 enrolled)

Undergraduate students supervised

In addition to administering the REU grant (16 students), I directly supervised the work of Michael Smith: "Paleostress during emplacement of 1.4 Ga dikes, northern New Mexico"

Graduate students supervised

Four graduate students finished in 95/96; all were funded at least in part by NSF grants.

Ph.D. students

1. Jane Pedrick - defended Fall 95, graduates Spring 96  
Polyphase Proterozoic tectonometamorphic history of the Taos Range, northern New Mexico.

2. Brad Ilg - defended Fall 95, graduates Spring 96  
Tectonic evolution of Paleoproterozoic rocks in the Grand Canyon: Insights into middle crustal processes

3. Amy Thompson - defense on March 4, 1996; graduates Spring 96  
Deformational and metamorphic history around the 1.4 Ga Priest pluton, Manzano Mountains, New Mexico

M.S. Students

4. Jimmie Hutchison - defended Fall 95, graduates Spring 96  
Relative timing of porphyroblast growth and peak metamorphism in the Lower Granite Gorge, Grand Canyon, Arizona.

Active Students (all funded in part by NSF grants)

M.S. students

Adam Read - admitted to program Fall 1994, expected completion Fall 1996  
Cynthia Brown - admitted to program Fall 1995, expected completion 1997  
Mike Timmons - admitted to program Spring 1996, expected completion 1998

Thesis committees

Tim Wawrzyniec (Exam committee, thesis committee), Tony Garcia (Exam committee, thesis committee), Meghan Hodgins (Exam committee, thesis committee), Eileen Romano (Exam committee, thesis committee)
Cornells Klein

Courses taught

Spring:  
E&PS 302 - Mineralogy II (12 enrolled)  
E&PS 312L - Mineralogy II (lab; 12 enrolled)  
E&PS 322L - Introduction to Petrology (21 enrolled)  
E&PS 105L - Physical Geology Labs (faculty coordinator; 157 enrolled)

Fall:  
E&PS 301 (new course) - Mineralogy (28 enrolled)  
E&PS 302L - Mineralogy (28 enrolled)  
E&PS 105L - Physical Geology Labs (faculty coordinator; 178 enrolled)

Guest Lecture:  
E&PS 333 - Environmental Geology on "Asbestos".

Course development:

Two new courses, E&PS 301 and 302L (lab) were developed by me to meet the needs of B.S. and B.A. majors in Earth and Planetary Sciences (as well as minors). These were offered for the first time, by me, in the fall of 1995. As part of this new course development the Department installed a dedicated computer station in the Mineralogy laboratory, on which students had continuous access to the "CD-ROM: Mineralogy Tutorials, interactive instruction" developed by me and the S.M. Stoller Co., Albuquerque, NM. Written ICES comments document the success of the courses as well as the extreme usefulness of the computer station with CD-ROM.

Graduate students:

M.S. thesis committee member: Marc Melker, Paula Newcomer

Ph.D. dissertation committee member: Al Meldrum

Ph.D. qualifying exam committee member: Al Meldrum

M.S. exam committee member: Jerry Bird, Jim Karner

Albert Kudo

Courses taught

Spring:  
E&PS 225 - Oceanography (88 enrolled)  
Natural Sciences 261 - Physical Sciences (34 enrolled)  
E&PS 101 - Physical Geology (68 enrolled)

Fall:  
E&PS 101 - Physical Geology (224 enrolled)  
E&PS 263 - Geology of National Parks (37 enrolled)  
Natural Sciences 261 - Physical Sciences (23 enrolled)  
Several E&PS Problems and Independent Studies (5 enrolled)
Thesis and dissertation committees

Directed M.S. thesis, J.E. Andrew, defended in October
Co-chair, Ph.D., Charles Bryan, defended in October
Member and reader of M.S. thesis committee, Kyle Gay, defended, October
Advisor and chair, Ph.D., Tracey Cascadden
Co-chair, M.S. thesis, Stephanie Maehr
Chair, M.S. thesis committee and examination committee, Sharon Minchak
Member and reader of Ph.D. dissertation committee, Mark Servilla, defended, November
Aurora Pun, defended, December
Member and reader of M.S. thesis committee, Jimmie Hutchison, defended, November
Member of M.S. thesis committee, James Karner, Alexis Lavine
Member of M.S. comprehensive exam committee: Laurie Bowman, Tony Garcia, Alexis Lavine, James Karner
Member of Ph.D. qualifying exam committee, Gordon Keating
Chair and advisor of Honors B.S. thesis, Honore Southern, defended, December, Joshua Ring

Barry Kues

Courses taught

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<td>Fall</td>
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Graduate students supervised: Andy B. Heckert (M.S.), Tom Goodspeed (M.S.), Ancheng Ma (Ph.D.), Gary Morgan (Ph.D.)

Graduate thesis committee: Todd LaMaskin (M.S.)

Graduate exam committee: Adam Read (M.S.)

Undergraduate research supervised (both supported by REU): Kaye Toolson, Deb Corrao

Other:

Led field trip for Kate Giles' paleontology class (N.M. State University) to Cerro de Cristo Rey, April 1, 1995.

Talk on geology of central New Mexico to Biology summer REU students, June 30, 1995.

Leslie McFadden

Courses taught

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<tr>
<td>Spring</td>
<td>E&amp;PS 101 - Physical Geology</td>
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<tr>
<td>Fall</td>
<td>E&amp;PS 485L - Soil Genesis</td>
<td>(18)</td>
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31
Guest Lecturer:

Department of Architecture and Planning - Community and Regional Planning 570: Soil-geomorphic and ecologic studies of landscapes of the Hopi-Navajo disputed lands, Arizona.

Graduate Students Supervised or Co-supervised:


Thesis Committees:

John Appel, (defended 4/95), John Rogers, Merri Lisa Trigilio-Formento, Antonio Garcia, S. Connell, (Univ. of California, Riverside).

Ph.D. Committees:

A. Groffman, A. Oberling (Dept. of Anthropology), Alan Gellis.

Ph.D. Comprehensive Exam Committee:

Nick Hanowski

Undergraduate Student Supervised (NSF - REU program)

Marsha Abernathy and Maria Elena Amza

Roberto Molina-Garza

Courses taught

Fall: EPS 101 - Physical Geology (16 enrolled) Valencia Campus
      EPS 105L - Physical Geology Lab (12 enrolled) Valencia Campus
      EPS 551 - Problems Course in Paleomagnetism (1 enrolled)

Served on Thesis committee

Suzanne Meuret
Jimmy Hutchinson

Supervised Undergraduate Research

Alfred Gomez
Horton Newsom

Courses taught

Spring: Guest Lecture EPS 517L - Instrumental Methods in Geochemistry, April 18, 1995, "Nuclear methods in Geochemistry".


Research advisor for the following students:

M.S. student: Stephanie Maehr

Undergraduates: Windy Jaeger, Charles Hibbets, Heather Weigel

NSF supported students: MS student Stephanie Maehr; Undergraduate students Windy Jaeger, Charles Hibbets, Heather Weigel

Committee member for the following graduate students:

M.S.: Stephanie Maehr

Undergraduate honors student: Charles Hibbets (graduated Magna Cum Laude): Honors Thesis Title: Characteristics of Martian Impact Crater Lakes.

Other teaching:

Lecture Institute of Meteoritics Seminar, Feb. 27, 1995, "Tungsten in the solar system".

James Paplке

Courses taught

Spring: EPS 487 - Advanced Mineralogy (8 enrolled)

Fall: EPS 265 - Exploring the Solar System (11 enrolled)

M.S. Advisor for L. Bowman.
Support provided by NASA NAGW-3347

Ph.D. Graduate Advisor for A. Pun
Partial support from IOM

Ph.D. Advisor for M. Servilla
Partial support from IOM plus IGPP
Ph.D. Advisor for I. Thorsos
Research (= analytical) support from IOM

Ph.D. Dissertation Committees served on:
D. Bergfeld, C. Bryan, T. Cascadden, N. Hanowski, G. Keating, A. Meldrum, J. Pedrick, 
A. Pun (advisor), M. Servilla (advisor), I. Thorsos (advisor), S. Wang

M.S. Thesis Committees served on:
J. Karner, L. Bowman (advisor)

Guest Lectures:

EPS 518L - Microprobe (M. Spilde)

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Frank Pazzaglia

Courses taught

Spring, 1995: EPS 481 - Geomorphology (24 enrolled)
Fall, 1995: EPS 481 - Geomorphology (18 enrolled)

EPS 481 (Geomorphology) continues to be popular and evolve as my core upper-division course. I have added five quantitatively-rigorous homework exercises to the course. The labs have been greatly improved and streamlined. When taught again in the Fall of 1996, students will be able to purchase all of the labs and homeworks as a compiled, published lab manual.

ICES scores for all of my classes remain high and range from 5.6 to 5.8.

I developed two new courses in the Fall of 1995 - EPS 103 - Earth's Environment and Global Change and EPS 455 - Computational and GIS methods in geomorphology. I am teaching these courses now in the Spring, 1996 semester.

I am the faculty advisor for an undergraduate thesis in the REU program. My advisee is Ms. Heather Gustafson. Her REU project is entitled "Tectonic Geomorphology of the Sandia Mountains and Eastern Piedmont of the Albuquerque Basin". Heather will present her work at the 1996 NMGS meeting in Socorro. A forthcoming paper of her work will be submitted to New Mexico Geology.

I am the faculty advisor for two M.S. candidates Ms. Merri-Lisa Formento-Trigilio and Mr. Anthony Garcia, both of whom entered the program in the Fall of 1994. Merri-Lisa's project is entitled "Post-Laramide tectonic history and neotectonic deformation of the Nacimiento uplift, northern New Mexico"; Tony's project is entitled "Fluvial stratigraphy and uplift in the Olympic Mountains, western Washington State". I am also co-advisor (along with Dr. Gary Smith) of a Ph.D. candidate, Mr. Joel Pedersen. Joel is began his dissertation work in the Fall of 1995. He has chosen a quantitative, processes geomorphology/sedimentology study of drainage basin response, and subsequent rift fill stratigraphy to climate and tectonics for his dissertation research. All of these students presented their research at the GSA national meeting in New Orleans.
Presently, I am formally a committee member for the following 8 students: Ms. Carol Treadwell (Ph.D.), Mr. Tim Wawrzyniec (Ph.D.), Mr. Steve Dominguez (Ph.D.-archeology), Ms. Karen Saffran (M.S.), Mr. Scott Aby (M.S.), Ms. Rebecca Gardner (M.S.), Mr. Jerry Bird (M.S.), Ms. Amy Ellwein (M.S.), and Ms. Andrika Kuhle.

I am the faculty mentor for a Jemez Pueblo student, Mr. Chris Toya. Chris is a full-time field and laboratory assistant aiding in our field mapping efforts on Jemez Pueblo. Chris is supported financially through the MEMS program.

Frans Rietmeijer

Guest Lecturer

Comets and IDPs, in EPS-265, Exploring the Solar System.

Research Assistant Training

Analytical electron microscope analyses of condensed nanoparticles.

E&PS Brown bag Departmental weekly Seminar

Comets: They are beautiful but why bother?

Jane Selverstone

Courses taught

Fall: E&PS 521 Metamorphism (7 for credit + 2 auditors)

Course development

Significantly revised the content of E&PS 521, particularly the labs, relative to versions of the course I have taught at other universities.

Undergraduate supervised

Brian Joy, REU student (with Karl Karlstrom)

Graduate students supervised (*supported by NSF funding)

*Colin Shaw, MS 8/95 from University of Colorado; *Meghan Hodgins, MS in progress

Thesis and dissertation committees

Brad Ilg, Ph.D. (defense 12/95), Lisa Campbell, Ph.D. in progress, University of Colorado, Cynthia Brown, MS, Adam Read, MS
Exam committees

Sharon Minchak, MS exam, 11/95
also two Ph.D. students at University of Colorado in spring 1995

Charles Shearer

Courses taught:

Spring: E&PS 515L - Inductively Coupled Plasma Mass Spectrometry (6 enrolled)
Fall: E&PS 265 - Exploring the Solar System (11 enrolled)

Graduate students supervised:

Advisor for Rhawn Denniston (M.S.)
Dissertation Committees served on: A. Pun, M. Servilla, A. Thompson (Ph.D.)
Thesis Committees served on: L. Bowman, R. Denniston, S. Maehr (M.S.)

Other:

Development of teaching tools for ICP-MS Lab.
Tutorials for graduate and undergraduate students in ICP-MS lab.

Gary Smith

Courses taught:

Spring: E&PS 441 - Advanced Sedimentology (9 enrolled)
Fall: E&PS 102 - Historical Geology (36 enrolled)
E&PS 401 - Seminar (18 enrolled)
Guest Lecture in E&PS 333 - Environmental Geology

New Course Development

Lecture and laboratory syllabi for EPS 441, Advanced Sedimentology, were completely revised to make the course more quantitatively rigorous and of wider interest to students.

Graduate Students (* indicates support provided)

Ph.D. advisees:

Michael Grubensky*, Gordon Keating (co-advised with G.A. Valentine - LANL)
Joel Pedersen (co-advised with F.J. Pazzaglia)

Service on other Ph.D dissertation or examination committees:

Tracey Cascadden, Paul Eberly, Joel Pederson, Mark Servilla, Carol Treadwell,
Paula Watt, Tim Wawryzniec, Thomas Wilch (NMIT)
M.S. advisees:
Kyle Gay, Andrika Kuhle*, Alexis Lavine, John Rogers

Service on other M.S. thesis committees:
Scott Aby, Joseph Andrew, Todd LaMaskin, Marc Melker

Lu-Min Wang

Courses taught
Fall: E&PS 538 Analytical Electron Microscopy (10 enrolled)

Graduate Students advised:
Ph.D. committee (co-advisor) for Shixin Wang and Al Meldrum
M.S. examination committee (co-advisor) for Paula Newcomer
Ph.D. examination committee for Dinesh S. Kalakkad
(Dept. of Chemical and Nuclear Engineering)

Lee Woodward

Courses taught
Spring: E&PS 101 - Physical Geology (82 students)
E&PS 307 - Structural Geology (34 students) team taught with Professors Karlstrom and Geissman
E&PS 317L - Structural Geology Lab, (32 students)
E&PS 495 - Honors Thesis (1 student)
E&PS 492 - Problem in Ore Deposits (1 student)
E&PS 492 - Problem, Hansonburg mining district (1 student)
Fall: E&PS 255 - New Mexico Field Geology (14 students)
E&PS 471 - Mineral Deposits (8 students)
2. 1995 PUBLICATIONS

Book Written

Metallic mineral deposits of the Judith Mountains, central Montana
L.A. Woodward

Books Edited

Geology of the Santa Fe region, New Mexico
P.W. Bauer, B.S. Kues, N.W. Dunbar, K.E. Karlstrom, and B. Harrison

Permian Footprints and Facies
S.G. Lucas and A.B. Heckert* (editors)

CD ROM

Mineralogy tutorials: interactive instruction on CD-ROM
C. Klein and S.M. Stoller Co.

Referred Journal Papers

Relation of bank-margin fractures to sea-level change, Exuma Islands, Bahamas
S.B. Aby*

U-series isotope evidence for the origin of continental basalts
Y. Asmerom and R.L. Edwards

Reply to comments on the Pb isotope evolution of the Earth: inferences from river water suspended loads
Y. Asmerom and S. Jacobsen

Structural expression of a rolling hinge in the footwall of the Brenner Line normal fault, eastern Alps
G. Axen, J. Bartley and J. Silverstone

Structural damage in spinel after ion irradiation
N. Bordes**, K.E. Sickafus, E.A. Cooper and R.C. Ewing
Ion-beam induced disordering and onset of amorphization in spinel by defect accumulation
N. Bordes, L.M. Wang, R.C. Ewing and K.E. Sickafus

Aqueous alteration and brecciation in Bells, an unusual, saponite-bearing CM carbonaceous chondrite
A.J. Brearley

Distribution of moderately volatile trace elements in chondrule rims in the unequilibrated CO3 chondrite, ALH A77307
A.J. Brearley, S. Bajt and S.R. Sutton

Cyclostratigraphy of Middle Devonian carbonates of the eastern Great Basin
M. Elrick

Zircon: a host-phase for the disposal of weapons plutonium
R.C. Ewing, W. Lutze and W.J. Weber

Radiation effects in nuclear waste forms for high-level radioactive waste

Diogenites as asteroidal cumulates: insights from orthopyroxene trace element chemistry
G.W. Fowler, C.K. Shearer, J.J. Papike and G.D. Layne

Daily variability of lower tropospheric winds over the tropical western Pacific
D.S. Gutzler and L.M. Hartten

Synthesis of fluorophlogopite single crystals: applications to experimental studies
T. Hammouda, M. Pichavant, P. Barbey and A.J. Brearley

Paleomagnetism and \(^{40}\)Ar/\(^{39}\)Ar geochronology of gabbro sills at Mariscal Mountain anticline, southern Big Bend National Park, Texas: implications for the timing of laramide tectonism and vertical axis rotations in the southern Cordilleran orogenic belt
S.S. Harlan, L.W. Geissman, C.S. Henry and T.C. Onstott

A Fourier boundary integral method for solving Laplace's equation in two dimensions
S.P. Huestis

Exploring complex-base logarithms
S.P. Huestis
A Fourier method for the construction of certain extremal solutions of the inverse Dirichlet problem in two dimensions

S.P. Huestis

Mechanisms of lead release from uraninite in the natural fission reactors in Gabon

J. Janeczek and R.C. Ewing

The case for simultaneous deformation, metamorphism, and plutonism: an example from Proterozoic rocks in central Arizona

K.E. Karlstrom and M.L. Williams

Tectonic setting of the Sandia pluton: an orogenic 1.4 Ga granite in New Mexico

E. Kirby*, K.E. Karlstrom and C. Andronicos*

The Golden Messenger Mine, York district, Montana: geologic and isotopic constraints

I.M. Lange, H.R. Krause, and L.A. Woodward

Large magnitude extensional deformation in the South Mountains metamorphic core complex, Arizona: evaluation with paleomagnetism


Pliocene fossil snake from southern New Mexico

S.G. Lucas, A.B. Heckert* and P.L. Sealey

Unusual aetosaur armor from the upper Triassic of west Texas, U.S.A.

S.G. Lucas, A.B. Heckert* and A.P. Hunt

Geochemical alteration of pyrochlore group minerals: pyrochlore subgroup

G.R. Lumpkin and R.C. Ewing

Rhyolite intrusions in the intercaldera Bishop Tuff, Long Valley caldera, California


Origin and history of impact melt rocks from the EL chondrite parent body


Paleomagnetism of the Dockum Group (Upper Triassic), northwest Texas: further evidence for the J-1 cusp in the North America APWP and implications for Colorado Plateau rotation and rate of Triassic APW

R. Molina-Garza**, J.W. Geissman and R. Van der Voo
Melt extraction during formation of K-Feldspar and sillimanite migmatites, west of Revelstoke, British Columbia
M.W. Nyman**, D.R.M. Pattison and E.D. Ghent

Recoil refinements: implications for the $^{40}$Ar/$^{39}$Ar dating technique

The Lodran primitive achondrite: petrogenetic insights from electron and ion microprobe analysis of olivine and orthopyroxene

SIMS studies of planetary cumulates: orthopyroxene from the Stillwater complex, Montana
J.J. Papike, M.N. Spilde**, G.W. Fowler** and I.S. McCallum

Silver-palladium alloy particle production by spray pyrolysis

Ion microprobe investigation of exsolved pyroxenes in cumulate eucrites: determination of selected trace-element partition coefficients
A. Pun* and J.J. Papike

Quaternary soils and dust deposition in southern Nevada and California

A transmission electron microscope study of experimentally shocked megraphitic carbon
F.J.M. Rietmeijer**

Arguments for bromine contamination of stratospheric micrometeorites: reply
F.J.M. Rietmeijer**

Post-entry and volcanic contaminant abundances of zinc, copper, selenium, germanium and gallium in stratospheric micrometeorites
F.J.M. Rietmeijer**

Fluid inclusion constraints on the kinematics of footwall uplift beneath the Brenner Line normal fault, eastern Alps
J. Selverstone, G. Axen and J. Bartley

Preparation of strontium ferrite particles by spray pyrolysis
Interpretation of fluid flow history using trace element zonation in calcite: a pilot study using Secondary Ion Mass Spectrometry (SIMS)
C.K. Shearer** and R.F. Denniston

What factors control the composition of andesitic sand?
G.A. Smith and J.E. Lototsky*

Seasonal and interannual variability in a hybrid coupled GCM
H.H. Syn, J.D. Neelin, and D. Gutzler

The temperature dependence of ion-beam-induced amorphization in β-SiC
W.J. Weber and L.M. Wang**

Cosmogenic 3He exposure dating of stone pavements: implications for landscape evolution in deserts
S.G. Wells, L.D. McFadden, J. Poths and C.T. Olinger

Pre-Middle Cambrian (Proterozoic?) block faulting in central Montana
L.A. Woodward and T.E. Bell

Papers in Edited Volumes

Filling the Delaware Basin: hydrologic and climatic controls on the Upper Permian Castile Formation varved evaporite
R.Y. Anderson and W.E. Dean

Materials characterization of natural adobe plasters: new approaches for preservation strategies based on traditional practice
M.S. Barger**

Third-day road log, from Santa Fe to the Cerrillos Hills, Cerrillos, and the Ortiz Mountains
Geology of the Santa Fe region, New Mexico (Bauer et al., editors), New Mexico Geological Society, Guidebook 46, p. 57-73 (1995)

Application of channeling techniques and high resolution transmission electron microscopy to ion-beam damaged zircon
N. Bordes and R.C. Ewing

Ion-beam and electron-beam induced amorphization of berlinite (AlPO₄)
N. Bordes** and R.C. Ewing

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Reactions in the Earth
A.J. Brearley**

The assessment of the long-term evolution of the spent nuclear fuel matrix by kinetic, thermodynamic and spectroscopic studies of uranium minerals
J. Bruno, I. Casas, E. Cera, R.C. Ewing, R.J. Finch and L.O. Werme

The reconstruction of a Middle Proterozoic orogenic belt in north-central New Mexico, U.S.A.
C.G. Daniel, K.E. Karlstrom, M.L. Williams and J.N. Pedrick*

Precipitation of uraninite in chlorite-bearing veins of the hydrothermal alteration zone (argile de pile) of the natural nuclear reactor at Bargombé, Republic of Gabon
P. Eberly*, J. Janeczek and R.C. Ewing

Long-term predictions using natural analogues
R.C. Ewing

Amorphization of complex ceramics by heavy-particle irradiations
R.C. Ewing, L.M. Wang** and W.J. Weber

Prediction of unknown uranyl oxide hydrate structure types: comparison of calculated and measured XRD powder patterns
R.J. Finch, F.C. Hawthorne and R.C. Ewing

The long-term stability of becquerelite
R.J. Finch, J. Suksi, K. Rasilainen and R.C. Ewing

Paleomagnetism
J.W. Geissman

Crichtonite structure type (AM$_2$O$_8$ and A$_3$ and A$_4$M$_3$O$_{12}$) as a host phase in crystalline waste form ceramics

Decadal and interannual variability in the tropical western Pacific
D.S. Gutzler
Mineralogy of the Bangombé reactor zone, Gabon: report of preliminary results
J. Janeczko and R.C. Ewing

Structural and thermal setting during emplacement of the Sandia pluton
E. Kirby*, K.E. Karlstrom and C.L. Andronicus*

Andesites
A.M. Kudo

Gabbros
A.M. Kudo

Rapakivi granites
A.M. Kudo

Marine fauna of the Early Permian (Wolfcampian) Robledo Mountains Member, Hueco Formation, southern Robledo Mountains, New Mexico
B.S. Kues

Geology of early Permian tracksites, Robledo Mountains, south-central New Mexico
S.G. Lucas, O.J. Anderson, A.B. Heckert* and A.P. Hunt

Triassic stratigraphy around the Sandia uplift, central New Mexico
S.G. Lucas and A.B. Heckert*

A Late Cretaceous mosasaur from north-central New Mexico
S.G. Lucas, A.B. Heckert* and B.S. Kues

Preliminary report on paleontology of the Abo Formation, McLeod Hills, Sierra County, New Mexico
S.G. Lucas, A.P. Hunt and A.B. Heckert*

Vertebrate paleontology of the Robledo Mountains Member of the Hueco Formation, Doña Ana Mountains, New Mexico
S.G. Lucas, A.P. Hunt, A.B. Heckert* and H. Haubold
Paleontology of the Upper Cretaceous Cabullona Group, northeastern Sonora
S.G. Lucas, B.S. Kues and C.M. Gonzalez-Leon

The relative influences of climate change, desert dust, and lithologic control on soil-geomorphic processes on alluvial fans, Mojave Desert, California: summary of results
E.V. McDonald, L.D. McFadden and S.G. Wells

Progress toward paleomagnetic identification of ca. 1.4 Ga regional metamorphic pulse in central New Mexico
S.T. Meuret* and J.W. Geissman
Geology of the Santa Fe region, New Mexico (P.W. Bauer et al., eds.), New Mexico Geological Society, Guidebook 46, p. 201-208 (1995)

Ion beam modification of Ti-Ba-Ca-Cu-O type high temperature superconductors during irradiation
P.P. Newcomer*, B. Morosin and L.M. Wang**

Crystallization of nano-size thallous-oxide during ion irradiation of Ti-Ba-Ca-Cu-O high temperature superconductors

Composition of the solar system, planets, meteorites, and major terrestrial reservoirs
H.E. Newsom**

Contrasting modes of tephra preservation in the Skull Ridge Member of the Tesuque Formation in the Arroyo Seco area
M.L. Rhoads* and G.A. Smith
Geology of the Santa Fe region, New Mexico (P.W. Bauer et al., eds.), New Mexico Geological Society, Guidebook 46, p. 5 (1995)

Interpretation of fluid flow using trace element zonation in calcite
C.K. Shearer** and R.F. Denniston

Paleogeographic, volcanic and tectonic significance of the upper Abiquiu Formation at Arroyo del Cobre, New Mexico
G.A. Smith
Geology of the Santa Fe region, New Mexico (P.W. Bauer et al., eds), New Mexico Geological Society, Guidebook 46, p. 261-270 (1995)

Supplemental road log 2, Nambe Falls to Nambe Lake
G.A. Smith
Geology of the Santa Fe region, New Mexico (Bauer et al., editors), New Mexico Geological Society, Guidebook 46, p. 75-76 (1995)
Supplemental road log 3, Cerrillos to I-25 via Waldo

G.A. Smith

Geology of the Santa Fe region, New Mexico (Bauer et al., editors), New Mexico Geological Society, Guidebook 46, p. 77-78 (1995)

First-day road log, from Santa Fe to Nambé, Cundiyo, Española, Abiquiu and Ghost Ranch


Geology of the Santa Fe region, New Mexico (Bauer et al., editors), New Mexico Geological Society, Guidebook 46, p. 1-28 (1995)

Intra-arc basins

G.A. Smith and C.A. Landis


The Pliocene (?) Borrego pediment surface and development of the western Sangre de Cristo Mountain fronts

G.A. Smith and F.J. Pazzaglia

Geology of the Santa Fe region, New Mexico (P.W. Bauer et al., editors), New Mexico Geological Society, Guidebook 46, p. 6-8 (1995)

Illite in the Oklo natural fission reactors in Gabon: considerations for Cs containment

G. Szabo, J. Guezi, B. Nagy, J. Janezcek and R.C. Ewing


Geology of the Monte Largo Hills area, New Mexico: structural and metamorphic study of the eastern aureole of the Sandia pluton

J.M. Timmons*, K.E. Karlstrom and E. Kirby*


A field guide for igneous rocks in New Hampshire and central Massachusetts

R.J. Tracy, G.N. Eby and C.K. Shearer**


HRTEM study of ion beam irradiation induced amorphization in ceramic materials


A comparative study on ion-beam-induced effects in spinel structure-types

L.M. Wang**, W.L. Gong, N. Bordes and R.C. Ewing


Effects of ion dose and irradiation temperature on the microstructure of three spinel compositions


Characterization of collision cascade damage in CaLa$_8$(SiO$_4$)$_2$ by HRTEM

L.M. Wang** and W.J. Weber

Radiation effects issues related to U.S. DOE site remediation and nuclear waste storage
W.J. Weber and R.C. Ewing

Temperature and dose dependence of metal colloid production in alpha-irradiated CaF$_2$ single crystals

Temperature dependence of amorphization for zirconolite and perovskite irradiated with 1 MeV krypton ions

Down-plunge structural interpretation of the Placitas area, northwestern part of Sandia uplift, central New Mexico - implications for tectonic evolution of the Rio Grande rift
L.A. Woodward and B. Menne

Book Reviews

A.J. Brearley**

A.J. Brearley** and R.H. Jones**

Review of Natural Disasters, by D. Alexander
S.P. Huestis

Other Publications

What's the Score?
M.S. Barger**
Research/Penn. State, v. 16, p. 3 (1995)

Zircon promises to be a host phase for the immobilization of excess weapon plutonium
R.C. Ewing

Technical Reports

Status of volcanism studies for the Yucca Mountain Site Characterization project
Los Alamos National Laboratory Report LA-12908-MS
Preliminary geologic map of the Little Piute Mountains, San Bernardino County, California
K.A. Howard, M.L. Dennis, K.E. Karlstrom and G.A. Phelps

Geologic map of the Placitas quadrangle, Bernalillo County, New Mexico
K.E. Karlstrom, S. Cather, S. O'Connell and C. Andronicos

Geologic map of the Sandia Crest quadrangle, Bernalillo County, New Mexico
E. Kirby and K.E. Karlstrom

Geologic maps and cross-sections of the Boss Tweed mine, Pony mining district, Madison County, Montana

Abstracts

The structure of the mantle and the cause of rift magmatism: insights from new U-series isotopic data
Y. Asmerom and L. Edwards

Rolling hinge footwall uplift developed during synchronous east-west extension and north-south shortening, Tauern Window
G. Axen, J. Selverstone and J. Bartley

Recharge estimation of ground-water flow and recharge in the Albuquerque, New Mexico area using deuterium and a numerical mixing-cell model
J. Bird and M.E. Campana

Evidence of ion-beam-induced amorphization by defect accumulation in spinel
N. Bordes, L.M. Wang, R.C. Ewing and K.E. Sickafus

Distribution of moderately volatile trace elements in fine-grained chondrule rims of metamorphosed CO3 chondrites
A.J. Brearley, S. Bajt and S.R. Sutton

Light lithophile element (Li, Be and B) abundances in microchondrules in CH chondrites: insights into volatile behavior during chondrule formation
A.J. Brearley and G.D. Layne

High pressure experimental studies of the mechanism of the spinel to modified spinel transformation
A.J. Brearley and D.C. Rubie
Synthesis of zircon for immobilization of actinides

Delineation of a carbonate-alluvial ground water flow system using a mixing-cell model and the spatial distribution of deuterium
M.E. Campana and J.G. Roth

Ground water resource evolution using a numerical mixing-cell model and the spatial distribution of deuterium
M.E. Campana, W.R. Sadler, N.L. Ingraham and R.L. Jacobson

Thermodynamic study of the alteration of uranophane to soddyite under natural water conditions
I. Casas, J. Bruno, E. Cera, R.C. Ewing and R. Finch
Fifth International Conference on the Chemistry and Migration Behavior of Actinide and Fission Products in the Geosphere, St. Malo, France, p. 10 (1995)

Petrogenesis of Quaternary alkalic and tholeiitic basalts in close spatial and temporal association, Zuni-Bandera volcanic field, NM
T.E. Cascadden* and A.M. Kudo

Early cementation of cyclic coastal clastic sequences: Point Lookout Sandstone, San Juan Basin
L.J. Crossey

Post-impact materials modification by hydrothermal processes
L.J. Crossey, A.M. Kudo and P. McCarville*

Experimental reduction of olivine: constraints on formation of dusty relict olivine in chondrules
L.R. Danielson* and R.H. Jones**

Calcite as a recorder of fluid flow in shallow crustal environments
R. Denniston and C.K. Shearer**

Clay minerals in the core zone (facies pile) of the natural nuclear reactor at Bangombé
P.O. Eberly* and R.C. Ewing

Clays within natural nuclear reactors and host rock at Bangombé, Gabon: migration of actinides
P.O. Eberly*, R.C. Ewing, J. Janeczek and A. Furlano
Fifth International Conference on the Chemistry and Migration Behavior of Actinides and Fission Products in the Geosphere, St. Malo, France, p. 133 (1995)

Sequence stratigraphy and platform evolution of Lower-Middle Devonian carbonate, eastern Great Basin
M. Elrick
Cyclostratigraphy and sequence stratigraphy of the Lower Cretaceous Cupido Formation, northeastern Mexico

M. Elrick

Radiation-induced amorpbization in nuclear waste forms

R.C. Ewing

Where is the materials science in nuclear waste disposal?

R.C. Ewing

Design and selection of nuclear waste forms: the fate of excess weapons plutonium

R.C. Ewing and W. Lutze
Abstracts, International Conference on Advanced Materials, Cancun, Mexico, p. 52-23 (1995)

Performance assessment of zircon as a waste form for excess weapons plutonium under deep borehole burial

R.C. Ewing, W. Lutze and W.J. Weber

An alternative waste form for the disposal of weapons plutonium

R.C. Ewing, W. Lutze and W.J. Weber

Ion beam-induced amorphization of monazite (CePO₄)

R.C. Ewing, L.M. Wang** and A. Meldrum*

Estimating the Gibbs free energies of formation for some uranium (VI) minerals: Calculated and observed mineral relationships

R.J. Finch and R.C. Ewing

Schoepite and dehydrated schoepite

R.J. Finch, F.C. Hawthorne and R.C. Ewing

U-series of secondary uranium minerals: the age of oxidation alteration at the Shinkolobwe mine, Shaba, southern Zaire

R.J. Finch, J. Suksi, K. Rasilainen and R.C. Ewing

Uranium-series ages for secondary uranium minerals with applications to the long-term evolution of spent nuclear fuel

R.J. Finch, J. Suksi, K. Rasilainen and R.C. Ewing
Neotectonic deformation of the eastern margin of the Colorado Plateau, southern Nacimiento uplift, northern New Mexico
M.L. Formento-Trigilio* and F.J. Pazzaglia

SIMS study of planetary cumulates: modeling diogenite petrogenesis
G.W. Fowler**, C.K. Shearer**, and J.J. Papike

Uplift pattern in the eastern Olympic Mountains of western Washington State as deduced from channel morphology of the Dosewallips River
A.F. Garcia* and F.J. Pazzaglia

Paleomagnetic evidence for rapid geomagnetic changes during the late Miocene field reversal recorded at Paiute Ridge, Nevada
J.W. Geissman, C.D. Ratcliff and F.J. Perry

Aeschnite and euxenite structure-types as host phases for rare earth elements and actinides
W.L. Gong**, R.C. Ewing and L.M. Wang**

Secondary phase formation and the microstructural evolution of the surface layer during vapor phase alteration of the French SON 68 nuclear waste glass at 200°C

Amorphization of coesite induced by electron- and ion-beam irradiation
W.L. Gong, L.M. Wang**, R.C. Ewing and J. Zhang

Biogeochemistry of a first-order montane stream/alluvial aquifer system: Río Calaveras, northern New Mexico
A. Groffman*, L.J. Crossey, M.E. Campana, J. Sterling* and H.M. Valett

Pyroxene microstructures in the equilibrated eucrite Juvinas
N.P. Hanowski* and A.J. Brearley**

TEM studies of exsolved oxide phases in pyroxenes in the meteorite Juvinas
N.P. Hanowski* and A.J. Brearley**
Proceedings of the 7th Annual Joint Meeting, New Mexico Section of the Materials Research Society, p. 7 (1995)

Preliminary paleomagnetic results from the middle Proterozoic Electra Lake gabbro, Colorado
S.S. Harlan and J.W. Geissman
Synchronous Pangea-wide diversification of Late Triassic dinosaurs and the importance of western North America in early dinosaur evolution
A.B. Heckert* and S.G. Lucas

Outcrop expression and significance of the TR-4 unconformity in west-central New Mexico
A.B. Heckert* and S.G. Lucas

The Upper Triassic TR-4 unconformity on the southern Colorado Plateau, Arizona and New Mexico
A.B. Heckert* and S.G. Lucas

Lower Chinle Group stratigraphy and biochronology of the Petrified Forest National Park, Arizona
A.B. Heckert*, S.G. Lucas and C.L. Davis

A nearly complete skeleton of a new genus and species of Aetosaur (Archosauria) and the evolutionary history of aetosaurs
A.B. Heckert*, S.G. Lucas and A.P. Hunt

New Mexico's oldest dinosaur
A.B. Heckert*, S.G. Lucas and A.P. Hunt
New Mexico Geology, v. 17, p. 16 (1995)

"Coelophysis", Ricoarribasaurus, and the stratigraphy and biochronology of the upper Chinle Group in north-central New Mexico
A.B. Heckert*, S.G. Lucas, R.M. Sullivan and A.P. Hunt
New Mexico Geology, v. 17, p. 29 (1995)

Probable hydrologic parameters of large Martian impact craters
C.A. Hibbits* and H.E. Newsom**

Petrographic investigation of the Nacimiento Formation, southern San Juan Basin, northwest New Mexico
K.W. Holmes* and L.J. Crossey
New Mexico Geology, v. 17, p. 21 (1995)

Vertebrate paleontology and biochronology of the Santa Rosa Formation, Santa Fe County, New Mexico
A.P. Hunt, A.B. Heckert* and S.G. Lucas
New Mexico Geology, v. 17, p. 32 (1995)

Vertebrate taphofacies of the Upper Triassic (Rhaetian) Redonda Formation, east-central New Mexico
A.P. Hunt, A.B. Heckert*, S.G. Lucas, P.L. Scaley and M.G. Lockley
New Mexico Geology, v. 17, p. 32 (1995)

Herrerasaur and theropod diversity in the Late Triassic of western United States
A.P. Hunt, R.M. Sullivan, S.G. Lucas and A.B. Heckert*
The $^{26}$Al-$^{26}$Mg record of chondrules: clues to nebular chronology
I.D. Hutcheon and R.H. Jones**

Tectonic history of Paleoproterozoic rocks in the Grand Canyon, Arizona
B. Ilg*, K.E. Karlstrom, and M.C. Williams

A chondrule origin for dusty, relict olivine grains
R.H. Jones** and L.R. Danielson*

Proterozoic tectonic history of western North America
K.E. Karlstrom, B. Ilg* and M.L. Williams

Comparison of Mesoproterozoic and Cenozoic uplift in the Southwest - isostatic response to thermal/magmatic event
K.E. Karlstrom and P. Morgan

Comparison of the use of shear band and porphyroclast systems for evaluating general shear: an example from the Mesoproterozoic Sandia pluton, New Mexico
E. Kirby* and K.E. Karlstrom
Geological Society of America, Abstracts with Programs, v. 27, no. 6, p. 23 (1995)

Sequence stratigraphy of the Middle-Upper Devonian Guilmette Formation, eastern Nevada
T.A. LaMaskin* and M. Elrick
SEPM Mid-year Meeting, St. Petersburg, FL, p. 80 (1995)

Sedimentologic and temporal relationships between volcanic and volcanioclastic rocks of the Keres Group, Jemez Mountains, New Mexico
A. Lavine*
New Mexico Geology, v. 17, p. 25 (1995)

Tijeras-Cañoncito accommodation zone, Rio Grande rift, New Mexico
A.L. Lisenbee and L.A. Woodward
Geological Society of America, Abstracts with Programs, v. 27, no. 4, p. 43-44 (1995)

Study of continental extension with paleomagnetism
R.W. Livacari**, J.W. Geissman and T. Wawrzyniec*

Early carbonate cementation in the Cretaceous Point Lookout Sandstone: relationship to cyclical deposition, San Juan Basin, Colorado
J. Loomis* and L.G. Crossey

Aetosaur biochronology and correlation of the Pangean nonmarine Upper Triassic
S.G. Lucas and A.B. Heckert*
Lithostratigraphy and biochronology of the Sonsela and Painted Desert Members, Petrified Forest Formation, Chinle Group, in the Petrified Forest National Park, Arizona
S.G. Lucas, A.G. Heckert* and C.L. Davis

Triassic stratigraphy in the Lucero uplift, central New Mexico
S.G. Lucas and A.B. Heckert*
New Mexico Geology, v. 17, p. 16 (1995)

Early Permian tracksite, base-level changes, and depositional cyclicity of intertongued Abo-Hueco strata, Robledo Mountains, New Mexico
S.G. Lucas, A.B. Heckert*, O.J. Anderson and A.P. Hunt

Stratigraphy and biochronology of the Placerias quarry, Apache County, Arizona
S.G. Lucas, A.B. Heckert* and A.P. Hunt

Variations in B, Pb, and La in Arc lavas across the Quesada sharp contortion, Central America

Impact of significantly wetter climatic events during the Holocene on calcic soils, Mojave Desert, California
E.V. McDonald, F.B. Pierson, G.N. Flerchinger and L.D. McFadden

The formation of soils and alluvial fans: results of recent geomorphic, geochemical, and numerical modeling studies and implications for studies of paleosols in ancient for deposits
L.D. McFadden, C.J. Treadwell*, E.V. McDonald, S.G. Wells, and J.B.J. Harrison

Paleomagnetism of the central Oquirrh Mountains and implications for their Cenozoic structural history
M. Melker*, J.W. Geissman and G. Ballantyne

Description and classification of uranium oxide hydrate sheet topologies: towards the development of a structural model for the estimation of thermodynamic parameters
M.L. Miller** and R.C. Ewing

Description and classification of uranium oxide hydrate sheet topologies: toward the development of a structural model for the estimation of thermodynamic parameters
M.L. Miller** and R.C. Ewing

Paleomagnetic data from NW Mexico: evolution of the Mojave-Sonora megashear
R.S. Molina-Garza** and J.W. Geissman
Pleistocene (Rancholabrean) vertebrate fossils from sand and gravel pits near Roswell, New Mexico
G.S. Morgan* and S.G. Lucas

Late Miocene and Pliocene (Hemphillian and Blancan) vertebrate fossils from the Gila Group, southwestern New Mexico
G.S. Morgan* and P.L. Sealey
New Mexico Geology, v. 17, p. 30 (1995)

Recrystallization on ion beam damaged Ti-Ba-Ca-Cu-O type high temperature super conductors

Metal silicate fractionation in the solar nebula
H.E. Newsom**

The depletion of W in the Earth, normalization to Th, U, or Ba

The abundance of W in the bulk silicate earth: constraints on core formation

Pyroxene as a recorder of cumulate formational processes; asteroids, Moon, Mars, Earth: reading the record with the ion microprobe [Mineralogical Society of America Presidential Address]
JJ. Papike

SIMS studies of planetary cumulates: orthopyroxene from the Stillwater Complex, Montana, The bronzite-norite transition
JJ. Papike, G.W. Fowler**, I.S. McCallum and C.K. Shearer**

Palynology of the Bryn Mawr Formation and associated deposits of the middle Atlantic Coastal plain: implications for the age and genesis of fluvial deposits at the head of Chesapeake Bay and a new technique for establishing relative age control
F.J. Pazzaglia, R.A.J. Robinson and A. Traverse

Z38U·230Th dating of a geomagnetic excursion in Quaternary basalts of the Albuquerque volcanic field, New Mexico
D.W. Peate, J.H. Chen, G.J. Wasserburg, D.A. Papanastassiou, and J.W. Geissman

Yamato unequilibrated eucrites Y-74450, Y-793548, Y-82210, Y-74159, and Y-75011: pyroxene trace element systematics
A. Pun* and JJ. Papike
An analytical electron microscope [AEM] study of hydrous alteration of amorphous magnesiosilica smokes
F.J.M. Rietmeijer**

Magnesium loss from unmelted stratospheric interplanetary dust particles during atmospheric entry
F.J.M. Rietmeijer**

Notes for scanning electron microscope simulations of mineralogical activity in icy protoplanets
F.J.M. Rietmeijer**

On the possibility of phyllosilicate alteration in the KOSI-2 comet simulation experiment
F.J.M. Rietmeijer** and K. Thiel

Stratigraphic relationships and within-flow variations in the El Calderon and Hoya de Cibola Quaternary basaltic lava flows, central Zuni-Bandera volcanic field, NM
J.H. Ring* T.E. Cascadden* and A.M. Kudo

A climatically driven fluvial cycle hypothesis for the fill terraces of the Jemez River, Jemez Mountains, New Mexico
J.B. Rogers*
New Mexico Geology, v. 17, p. 23 (1995)

Sedimentary magnetism and climate change: a detailed record from late Pleistocene Lake Estancia, New Mexico

Reconstruction of *Typothorax coccinarum* (Archosauria: Actosauria) from the Late Triassic (Norian) of the western United States
P.L. Sealey, A.P. Hunt, S.G. Lucas and A.B. Heckert*

Kinematics of footwall unroofing during extension in the eastern Alps
J. Selverstone, G. Axen and J. Bartley

1.4 versus 1.7 Ga metamorphism in the northern Colorado Front Range: a repeated history of post-accretion mid-crustal heating
J. Selverstone, M. Hodgins* and C. Shaw

*Ar/²⁹Ar data identify transient thermal event related to mid-Proterozoic metamorphism in the Colorado Front Range
C. Shaw, L.W. Snee, J.C. Reed and J. Selverstone

Interpretation of fluid flow using trace element zonation in calcite
C.K. Shearer** and R. Denniston
Origin of the Apollo 15 green glass: evidence from Ni, Co, Mn, V, and Cr
C.K. Shearer**, G.D. Layne** and J.J. Papike

Dynamics of Lunar magmatism and conditions of the Moon's mantle as deduced from Apollo 15 very low Ti picritic magmas (VLT)
C.K. Shearer** and J.J. Papike

The role of ilmenite in the source region for mare basalts: evidence from Nb and Zr in picritic glasses
C.K. Shearer**, J.J. Papike and G.D. Layne**

Paleogeographic, volcanologic, and tectonic significance of the upper Abiquiu Formation at Arroyo del Cobre, New Mexico
G.A. Smith

Hydrostratigraphic attributes of hanging-wall derived piedmont facies in asymmetric graben
G.A. Smith

Geochemistry and petrogenic modeling of Cerro de Los Lunas andesites, New Mexico
H. Southern*, H.D. Rowe*, A.M. Kudo and J.W. Geissman

Electron microprobe analysis of oxygen in geological materials
M.N. Spilde** and L.J. Crossey

A new Late Cretaceous decapod crustacean assemblage from Carthage, New Mexico
E.K. Tootson* and B.S. Ku<;s
New Mexico Geology, v. 17, p. 29-30 (1995)

Drainage basin evolution in extensional basins; its impacts on landscapes and carbon cycling times in the central Rio Grande rift, New Mexico
C.J. Treadwell*
Geological Society of America, Abstracts with Programs, v. 27, no. 6, p. 322 (1995)

Digital analysis of HRTEM images of ion-beam damaged ceramic materials
L.M. Wang**, and R.C. Ewing

A comparative study on ion-beam-induced effects in spinel structure types
L.M. Wang**, W.L. Gong, N. Bordes and R.C. Ewing

The roles of interface and temperature on solid state amorphization
Transpressional kinematics of the Elk Range thrust and the Castle Creek structural zone: Evidence for Lamaride northward translation of the Colorado Plateau
T.F. Wawrzyniec* and J.W. Geissman

Paleomagnetism of the Hamblin-Cleopatra volcano, Lake Mead fault system, SE Nevada
T.F. Wawrzyniec* and J.W. Geissman

The temperature dependence of ion-beam-induced amorphization in β-SiC
W.J. Weber and L.M. Wang**

Temperature and recoil-energy dependence of irradiation-induced amorphization in ceramics

Metamorphic petrology of Proterozoic rocks of the Grand Canyon
M.L. Williams, K.E. Karlstrom and B. Ilg*

Middle Miocene (late Barstovian/early Clarendonian) vertebrate fossils and ichnofossils from the "middle red member", Zia Formation, Ceja del Rio Puerco, Sandoval County, New Mexico
T.E. Williamson and G.S. Morgan*
New Mexico Geology, v. 17, p. 30 (1995)

Regional tectonic control of Laramide (Late Cretaceous-early Tertiary) fractures in Raton Basin, New Mexico - implication for horizontal drilling in Cretaceous shales
L.A. Woodward
Computer upgrade for the Department of Earth and Planetary Sciences at the University of New Mexico
G.D. Acton et al.
NSF (3-29291)
$65,000; 8/1/93 to 1/31/96

High resolution stratigraphy: application to hydroclimatic reconstruction in southwestern United States
R.Y. Anderson
NSF (3-13033)
$71,366; 7/02/95 to 6/30/96

Science coordinating meeting for Western North America segment of pole-equator-pole transect for past global changes
R.Y. Anderson
NSF (3-42631)
$36,250; 12/1/94 to 11/30/95

U-series isotope systematics of continental rift basalts
Y. Asmerom
NSF (3-43631)
$33,646; 2/1/95 to 3/31/96

Upgrading to a low abundance sensitivity multicollector TIMS
Y. Asmerom
NSF (3-43791)
$180,000; 3/15/95 to 2/28/97

Options for the future: pre-historic and historic precedents for water-use in New Mexico
M.S. Barger**
Thaw Charitable trust (with Recursos de Santa Fe)
$5,000; 4/1/95 to 8/31/95

Mechanisms of the transformations between the α, β, and δ polymorphs of MgSiO₄ and (MgFe)₂SiO₄
A.J. Brearley (IOM)
NSF
$55,700; 8/1/93 to 7/31/95

Phase transformations involving olivine, β-phase and spinel in the mantle transition zone: experimental studies of transformation mechanisms in Mg₃SiO₄ and (MgFe)₃SiO₄
A.J. Brearley**
NSF
$102,175; 8/1/95 to 7/31/97

Yucca Mountain data development and analysis
M.E. Campana
Sandia National Labs - Dept. of Energy (3-26151)
$122,672; 7/21/95 -
Surface hydrology of Sandia National Laboratories and environs
M.E. Campana
Sandia National Laboratories (3-29981)
$130,414; 12/21/93 to 11/30/95

Subsurface flow and transport - Research Assistant support
M.E. Campana
Sandia National Laboratories (3-45281)
$310,000; 10/6/95 to

Lecturing in hydrology and earth science at University College of Belize, Belize City
M.E. Campana
Fullbright Scholar Program
$19,600; 1/1/96 to 5/31/96

Early cementation of cyclic coastal clastic sequences: Point Lookout Sandstone, San Juan Basin, NM and CO
L.J. Crossley
American Chemical Society - Petroleum Research Fund (3-26701)
$50,000; 1/1/93 to 8/31/95

Materials response to dynamic high pressure: ICAM support
L.J. Crossley
NSF (3-44671)
$5,400; 7/18/95 to

Mineralogical and geochemical controls on subsurface microbial activity Cerro Negro, NM
L.J. Crossley
U.S. Dept. of Energy - Battelle (3-45191)
$25,000; 9/1/95 to 2/1/97

Short-term paleoclimate fluctuations expressed in Paleozoic deep-water rhythmites
M. Elrick
NSF (3-42021)
$93,529; 8/15/94 to 7/31/97

The Proterozoic Bushveld Catastrophe, South Africa
W.E. Elston
NSF (3-24351)
$53,200; 1/1/92 to 12/31/95

Did the Bushveld-Vredefort Complexes, South Africa, result from the largest known multiple-impact event on Earth?
W.E. Elston
The Barringer Crater Company
$5,000; 1/1/92 - no termination date

Characterization of alteration products and processes in natural UO2
R.C. Ewing
Svensk Kärnfränslehantering AB, Sweden (3-10385)
$79,780; 10/1/94 to 12/31/95

Particle-induced amorphization of crystalline silicates, complex oxides, and phosphates
R.C. Ewing
Office of Basic Energy Sciences, DOE (3-13481)
$79,723; 7/27/95 to
Zircon as a host-phase for the immobilization of weapons plutonium
R.C. Ewing
NATO
$10,300; 8/1/95 to 7/30/96

Ceramics for the stabilization of plutonium
R.C. Ewing and W. Lutze
Los Alamos National Laboratory (3-45381)
$291,919; 10/31/95 to 9/30/98

Collaborative research: tests of large-magnitude extensional intracontinental strain, Death Valley, CA.
J.W. Geissman
NSF (3-24511)
$20,000; (UNM share); 2/15/92 to 7/31/95

Paleomagnetic assessment of footwall deformation, South Mountains metamorphic core complex, southern Arizona
J.W. Geissman
NSF (3-24921)
$60,539; 4/25/92 to 9/30/95

Upgrading of equipment in the paleomagnetism and rock magnetism laboratory, UNM
J.W. Geissman
NSF (3-27501)
$14,477; 5/4/93 to 12/31/95

Studies of large-magnitude intracontinental extensional tectonism in the Basin and Range, California and Nevada.
J.W. Geissman (with B.P. Wernicke and R.K. Dokka)
NSF (3-40481)
$23,764 (UNM component); 2/15/94 to 7/31/96

Nature of middle crust during orogenesis: thermal, mechanical, and geodynamic properties inferred from Proterozoic rocks of the Southwest
K.E. Karlstrom
NSF (3-44071)
$53,731; 6/18/96 to

Middle Proterozoic tectonic regimes in the Southwest: anorogeny or an orogeny(?)
K.E. Karlstrom
NSF (3-29191)
$109,456; 7/15/93 to 12/31/96

Undergraduate Earth Sciences Research at the University of New Mexico
K.E. Karlstrom and J.W. Geissman
NSF (3-40451)
$97,016; 2/22/94 to 9/30/96

Workshop on lithospheric structure and evolution of cratonic western U.S., Wyoming to Mexico: an integrated geological and geophysical investigation
K.E. Karlstrom
NSF (3-31391)
$18,680; 3/15/95 to 4/30/96
UNM Albuquerque Basin Edmap proposal
K.E. Karlstrom
U.S. Geological Survey (3-46652)
$15,000; 5/27/96 to 5/27/96

Geochemistry, petrology and geologic setting of the Precambrian Carajas and Urucum ironformations, Brazil
C. Klein
NSF (3-27372)
$89,900; 6/1/94 to 5/31/96

Geologic investigations of El Malpais National Monument
A.M. Kudo and T. Cascadden*
National Park Service (3-23925)
$27,869; 8/26/92 to 12/31/95

Footwall deformation and regional crustal structure of "deep"-type metamorphic core complexes, western Arizona and southeastern California: evolution with paleomagnetism
R. Livaccari** and J.W. Geissman
NSF (3-41431)
$110,000; 7/1/94 to 6/30/96

Correlation of the marine and nonmarine Permian-Triassic boundaries: magnetostratigraphy of the Dalongkou section, Junggur Basin, Xinjiang, northwest China
S.G. Lucas and R. Molina-Garza**
National Geographic Society
$16,500; 5/95 to 6/96

Paleomagnetic and soil studies of Pliocene to Quaternary volcanic rocks for the Yucca Mountain site characterization project
L.D. McFadden and J.W. Geissman
Los Alamos National Laboratory/DOE (3-29142)
$21,250; 2/1/95 to 9/30/95

Late Quaternary eolian deposits and landscape evolution in the area of the Petrified Forest National Park
L.D. McFadden
Petrified Forest National History Museum Association (3-43511)
$12,690; 11/21/94 to 12/1/95

Characterization of mesoporous oxides and sulfides
M.L. Miller
Sandia National Labs/DOE (3-44151)
$4,970; 5/2/95 to 9/30/95

The crystal chemistry and structural analysis of uranium oxide hydrates
M.L. Miller
DOE/Basic Energy Sciences (3-43801)
$100,000; 5/15/95 to 5/14/96

The crystal chemistry and structural analysis of uranium oxide hydrates
M.L. Miller
DOE/Basic Energy Sciences (3-43801)
$100,000; 4/22/96 to 5/14/97
Paleomagnetism of northern Mexico, with emphasis on Upper Triassic - Lower Jurassic and Eocambran-lower Paleozoic strata: further evaluation of the Mohare-Sonora megashear hypothesis
R.S. Molina-Garza and J.W. Geissman
NSF (3-40111)
$30,759; 12/15/93 to 12/31/95

Advanced methods for the determination of moderately siderophile elements by mass spectrometry
(renewal)
H.E. Newsom** (IOM)
Los Alamos National Lab (Institute of Geophysics and Planetary Physics)
$23,000; 10/1/94 to 9/30/95

Advanced methods for the determination of moderately siderophile elements by mass spectrometry
H.E. Newsom** and M.T. Murrell
Los Alamos National Lab (Institute of Geophysics and Planetary Physics)
$21,000; 10/1/95 to 9/30/96

Siderophile elements and the origin of the continental crust
H.E. Newsom**
NSF
$110,000; 1995-1997

Institutional allowance for post-doctoral research fellowship
M. Nyman
NSF (3-55660)
$5,000; 8/1/93 to 8/1/95

Support of UNM/SNL ion microprobe facility
J.J. Papike
NSF
$60,000; 7/15/94 to 12/15/95

Support of UNM/SNL IOM Microprobe facility
J.J. Papike
NSF
$80,000; 8/1/95 to 8/1/96

Microbeam studies of planetary materials
J.J. Papike
NASA
$216,895; 12/15/94 to 12/15/95

Microbeam studies of planetary materials
J.J. Papike
NASA
$216,895; 12/15/95 to 12/15/96

Simulating silicic eruptions at Long Valley, California as a method to understand processes of continental crust formation
J.J. Papike (IOM)
IGPP-LANL
$17,000; 9/30/94 to 8/31/95
Implementation of a computational facility for quantitative geomorphic acquisition, processing, analysis, and display of large data sets
F.J. Pazzaglia
NSF (3-44481)
$22,846; 7/5/95 to

UNM Albuquerque Basin Edmap Proposal
F.J. Pazzaglia
U.S. Geological Survey (3-46651)
$15,000; 5/29/96 to

Petrological analysis of astrophysical dust analog evolution
F. Rietmeijer**
NASA (3-26711)
$106,776; 3/1/93 to 2/28/96

Petrology of nonchondritic circumstellar dust analogs
F. Rietmeijer
NASA (3-26711)
$24,996; 4/1/96 to

Mineralogy of fine-grained primitive extraterrestrial materials
F. Rietmeijer**
NASA (3-16173)
$160,679, 4/1/93 to 3/31/96

Collaborative research: Mechanics of footwall uplift during detachment faulting: a field test of kinematic and dynamic models (renewal)
J. Selverstone, G. Axen and J. Bartley
NSF (3-45891)
$91,593; 1/1/96 to 12/31/98

PTt and kinematic constraints on Proterozoic tectonism in the northern Colorado Front Range
J. Selverstone
NSF (3-44871)
$118,455; 6/15/94 to 5/31/97

Collaborative research: mechanics of footwall uplift during detachment faulting: a field test of kinematic and dynamic models
J. Selverstone, G. Axen and J. Bartley
NSF
$67,527; 8/1/92 to 7/31/95

Collaborative research: evolution of early Proterozoic continental crust: constraints from xenoliths from the Navajo volcanic field
J. Selverstone, K. Condie and R. van Schmus
NSF (3-44981)
$40,800; 8/22/95 to 7/31/96

The relationship of textures and depositional structures in pyroclastic-flow deposits to paleomagnetically determined emplacement temperatures
G.A. Smith and J.W. Geissman
NSF (3-40471)
$94,400; 1/1/94 to 6/30/96
Outcrop and subsurface study of rift-basin facies geometry and reservoir heterogeneity
G.A. Smith
American Chemical Society, Petroleum Research Fund (3-43251)
$50,000; 3/1/95 to 8/31/97

Paleofloral and stratigraphic analysis and Eocene-Oligocene climate change in Oregon
G.A. Smith
NSF (3-43551)
$30,288; 4/1/95 to 3/31/97

Stream/groundwater ecotones: hydrology, biogeochemistry and ecology
H.M. Valett (Biology) and M.E. Campana
NSF
$610,000; 2/1/95 to 12/31/97

REU/RAMHSS Supplement to stream/ground water ecotones: hydrology, biogeochemistry and ecology
H.M. Valett (Biology) and M.E. Campana
NSF
$16,000; 6/1/95 to 3/31/96

REU Supplement to Riparian ecosystem restoration at Bosque del Apache National Wildlife Refuge
H.M. Valett, C. Crawford, M. Molles (all Biology) and M.E. Campana
NSF
$10,000; 6/1/95 to 5/31/96

ION irradiation effects in Ca₂La₈(SiO₄)₆O₂: extension
L.M. Wang**
Battelle Pacific Northwest Laboratories (3-24611)
$ 135,000; 12/23/91 to 9/30/95

Effects of ION irradiation in ceramic materials
L.M. Wang
Battelle (3-24611)
$40,000; 9/9/95 to

Microstructure changes of Ti-Ba superconductor under ion beam radiation
L.M. Wang
Sandia National Labs/DOE (3-44211)
$24,959; 4/1/95 to 10/31/95

Analytical support on microstructural changes of Ti-Ba superconductor under ION-beam irradiation
L.M. Wang
Sandia National Labs/DOE (3-44211)
$14,800; 11/30/95 to

Analytical support service, vitreous ceramic program
L.M. Wang
Battelle/DOE (3-43121)
$23,000; 1/20/95 to 10/30/95
4. RESEARCH PROJECTS IN PROGRESS

Yemane Asmerom

U-series Isotope Systematics of Continental Rift Basalts (2 yrs)
Y. Asmerom PI
National Science Foundation
$123,000 (Pending)

Petrogenesis of Volcanic Rocks in the Coso Volcanic Field
Y. Asmerom PI
C. Shearer co-PI
U.S. Dept. of Defense
$198,397 (Declined)

Anthropogenic and Natural Pb fluxes in the Environment
Y. Asmerom
National Science Foundation
$182,755 (Declined)

Other research activity (unfunded)

Tropical paleoclimate reconstruction from speleothem isotopic data, Barbados.
Sr isotope systematics of lake waters and implication for continental climate.

Susan Barger

Grants and Contracts:

Arid Americas Research and Design Center with School of Architecture and Planning.

"Options for the Future: Pre-Historic and Historic Precedents for Water-use in New Mexico,"
Eugene V. and Clare E. Thaw Charitable Trust
April, 1995 - August 1995, $5,000 (with Recursos de Santa Fe).

Unsuccessful proposals:

Arid Americas Research and Design Center proposals:
Levison Foundation $ 5K
INTEL Foundation $ 10K
Center for Community Studies, Sol y Sombra, Santa Fe $ 5K

Adrian Brearley

Manuscripts in press

Matrix in chondritic meteorites and its possible relationship in chondrules.
In Chondrules and the Protoplanetary Disk (eds, Hewins, R.E., Jones, R.H. and Scott, E.R.D.),
in press.
Manuscripts submitted

Thermal histories of type IVA stony-iron and iron meteorites: evidence for asteroid fragmentation and reaccretion.
Geochimica et Cosmochimica Acta (submitted).

A critical evaluation of the evidence for hot accretion.

Manuscripts in preparation

The effect of cooling rate on the protoenstatite to orthoenstatite inversion: an experimental and transmission electron microscope study (with Rhian Jones).

Michael Campana

Proposals Submitted

An Outcrop-Analog Study of Alluvial-Aquifer Heterogeneity
G.A. Smith and M.E. Campana
National Science Foundation
$120,168; July 1, 1996 - June 30, 1999 (pending)

Response to SNL RFP AP-6640 - Subsurface Flow and Transport
M.E. Campana
Sandia National Laboratories
$57,775; October 1, 1995 - September 30, 1996 (funded)

Stream/Groundwater Ecotone Function and Stability along a Fluvial Gradient
D.L. Brown (Univ. of Kentucky), M.E. Campana, S. Hendricks (Murray State University)
National Science Foundation
$299,761; January 1, 1996 - December 31, 1998 (unfunded)

Biogeochemistry and Hydrology of Surface-Subsurface Water Exchange in Layered Alluvial Aquifers
L.J. Crossey and M.E. Campana
National Science Foundation
$299,916; September 1, 1995 - August 31, 1998 (unfunded)

Manuscripts in press

Parent lithology, groundwater-surface water exchange and nitrate retention in headwater streams
H.M. Valett**, J.A. Morrice*, C.N. Dahm, and M.E. Campana
Limnology and Oceanography

Alluvial characteristics, groundwater-surface water exchange and hydrologic retention in headwater streams
J.A. Morrice*, H.M. Valett**, C.N. Dahm, and M.E. Campana
Hydrological Processes
A general mathematical model for the interpretation of tracer data and transit time calculation in hydrologic systems
I.E. Amin and M.E. Campana
Journal of Hydrology

Delineation of a carbonate-alluvial ground water flow system using a mixing-cell model and the spatial distribution of deuterium
M.E. Campana and J.G. Roth

Manuscripts in review

Regional groundwater flow, southern Nevada-California, USA
M.E. Campana and R.M. Byer
Environmental and Engineering Geoscience

Regional groundwater flow evaluation using a numerical mixing-cell model and the spatial distribution of deuterium
M.E. Campana, W.R. Sadler, N.L. Ingraham, and R.L. Jacobson
Water Resources Research

Wolfgang Elston
Proposal submitted, in review

The Proterozoic Bushveld Catastrophe, South Africa
W.E. Elston
NSF Proposal EAR-9628492
$181,220; proposed dates June 1, 1996 - May 31, 1998.

Unsponsored Research

Volcanic and tectonic evolution of southwestern New Mexico (long-term project)
Association of mineral deposits and volcanic center

NSF-sponsored field work

Organized a 4-person expedition to the Bushveld Complex, South Africa (with Dr. Edmond G. Deal, Dr. Mary Caress, Mr. Heimo Schierl, March 29 - July 5, 1995).

Rodney Ewing

Grants and Contracts Pending

"Development of Sintered Glass Ceramic as a Waste Form"
R.C. Ewing (P.I.) and W. Lutze (P.I.)
British Nuclear Fuels Ltd
$80,000; one year

Participation in International Working Groups in 1995

"The Oklo Natural Reactors: Phases I and II"
European Union Program

68
Unsponsored Research

Pegmatite mineralogy and genesis; preparation of catalogue for Harding Pegmatite specimens and archival materials.

Corrosion and hydration of natural and synthetic glasses.

The use of natural systems in the performance assessment of nuclear waste repositories.

Manuscripts in Press

A comparative study on ion beam induced effects in spinel structure-types

Irradiation-induced amorphization of AlPO4
A.N. Sreeram*, L.W. Hobbs, N. Bordes** and R.C. Ewing

Ion beam induced amorphization of monazite
A. Meldrum*, L.M. Wang and R.C. Ewing

Geochemical alteration of pyrochlore group minerals: Betafite subgroup
G.R. Lumpkin* and R.C. Ewing
American Mineralogist (in press).

Surface and grain boundary amorphization: Thermodynamic melting of coesite below the glass transition temperature

Phosphatian coffinite with rare earth elements and francolite-(Ce,Nd) from sandstone beneath a natural fission reactor at Bangombé, Gabon
J. Janecek and R.C. Ewing
Mineralogical Magazine (in press).

Florencite-(La) with fissionogenic REE from a natural fission reactor at Bangombé, Gabon
J. Janecek and R.C. Ewing
American Mineralogist (in press).

Temperature dependent microstructural modification in ion irradiated Tl-type high temperature superconductors

Donathite discredited: a mixture of two spinels
P.C. Burns, F.C. Hawthorne, E. Libowitzky, N. Bordes** and R.C. Ewing
Neues Jahrbuch für Mineralogie Monatshefte (submitted).

Glass and ceramic waste forms -- Applications and materials properties. Symposium on the Environmental Issues and Waste Management Technologies in Ceramic and Nuclear Industry
Werner Lutze and R.C. Ewing,
Crystalline Ceramics: Waste forms for the disposal of weapons plutonium.
R.C. Ewing, W.J. Weber and W. Lutze

Uraninite from the natural fission reactors in Gabon. Proceedings of the 4th Joint Oklo Working Group of the CEC-CEA/IPSN "Oklo as a Natural Analogue" program 1991-1995 J. Janecek and R.C. Ewing

The roles of interface and temperature on solid state amorphization

Synthesis of zircon for immobilization of actinides. Scientific Basis for Nuclear Waste Management XIX

Performance assessment of zircon as a waste form for excess weapons plutonium under deep borehole burial R.C. Ewing, W. Lutze and W.J. Weber

Schoepite and dehydrated schoepite.
R.J. Finch, F.C. Hawthorne and R.C. Ewing

Description and classification of uranium oxide hydrate sheet topologies: Toward the development of a structural model for the estimation of thermodynamic parameters
M.L. Miller** and R.C. Ewing

Uranium-series ages for secondary uranium minerals with applications to the long-term evolution of spent nuclear fuel
R.J. Finch, J. Suksi, K. Rasilainen and R.C. Ewing

Secondary phase formation and the microstructural evolution of the surface layer during vapor phase alteration of the French SON 68 nuclear waste glass at 200°C

Aeschynite and euxenite structure-types as host phases for rare earth elements and actinides
W.L. Gong**, R.C. Ewing and L.M. Wang**
John Geissman

Proposals in review

Stratigraphically confined secondary chemical remanent magnetization in hematite-bearing strata, implications for diagenesis in red beds and interpretation of paleomagnetic data
J.W. Geissman and R.S. Molina-Garza
American Chemical Society, Petroleum Research Fund
Two years, $50,000

Research Experiences for Undergraduates, Individual Award
J.W. Geissman and R.F. Livaccari
National Science Foundation, Tectonics
One year, $5,000

Dating contractional deformation in the Montana thrust belt and adjacent Rocky Mountain foreland with paleomagnetism and Ar/Ar geochronology
C.J. Schmidt (Western Michigan University), J.W. Geissman and S.S. Harlan (U.S. Geological Survey, Denver)
National Science Foundation, Tectonics
Two years, $53,000 (UNM component)

Thermal modelling of ignimbrites, with implications for rates of geomagnetic field reversals
J.W. Geissman, G. Keating and G.A. Valentine (LANL)
IGPP Program, Los Alamos National Laboratory
First year of a three-year program, $36,830

Manuscripts in Review

Regional correlations of Mesozoic thrusts in central Nevada and ramifications for the Sevier Orogeny

Paleomagnetic studies in the Jemez Mountains, New Mexico: A progress report on Quaternary volcanic rocks from Valles Caldera VC-2A, Sulfur Springs, and Lower Permian strata in San Diego Canyon and from VC-2B
J.W. Geissman and H.J. Mullally

238U-230Th dating of a geomagnetic excursion in Quaternary basalts of the Albuquerque volcanic field, New Mexico

Manuscripts in Preparation

Timing of deformation and accretion of the Antimonio terrane, Sonora, from paleomagnetic data
R.S. Molina-Garza and J.W. Geissman
Intended for Geology.
Age and paleomagnetism of contractile structures in the Cottonwood Mountains, Death Valley area, southeast California
J.K. Snow, J.W. Geissman and B.P. Wernicke
Intended for Tectonics

Constructing a master PSV curve for western North America during the late Pleistocene: the paleomagnetic record from Lake Estancia, central New Mexico
H.D. Rowe, B.D. Allen, J.W. Geissman and R.Y. Anderson
Intended for Geophysical Research Letters.

Paleomagnetism of the Mesoproterozoic Pikes Peak batholith, southern Front Range, Colorado
A.D. Feig, J.W. Geissman and S.S. Harlan
Intended for Precambrian Research.

Scanning transmission electron microscopic investigation of the carriers of magnetizations in Banded Series rock of the Stillwater Complex, Montana
Weixin Xu*, J.W. Geissman, D.R. Peacor and R. Van der Voo
Intended for Journal of Geophysical Research

Precambrian paleointensity of the geomagnetic field: Examples from the late Archean Stillwater Complex and Mesoproterozoic Laramie Anorthosite Complex
C.J. Hale, J.W. Geissman and S.S. Harlan

On the paleomagnetic signature of crystalline crust in extensional terranes.
J.W. Geissman
Intended for Geophysical Research Letters

Paleomagnetic data from the Hoover Dam area document approximately 45 degrees of counterclockwise rotation related to slip along the Lake Mead Fault System.
J.W. Geissman
Intended for Tectonics

Applications of Paleomagnetism in the Basin and Range province, western U.S.A., and relevance to models for crustal extension.
J.W. Geissman
Intended for Reviews of Geophysics (invited).

Paleomagnetism of the Hamblin-Cleopatra Volcano and related rocks, Lake Mead area, southern Nevada, Revisited
Intended for Tectonics.

An example of interacting magnetite grains carrying a Mesoproterozoic magnetization, Laramie Anorthosite Complex, Wyoming
J.W. Geissman and S.S. Harlan
Intended for Geophysical Research Letters

Paleomagnetism of the Latest Archean Stillwater Complex, Beartooth Mountains, southern Montana
J.W. Geissman
Intended for Journal of Geophysical Research
Paleomagnetism and geochronology of Proterozoic mafic dikes, southern Tobacco Root Mountains, southwestern Montana.
S.S. Harlan, J.W. Geissman and L.W. Snee
Intended for Journal of Geophysical Research

Tectonic significance of widespread late Paleozoic remagnetization of the western North America miogeocline and platform.
J.W. Geissman, J.K. Snow and S.L. Gillett
Intended for Geology

Paleomagnetism and rock magnetism of late Miocene intrusions, Paiute Ridge, Nevada.
C.D. Ratcliff, J.W. Geissman, F.V. Perry, B.M. Crowe and F. Zeitler
Intended for Journal of Geophysical Research.

Partial late Paleozoic remagnetization of the Combro-Ordovician Ignacio Formation, southwest San Juan Mountains, Colorado.
J.W. Geissman
Intended for Geophysical Research Letters.

Paleomagnetism of mafic dikes in the Roberts Mountains and Cortez Range, Nevada: Implications for structural history of the northern Nevada rift.
J.W. Geissman, G.A. Acton and M. Schneider*
Intended for Tectonics.

Late Paleozoic magnetizations from Archean and Proterozoic crystalline rocks, Rocky Mountains, and implications for Late Paleozoic remagnetization processes.
J.W. Geissman and S.H. Harlan

The rock magnetic record of silicic magma emplacement, Obidian Domes, California.
J.W. Geissman, J.C., Eichelberger, S.S. Harlan and C. McCabe
Intended for Journal of Geophysical Research.

Paleomagnetic and thermochronologic evidence for footwall tilt during extensional core complex development, Mineral Mountains, central Utah.
D.S. Coleman, J.W. Geissman, J. D. Walker, J.M. Bartley and K.V. Hodges
Intended for Geological Society of America Special Paper, invited.

Laramide (?) age of remagnetization of Permian and Triassic strata, central and north-central New Mexico.
R.S. Molina-Garza**, J.W. Geissman and R. Van der Voo

Paleomagnetic results from Cenozoic volcanic rocks in the Walker Lane area, west-central Nevada, and their bearing on mechanics of Basin and Range extension.

Further paleomagnetic results from Mesozoic plutons of the Walker Lane area, west-central Nevada, and tectonic implications.
J.W. Geissman, J.T. Callian* and J.S. Oldow
Tectonophysics.

Paleomagnetism of the Jurassic Humboldt Lopolith, west-central Nevada: Results from extrusive equivalent metavolcanic rocks.
M.R. Hudson and J.W. Geissman
Paleomagnetic and rock magnetic data from plagioclase-olivine cumulate rocks of the Banded Series, Stillwater Complex, Montana, and their bearing on the age of regional serpentinization and nature of platinum-group element mineralization.
J. Saxton and J.W. Geissman
Econ. Geol.

Unsuccessful proposals for grants:

Paleomagnetic study of lower Mesozoic rocks in northern Mexico: A key to the evolution of western equatorial Pangea and the accretion of Mexico
Roberto S. Molina-Garza and J.W. Geissman
National Science Foundation, Tectonics Program

Evaluation of facies-controlled acquisition of secondary natural remanence in Triassic red beds, west Texas, North American craton
R.S. Molina-Garza and J.W. Geissman
National Science Foundation, Tectonics

Lithospheric structure and evolution of the western U.S.: An integrated geological and geophysical investigation
K.E. Karlstrom, J. Selverstone, Y. Asmerom and J.W. Geissman
National Science Foundation, Continental Dynamics Program
Three years, $818,586 (paleomagnetism component: $49,455)

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)

Stephen Huestis

Manuscripts in Press

The use of linear programming in construction of extremal solutions to linear inverse problems
S.P. Huestis
SIAM Review, in press.

Manuscripts in preparation

Seafloor spreading and the geomagnetic polarity timescale
S.P. Huestis, G.D. Acton
**Rhian Jones**

**Books in press**

Chondrules and the Protoplanetary Disk.  
R.H. Hewins, R.H. Jones** and E.R.D. Scott (Eds.)  
Cambridge University Press (1996)

**Manuscripts in press**

Relict grains in chondrules: Evidence for chondrule recycling  
R.H. Jones**  
In "Chondrules and the Protoplanetary Disk", eds. R.H. Hewins et al.  
Cambridge University Press (1996)

**Manuscripts in review**

FeO-rich, porphyritic pyroxene chondrules in unequilibrated ordinary chondrites  
R.H. Jones**  

**Manuscripts in preparation**

R.H. Jones** and G.D. Layne  
Trace element partitioning between pyroxene and melt in rapidly cooled chondrules  
In preparation (1996)

**Unsuccessful proposals submitted**

Diffusion in olivine: Experimental measurement, and modelling of solar nebula processes  
R.H. Jones  
NASA - Origins of Solar Systems  
$97278; Jan. 1 1996 - Dec. 31, 1997

**Karl Karlstrom**

**Manuscripts and Maps in press** (* = graduate student co-author)

Tectonic evolution of Paleoproterozoic rocks in Grand Canyon, Insights into middle crustal processes  

U-Pb geochronologic constraints on Proterozoic crustal evolution  
D.P. Hawkins, S.A. Bowring, B.R. Ilg*, K.E. Karlstrom, and M.L. Williams  

Older Precambrian geology of Upper Granite Gorge, Grand Canyon, Arizona  
B.R. Ilg*, and K.E. Karlstrom  
Syn-contractional crustal anatexis and deformation during emplacement of the 1435 Ma Electra Lake gabbro, Needle Mountains, Colorado
D.A. Gonzales, K.E. Karlstrom, and G. Siek

Thermal evolution of Proterozoic middle crust during and following 1.4 Ga pluton emplacement, Manzano Mountains, New Mexico: Pluton-enhanced 4 kb metamorphism, rapid decompression, and retrograde history
A.G. Thompson*, J.A. Grambling, K.E. Karlstrom, and B.D. Dallmeyer

Manuscripts submitted

Looping P-T paths, HTLP middle crustal metamorphism and Proterozoic tectonics of the southwestern U.S.A
M.L. Williams, and K.E. Karlstrom
Submitted to Geology, in prep.

Mesoproterozoic (1.42-1.35 Ga) regional metamorphism in New Mexico and implications for thermal evolution of the lithosphere in the southwestern U.S.A: Evidence from $^{40}$Ar/$^{39}$Ar ages
K.E. Karlstrom, D. Dallmeyer, and J.A. Grambling

Manuscripts in prep (* = graduate student co-author ** = undergraduate student co-author)

Rotated and nonrotated porphyroblasts: Keys to reconstructing P-T-t-D paths
B.R. Ilg*, K.E. Karlstrom, and M.L. Williams
Journal of Structural Geology, in prep.

Punctuated mid-crustal tectonism around the 1.42 Ga Sandia pluton, central New Mexico, U.S.A., Regional Aucole Metamorphism, foliation reactivation, and mid-crust flow
C.L. Andronicos**, K.E. Karlstrom, N.W. Nyman, and Eric Kirby*
For Journal of Metamorphic Geology, in prep.

Geologic Map of the Sandia Park Quadrangle
C. Furgusen, M. Timmons**, P. Bauer, K.E. Karlstrom, and F. Pazzaglia

Cornelia Klein

Manuscripts in preparation

Petrology and geochemistry of selected Proterozoic banded iron-formations of the Quadrilátero Ferrifero, Minas Gerais, Brazil
C. Klein and E.A. Ladeira
In prep.

Geology and geochemistry of banded iron-formations (BIF) and metacherts at the Morro Velho and Raposos Gold Deposits, Minas Gerais, Quadrilátero Ferrifero, Brazil
C. Klein and E.A. Ladeira
In prep.

Petrology and geochemistry of high-grade metamorphic archean banded iron-formations of the Guanhães region, Minas Gerais, Brazil
C. Klein, E.A. Ladeira, and J.H. Grossi Sad
In prep.
Albert Kudo

In Press

El Calderon Cinder Cone and associated basalt flows
T.E. Cascadden, J.W. Geissman, A.M. Kudo, and A.W. Laughlin

Discovering the relationships in a family of volcanoes: Cerro Candelaria Twin Craters, Lost Woman Crater and Lava Crater
T.E. Cascadden, A.M. Kudo, and J.W. Geissman

Barry Kues

Manuscripts in press:

Stuart Alvard Northrop: a brief biography and appreciation
B.S. Kues

Decapod crustaceans from the Semilla Sandstone Member, Mancos Shale (Upper Cretaceous), north-central New Mexico
E.K. Toolson and B.S. Kues
Journal of Paleontology, v. 70.

Manuscripts in preparation:

New bivalve taxa from the Tucumcari Formation (Cretaceous, Albian), and the biostratigraphic significance of the basal Tucumcari fauna
B.S. Kues
Journal of Paleontology

Guide to the Late Pennsylvanian paleontology of the Jemez Springs area, north-central New Mexico
B.S. Kues
New Mexico Geological Society, Guidebook 47

Late Cretaceous decapod crustaceans from central New Mexico
E.K. Toolson and B.S. Kues
Journal of Paleontology

New species of Early Permian (Wolfcampian) gastropods from central New Mexico
B.S. Kues
Journal of Paleontology

Micromollusces from the Madera Formation, Jemez Springs area, New Mexico
B.S. Kues and T. Yancey
Journal of Paleontology

Catalogue and bibliography of New Mexico invertebrate and plant fossils
B.S. Kues
New Mexico Museum of Natural History Bulletin
New species of Middle Pennsylvanian gastropods from northern New Mexico  
B.S. Kues and R. Batten  
Journal of Paleontology

The Geology of New Mexico  
B.S. Kues and S.G. Lucas  
University of New Mexico Press

Leslie McFadden

Grant Proposals submitted

Modelling the Impact of Long-Term Climate Change on the Soils and Desert Ecosystems,  
E. McDonald, L.D. McFadden (Co-Principal Investigator)  
Institute of Geophysics and Planetary Physics, LANL  
$53,567; October 1, 1996 - September 30, 1996 (pending).

Manuscripts in press or accepted for publication

Spatial and temporal variation in terrace riser catena in the Transverse Ranges, southern California  
J.B.J. Harrison, K.A. Kendrick, L.D. McFadden and R.J. Weldon III  
Catena (accepted).

Geomorphic responses to climatic changes of different scales in the Holocene, southwestern Colorado Plateau, Arizona: A soil-geomorphic and ecologic perspective  
L.D. McFadden and J.R. McAuliffe  
in Geomorphic Response to Climatic Change (C. Kochel and J. Miller Eds), Geomorphology Special Issue (accepted).

An isotopic study of soils in sequences of alluvial deposits, Providence Mountains, California  
Y. Wang, E. McDonald, R. Amundson, L. McFadden and O. Chadwick  
for Geological Society of America Bulletin.

Manuscripts Submitted or in Review

Processes of soil formation in the San Timoteo Badlands; Comparison and contrasts with chronosequences in California  

Eolian dust as a factor in soil development of the Pajarito Plateau, Los Alamos area, northern New Mexico  
P. Eberly, L.D. McFadden and P.M. Watt  
(submitted for the 1996 NMGS Conference Guidebook).

Manuscripts in Preparation

The Vesicular Layer of Desert Soils and Pavements: Age and Relationship to Climate Change  
Based on Numerical Modeling Results and Studies of Their Chemical Composition and Associated "Carbonate Collars"  
L.D. McFadden, E.V. McDonald, S.G. Wells, K. Anderson, J. Quade and S.L. Forman  
for Geomorphology Special issue.
Late Quaternary archeology and evolution of soils and landscapes in the area of the Bolack Land Exchange, northern San Juan Basin, New Mexico
L.D. McFadden, P. Hogan and J.M. Elyea
for New Mexico Geology.

The influence of dust and lithology on the coevolution of desert pavements and vesicular A horizons of alluvial fans
E.V. McDonald, L.D. McFadden and S.G. Wells

The Formation of soils on alluvial fans: Results of recent geomorphic, geochemical, and numerical modeling studies and implications for studies of paleosols in ancient fan sediment
L.D. McFadden, C. Treadwell, E.V. McDonald, S.G. Wells, and J.B.J. Harrison
for SEPM Special Publication.

The impact of Pleistocene-Holocene climatic transition and lithologic control on alluvial-fan deposition along a desert piedmont, Mojave Desert, California
E.V. McDonald, L.D. McFadden and S.G. Wells
for Quaternary Research.

Application of a soil-water balance model to evaluate the influence of climate change on soil-water movement in calcic soils
E.V. McDonald, F.B. Pierson, G.N. Flerchinger, and L.D McFadden
for Catena or Soil Science.

Mark Miller

Received grant DOE/BES to study:

The crystal chemistry and structural analysis of uranium oxide hydrates
Award amount: $100,000 per year, duration: 2 years.

Roberto Molina-Garza

Manuscripts in press

Paleomagnetism and magnetostratigraphy of Triassic strata in the Sangre de-Cristo Mountains and Tucumcari basin, New Mexico, U.S.A.
R.S. Molina-Garza, J.W. Geissman and S.G. Lucas

Manuscripts in review

Paleomagnetism of Paleozoic strata, Brabant and Ardennes Massifs (Belgium): implications of pre-folding and post-folding Late Carboniferous secondary magnetizations for European apparent polar wander
R.S. Molina-Garza and J.D.A. Zijderveld
Submitted to Journal of Geophysical Research, 1995

Manuscripts in preparation

Timing of deformation and accretion of the Antimong terrane, Sonora, from paleomagnetic data
R.S Molina-Garza and J.W. Geissman
Unsupported research

Stratigraphically confined secondary chemical remanent magnetization in hematite bearing strata, implications for diagenesis in red beds and interpretation of paleomagnetic data.

Paleomagnetism of Triassic strata in western New Mexico and northeast Utah, implications for Colorado Plateau rotation.

Horton Newsom

Proposals submitted and pending

NASA Astrophysics Division, Administered by the Space Telescope Science Institute, Initiative to Develop Education through Astronomy (IDEA) Education Program, Hands-On the Solar System: Workshops for Middle School Students from Under-represented Groups and their Teachers in New Mexico. $6,000; 1 year. (successful and awarded in 1996). (1995).

Unsuccessful proposals


James Papike

Manuscripts in press

Deciphering basaltic magmatism on the Moon from the compositional variations in the Apollo 15 very low-Ti picritic magmas.
C.K. Shearer,** J.J. Papike, and G.D. Layne**

Trace-element zoning in pelitic garnets: What does it indicate?
C.S. Schwandt, J.J. Papike, and C.K. Shearer**
American Mineralogist, in press. (1996)

Pyroxene as a recorder of cumulate formational processes; asteroids, Moon, Mars, Earth: Reading the record with the ion microprobe.
J.J. Papike

The role of ilmenite in the source regions for mare basalts: Evidence from Nb, Zr, and Ce in picritic glasses.
C.K. Shearer,** J.J. Papike, and G.D. Layne**
Manuscripts submitted or in review

Hydrothermal systems on Mars. Insights from sulfur isotopic systematics in alteration assemblages in Martian Meteorite Allan Hills 84001.

Unequilibrated eucrites and the equilibrated Juvinas Eucrite: Pyroxene REE systematics and major, minor, and trace element zoning.
A. Pun,* and J.J. Papike
American Mineralogist, in review. (1996)

Eruption evolution of the *760 Ka Bishop Tuff: Insights from electron and ion microprobe analysis of melt inclusions from the Long Valley Exploratory Well (LVF 51-20).
M.S. Servilla,* G.D. Layne,** and J.J. Papike

Ion microprobe investigation of plagioclase and orthopyroxene from Lunar Mg-suite norites: Implications for calculating parental melt compositions and for addressing postcrystallization trace-element redistribution.
J.J. Papike, G.W. Fowler,** G.D. Layne,** and C.K. Shearer**

Manuscripts in preparation

Ion microprobe investigation of feldspar and pyroxene from cumulate eucrites.
A. Pun,* J.J. Papike, and G.D. Layne**

Frank Pazzaglia

Pending Grants and Contracts

U.S. Geological Survey Educational Mapping Program (EdMap)
University of New Mexico Albuquerque Basin mapping initiative
co-P.I. with Karl Karlstrom
$44,150

McCune Foundation, Youth summer programs
Geology, geomorphology, and hydrology of the southern Sierra Nacimiento, New Mexico
$13,925

Unsuccessful proposals

Active tectonics and constraint of Quaternary deformation captured in fluvial systems, Olympic Mountains, Washington State
National Science Foundation
$70,688 for two years.

Terrace genesis in diverse tectonic and geomorphologic settings
National Science Foundation Career Program
$227,378 for five years.
Frans Rietmeijer

Manuscripts in press

Type CM interplanetary dust particles in the lower stratosphere during October, 1989 and June/July, 1991.
F.J.M. Rietmeijer

The ultrafine mineralogy of a molten interplanetary dust particle as an example of the quench regime of atmospheric entry heating.
F.J.M. Rietmeijer

The butterflies of principal components: The case of ultrafine-grained polyphase units.
F.J.M. Rietmeijer
Lunar Planet. Sci., vol. 27.

Principal components constrain dynamic pyrometamorphism in a partially melted interplanetary dust particle.
F.J.M. Rietmeijer
Lunar Planet. Sci., vol. 27.

An analytical electron microscope [AEM] study of hydrous alteration in a smoke of modal forsterite composition.
F.J.M. Rietmeijer
Lunar Planet. Sci., vol. 27.

A first result of isothermal annealing of an Fe-SiO smoke.
J.M. Karner and F.J.M. Rietmeijer
Lunar Planet. Sci., vol. 27.

Preliminary electron microbeam analyses of triggered-lightning induced evaporation and gas phase mixing.
Lunar Planet. Sci., vol. 27.

Manuscripts submitted

Thermal metamorphism during atmospheric entry heating of Fe,Ni-sulfides in interplanetary dust.
F.J.M. Rietmeijer
Eur. J. Mineral

Cellular precipitates of iron-oxide in extraterrestrial olivine.
F.J.M. Rietmeijer
Mineral. Mag.

Manuscripts in preparation

Principal dust components in the solar nebula.
F.J.M. Rietmeijer
Nature
Bismuth nanoparticles in the stratosphere.
F.J.M. Rietmeijer and I.D.R. Mackinnon

Coal-fired dusts due to inefficient burning.
F.J.M. Rietmeijer and J. Janeczek
Environ. Sci.

Unsupported Research

Transmission Electron Microscope characterization of carbon gas phase condensates, in cooperation with Prof. Armando Blanco (University of Lecce, Lecce, Italy) and Drs. Alessandra Rotundi and Luigi Colangeli (Osservatorio Astronomico di Capodimonte, Naples, Italy.

Transmission Electron Microscope analyses of airborne industrial dusts, in cooperation with Prof. Janusz Janeczek, The Silesian University, Poland.

Jane Selverstone

Manuscripts in press
Metamorphic Processes
J. Selverstone
MacMillan Encyclopedia of Earth Sciences

Manuscripts in preparation
Deep burial depths for metapelites from the lower plate of the northern Snake Range décollement, Nevada
C. Lewis, B. Wernicke, J. Selverstone and J. Bartley
To be submitted to Geol. Soc. Amer. Bull.

Unsuccessful proposals

Collaborative research: Lithospheric structure and evolution of the western U.S., an integrated geological and geophysical investigation
K. Karlstrom, J. Selverstone, Y. Asmerom, J. Geissman, and many others
National Science Foundation

Gary Smith

Manuscripts in press
Journal of Sedimentary Research

Geology of the Squawback Ridge quadrangle, Deschutes and Jefferson Counties, Oregon
M.L. Ferns D.E. Stensland and G.A. Smith
Oregon Department of Geology and Mineral Industries Geologic Map Series, scale 1:24,000

Geology of the Steelhead Falls quadrangle, Deschutes and Jefferson Counties, Oregon
M.L. Ferns D.E. Stensland and G.A. Smith
Oregon Department of Geology and Mineral Industries Geologic Map Series, scale 1:24,000

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Manuscripts submitted or in review

What is the Cochiti Formation?
G.A. Smith and A. Lavine*
New Mexico Geological Society Guidebook, 47th Fall Field Conference

Volcaniclastic rocks of the Keres Group: Insights into volcanism and sedimentology and the southeastern Jemez Mountains between 13 and 8 Ma
A. Lavine*, G.A. Smith, F. Goff and W.C. McIntosh
New Mexico Geological Society Guidebook, 47th Fall Field Conference

Manuscripts in Preparation

Physical volcanology and sedimentology of a composite pyroclastic-flow apron/alluvial fan, Jemez Mountains, New Mexico
To be submitted to Bulletin of Volcanology

Geology of the Opal City quadrangle, Deschutes and Jefferson Counties, Oregon
M.L. Ferns, G.A. Smith and D.E. Stensland
Oregon Department of Geology and Mineral Industries Geologic Map Series, scale 1:24,000

A history of formation and drainage of Pleistocene lakes in the Valles Caldera
J. Rogers*, G.A. Smith and H. Rowe*
New Mexico Geological Society Guidebook, 47th Fall Field Conference

Unsuccessful Proposals for Grants and Contracts Submitted

An outcrop analog study of alluvial-aquifer heterogeneity
Gary A. Smith
National Science Foundation
$102,000.00; June 1995-May 1998

Defining and incorporating the effects of discrete geological structures in flow simulation
E.K. Webb (SNL), S.A. McKenna (SNL), J.M. Davis (U. of New Hamp.) and G.A. Smith
Department of Energy

Science and Engineering Exploration Project
G.R. Ward (UNM Engineering), T.L. Yates (UNM Biology), G.A. Smith and A.B. Gurnee
(Exploral Science Center)
Department of Energy
$267,892.00; Oct. 1995 - Sept 1997.

Proposals Submitted

An outcrop analog study of alluvial-aquifer heterogeneity
Gary A. Smith and Michael E. Campana
National Science Foundation
$120,168; July 1996-June 1999

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Lu-Min Wang

Manuscripts in press

Surface and grain-boundary amorphization: Thermodynamic melting of coesite below the glass transition temperature
W.L. Gong, L.M. Wang**, R.C. Ewing and Y. Fei
Physical Review B, in press.

On the roles of temperature and interfaces in irradiation and thermally induced solid state amorphization

Aeschynite and euxenite structure-types as host phases for rare-earths and actinides from HLW
W.L. Gong, R.C. Ewing, L.M. Wang** and H.S. Xie

Secondary phase formation and the microstructural evolution of surface layers during vapor phase alteration of the French SON 68 nuclear waste glass at 200°C

Temperature dependence of irradiation-induced amorphization in α-SiC

Temperature and dose dependence of ion-beam-induced amorphization in α-SiC
Journal of Nuclear Materials, in press.

Lee Woodward

In Press

Role of tectonic analysis in exploration for fracture reservoirs in Cretaceous source rocks of the Raton Basin, New Mexico
Lee A. Woodward

Basement source of metals in veins hosted by Spokane and Greyson Formation (Middle Proterozoic) in the Argo copper belt, Big Belt uplift, Montana
I.M. Lange, Lee A. Woodward, and H.R. Krouse
Montana Bureau of Mines and Geology Special Publication, in press.
5. ACTIVITIES IN PROFESSIONAL SOCIETIES

Yemane Asmerom

Fall GSA - gave a well-received talk.

Susan Barger

Conference organized:

"Options for the Future: Pre-Historic and Historic Precedents for Water-use in New Mexico," Westerns New Mexico State University
August 9, 1995.

Professional meetings attended:

Annual meeting of the American Institute for Conservation of Artistic and Historic Works, St. Paul, Minnesota
June 5-10, 1995.

Associate Editor, Journal of Imaging Science and Technology.

Adrian Brearley

Professional meeting attended


Talks presented


Other activities

Associate Editor, American Mineralogist (1994-1997).
Abstractor for Mineralogical Abstracts, abstracted papers from Analytical Chemistry.
Member, NASA/ESA Rosetta Orbiter Instrument Definition Panel.
Michael Campana

Associate Editor, Environmental and Engineering Geoscience

Member, U.S. National Committee, International Association of Hydrogeologists

Chair, Technical Committee, Third USA/CIS Joint Conference on Environmental Hydrology and Hydrogeology, Tashkent, Uzbekistan, September 1996

Laura Crosse

Meetings attended/talks presented:

American Association of Petroleum Geologists/Society for Sedimentary Geology, Annual Meeting, March 5-8, Houston, TX.

IVth International Conference on Advanced Materials, August 27 - September 4, 1995; Cancun, Mexico.

American Association of Petroleum Geologists Distinguished Lectureship Tour
Presented Lecture by Invitation at:
University of Arkansas, Fayetteville, AK. (November 27, 1995)
University of Alabama, Tuscaloosa, Ala. (November 28, 1995)
Memphis State University, Memphis, TN. (November 29, 1995)
University of New Hampshire, Durham, NH. (November 30, 1995)
Laval University, St. Foy, Quebec, CANADA (December 1, 1995)
Brooklyn College-CUNY, New York, NY. (December 4, 1995)
Case Western Reserve, Cleveland, OH. (December 5, 1995)
Michigan State University, Lansing, MI. (December 6, 1995)
Washington University, St. Louis, MO. (December 8, 1995)

Society Committees:
American Association of Petroleum Geologists, Membership Committee (since 1989)
Association for Women Geoscientists (lecturer (since 1989))
Clay Minerals Society, Ad Hoc Committee on Legal Issues (since 1991)
Society for Sedimentary Geology, Academic Liaison (since 1991)
Society for Sedimentary Geology, Membership Committee (since 1990)

Editorial Boards:

Maya Elrick

Meetings attended


Wolfgang Elston

Memberships

Working Group on Explosive Volcanism, International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI)

Working Group on Volcanic Data Files, IAVCEI

Commission 17 (Moon and Planets)
International Astronomical Union

Meetings attended and papers read

Invited paper read:

Bushveld Complex and Vredefort dome: The case for multiple-impact origin
W.E. Elston

Poster displayed:

Bushveld Catastrophe, South Africa: Mantle plume or impact?
W.E. Elston

Invited Geological Field trip

Vredefort dome, South Africa, guided by Professor A.A. Bisschoff, University of Potchefstroom, South Africa, June 23, 1995.

Rodney Ewing

Mineralogical Society of America

Roebling Medal Committee (member, 1995)
Benefactors Committee (member, 1995)
Nominated to stand as candidate for Council (1995)

Materials Research Society

External Affairs Committee, IUMRS subcommittee, (member, 1993-1995)
Public Affairs Committee (member, 1993 - 1997)
Publications Committee, MRS Bulletin subcommittee (member, 1995)

International Program Committee for Scientific Basis for Nuclear Waste Management XXI to be held in Davos, Switzerland, 1997.

International Union of Materials Research Societies

Vice-President, 1995-1996
Invited Presentations


"Radiation-Induced Amorphization in Ceramics": research conference on Kinetic Processes in Minerals and Ceramics, sponsored by the European Research Conferences, Blankenberge, Belgium, March 25, 1995.


"Temperature and Recoil-Energy Dependence of Irradiation-Induced Amorphization in Ceramics": Annual Meeting of the American Ceramic Society, Cincinnati, OH, May 1, 1995 (presented by W.J. Weber)

"Glass and Ceramic Waste Forms -- Applications and Materials Properties": Annual Meeting of the American Ceramic Society, Cincinnati, OH, May 2, 1995 (presented by W. Lutze)


"Radiation-Induced Amorphization in Nuclear Waste Forms": Annual meeting of the American Crystallographic Association, Montréal, Canada, March 29, 1995.


John Gelssman

Paleomagnetic evidence for rapid geomagnetic changes during the late Miocene field reversal recorded at Paiute Ridge, Nevada (co-authors C.D. Ratcliff and F.V. Perry)

American Geophysical Union Meeting, San Francisco, CA, December.

Editor, Bulletin, Geological Society of America.

Member, Publications Committee, Geological Society of America.

Associate Editor, Journal of Geophysical Research.
Convenor, with Richard Gordon, Rice University, Special Session on Tectonics and Magnetism, Fall American Geophysical Union Meeting, December, San Francisco.
Associate Editor, Geology.
President, Geophysics Division, Geological Society of America.
Member, American Geophysical Union "Committee of 50".
Member, American Geophysical Union Public Information Committee.
University of New Mexico representative, DOSECC, Inc.
Member, Panel, Instrumentation and Facilities Program, Division of Earth Sciences, National Science Foundation
Member, Board of Directors, DOSECC, Inc.

David Gutzler

Talks given
Presentation to 20th Annual NOAA Climate Diagnostics Workshop, Seattle "Decadal and interannual variability in the tropical western Pacific"

Editorship
Journal of Climate (my term now ended)

Committees
American Meteorological Society, Standing Committee on Interaction of the Ocean and Atmosphere
American Meteorological Society, Program Committee, Symposium on Air-Sea Interaction to be held at AMS Annual Meeting, Atlanta, January 1996
International TOGA COARE Science Steering Group, Large-scale atmospheric waves and circulation working group representative

Rhian Jones

Meetings attended
Associate Editor of the international journal "Meteoritics"
Member of Planetary Materials & Geochemistry, Management Operations Working Group (NASA)
Abstractor of "Meteoritics" for Mineralogical Abstracts
Member of Mineralogical Society of Great Britain, Mineralogical Society of America, Meteoritical Society, American Geophysical Union
Karl Karlstrom

GSA Structure and Tectonics Division: "Best Paper" Committee - annual award to the best paper in structure and tectonics

Associate Editor, Precambrian Research

New Mexico Geologic Mapping advisory board

Member IGCP project 376 - Laurentia-Gondwana interactions

Cornelis Klein


Member of the Commission on History and Teaching, International Mineralogical Association, 1985 - present.

Albert Kudo

Presentation of talk with T.E. Cascadden at Annual Meeting of Geological Society of America, October, in New Orleans, LA.

Presentation of talk with S.A. Maehr at Annual Meeting of the American Geophysical Union, December, in San Francisco, CA.

Presentation of talk with L.J. Crossey at International Conference on Advanced Materials, August, in Cancun, Mexico.

Presentation of poster with J.H. Ring at Annual Meeting of the American Geophysical Union, December, in San Francisco, CA.

Presentation of poster with H.D. Southern at Annual Meeting of the American Geophysical Union, December, in San Francisco, CA.

Attended two workshops: Grant proposal writing to NSF, and Solar system for educators, Geological Society of America Annual Meeting in New Orleans, LA.

Barry Kues

New Mexico Geological Society: Managing Editor; presented paper at Spring meeting, April 7, 1995; attended Fall field conference, September 27-30, 1995.

Richard Livaccari

Presented talk:

Leslie McFadden

**Talks Given**

"Impacts of glacial-interglacial climate changes on soil formation in deserts of the southwestern U.S.A.: Significance of surface horizon evolution based on recent numerical age dating, isotopic, numerical modeling, and field studies", Geomorphic Response of Mediterranean and Arid Areas to Climate Change - International Geographical Union Commission on Geomorphic Response to Environmental Change Conference, Jerusalem, Israel.


**Professional Meetings Attended**

Society for Sedimentary Geology-International Research Conference, Death Valley, California

1995 New Mexico Geological Society Field Conference, Santa Fe Region, New Mexico, Sept. 28-29.


Editorial Board, Catena

Mark Miller

**Meetings attended:**


Presented Poster at Annual meeting of the Geological Society of America, New Orleans, Nov.

Presented Poster at Annual Fall Meeting of the Materials Research Society, Boston, Nov.

Roberto Molina-Garza

**Meetings Attended**


Horton Newsom

**Meetings Attended**


New Mexico Science Teacher Association and Council of Teachers of Mathematics, Ruidoso, NM, October 13, 1995. Presented workshop "Hands on the solar system".

American Geophysical Union Annual Fall Meeting, San Francisco, CA., Dec. 6-10, 1995. Presented one talk, and was co-author on two additional talks by UNM students.

Professional papers read


Offices held


James Papike

Meetings Attended


Attended Geological Society of America Meeting, and delivered Mineralogical Society of America Presidential Address Nov. 6-9, 1995.

National Committees and Offices in Societies

Member, Advisory Committee for the Institute of Geophysics and Planetary Physics, LANL and University of California.

President, Mineralogical Society of America 1995.

Chair, Planetary Materials Interest Group of Mineralogical Society of America.
Frank Pazzaglia

Active member of the American Geophysical Union, Geological Society of America, and National Association of Geology Teachers

Frans Reltmeller

Professional Papers Read

Magnesium loss from unmelted stratospheric interplanetary dust particles during atmospheric entry. 26th Lunar and Planetary Science Conference, Houston, Texas.

Stratospheric Dust: What it may tell us about common presolar dust. NASA Ames Research Center, Moffett Field, California.

Notes for environmental scanning electron microscope simulations of mineralogical activity in icy protoplanets. Scanning 95, Monterey, California.

Electron microscopy of atmospheric dusts below 45 km altitude. 7th Annual Joint Meeting New Mexico sections of the Materials Research Society and the American Ceramic Society, Albuquerque, New Mexico.

Professional Meetings Attended


Scanning 95, Monterey, California, March 30.

7th Annual Joint Meeting New Mexico sections of the Materials Research Society and the American Ceramic Society, Albuquerque, New Mexico, October 30.

Jane Selverstone

Coeditor, Journal of Metamorphic Geology

Committees

Member: Award Committee, Mineralogical Society of America
Member: Lecture Committee, Mineralogical Society of America

Meetings Attended


Attended NMGS fieldtrip, 9/1995

**Charles Shearer**

Presentations at Professional Meetings:

26th Lunar and Planetary Science Conference, Houston, TX.

"Origin of the Apollo 15 Green Glass. Evidence from Ni, Co, Mn, V, and Cr"

"The role of ilmenite in the source region for mare basalts. Evidence from Nb and Zr in picritic glasses"

**WERC Annual Meeting, Las Cruces, New Mexico**

"Interpretation of fluid flow using trace element zonation in calcite"

Geological Society of America Meeting, New Orleans, LA.

"Dynamics of lunar magmatism and conditions of the Moon's mantle as deduced from the Apollo 15 very low-Ti picritic magmas"

**Other**

Mineralogical Society of America representative to American Geological Institute.

Member of the Ian Campbell Award Committee for AGI.

Contributor to Geotimes (Recent advances in Mineral Chemistry).

**Gary Smith**


Co-led Day One of the 46th New Mexico Geological Society Fall Field Conference

Associate Editor, Geological Society of America Bulletin

Associate Editor, Sedimentology (International Association of Sedimentologists)

Associate Editor, Journal of Sedimentary Research (SEPM, Society for Sedimentary Geology)

**Lu-Min Wang**

Meetings Attended


Presented a poster, "HRTEM study of ion beam irradiation induced amorphization in ceramic materials", at the 53rd Annual Meeting of Microscopy Society of America, Kansas City, MO, August 13-17, 1995.


**Session Chair**


Symposium on Electron and Scanning Probe Microscopy (organizer and chair), 7th Annual Joint Meeting of the New Mexico Sections of the Materials Research Society and the American Ceramic Society, Albuquerque, NM, October 30, 1995.

**Others**

Continue to serve as the vice president for the New Mexico Section of the Materials Research Society and helped in organizing the 7th annual joint meeting of the New Mexico sections of the American Ceramic Society and Materials Research Society, Albuquerque, NM, October 31, 1994.

**Lee Woodward**

Attended Geological Society of America, Rocky Mountain Section, meeting in Bozeman, Montana, May 1995.
6. OTHER PROFESSIONAL ACTIVITIES

Bruce Allen

Invited lecture, "Quaternary Climatic Variability," New Mexico Institute of Mining and Technology, Department of Geoscience, February 7, 1995

Yemane Asmerom

Proposals reviewed: 2 NSF
Manuscript reviews: Chemical Geology
Submitted a white paper to NSF climate program

Susan Barger

Talks given:
"Care of Your Collections" and "The Detection of Art Fakes and Forgeries,"
Vail Arts Council
March 9, 10, 1995, Vail, Colorado.

Consultancies:

Preservation planning for Batopilas, Chihuahua, Mexico; Copper Canyon Lodges, MI.
Analysis of daguerreotype, Janet Leher, Inc. (photographic dealer), New York, NY.
Board of Directors, Research and Graduate School Alumni Interest Group, The Pennsylvania State University (appointed 1995).
American editor for first bilingual edition of Luna Cornea, Mexican photographic history journal.

Adrian Brearley


Reviewed 3 proposals submitted to the National Science Foundation Petrology and Geochemistry Program.

Reviewed 4 proposals submitted to NASA Planetary Materials and Geochemistry Program.

Reviewed 5 proposals submitted to NASA/ESA Rosetta Orbiter Instrument Definition Program.
Michael Campana

Reviewed manuscripts for Journal of the North American Benthological Society (1); Proceedings, ASTM Symposium on Subsurface Fluid-Flow Modeling (2); Water Resources Bulletin (2); Hydrogeology Journal (1); Hydrological Processes (1); Water Resources Research (2); New Mexico Geology (1)

Proposal Reviewer: National Science Foundation (2) and U.S.-Israel Binational Science Foundation (1)

Laura Crosser

Off-campus talks:

Guest Lecture, Louisiana State University; Baton Rouge, September 15, 1995.

Reviews:

Manuscripts:

Geology (2), Geochimica et Cosmochimica Acta (2), Chemical Geology (1), Journal of Sedimentary Research (1)

Proposals:

American Chemical Society/Petroleum Research Fund (1), National Science Foundation (2), NSERC (Canada) (1)

Wolfgang Elston

Wrote recommendations for tenure and promotion for two faculty members, University of Massachusetts

Served as external member of Ph.D. Committee for Joachim Schweitzer, University of Pretoria, South Africa

Reviewed manuscript for Journal of South African Geology

Reviewed one NSF proposal

Rodney Ewing

Reviewed manuscripts for the following journals (# in parenthesis)


Reviewed proposals for the following agencies (# in parenthesis)

National Science Foundation (3), Basic Energy Sciences, Department of Energy (1), University of California, Office of the President (6), Stanford Synchrotron Radiation Laboratory (1), Australian Research Council (1)
Served as reviewer for promotion evaluations at:

The Pennsylvania State University, Australian Nuclear Science and Technology Organization, Argonne National Laboratory, Battelle Pacific Northwest Laboratories, evaluation of Materials Synthesis Group

Served as a committee member for:

National Academy of Sciences and National Research Council Committee on the "Waste Isolation Pilot Plant" (Professor Charles Fairhurst, chair)

National Academy of Sciences and National Research Council Committee on the "Remediation of Buried and Tank Wastes" (Dr. R. Budnitz, chair)

National Academy of Sciences and National Research Council Steering Committee for International Workshop, "Glass as a Waste Form and Vitrification Technology" (R.C. Ewing, chair)

Board of Materials Sciences, Basic Energy Sciences, Panel on "Radiation Effects in Nuclear Waste Glasses" (W.J. Weber and R.C. Ewing, co-chairs)

National Advisory Council on Environmental Policy and Technology for the Environmental Protection Agency (subcommittee on WIPP), 1993 - 1998 (C. Whipple, chair)

Advisory Committee on Nuclear Waste, Nuclear Regulatory Commission, (R. Pomeroy, chair)

R.C. Ewing serves as a consultant to this committee

Meetings Organized


Chair, session on ceramic waste forms, "Scientific Basis for Nuclear Waste Management", Boston, Massachusetts, November 29, 1995.

Chair, "Issues in Environmental Materials", IV International Conference on Advanced Materials, Cancún, Mexico, August 30, 1995.


Invitations Declined

DOE Workshop on Molecular Environmental Science: Speciation, Reactivity, and Mobility, Airlie Center, VA, July 5 - 8, 1995.

The 14th International congress on X-Ray Optics and Microanalysis, Guangzhou, China, August 29 - September 2, 1995.

Technologies Academic Review Group for Idaho National Engineering Laboratory.
John Geissman

Professional talks:

Late Paleozoic remagnetization in the western Cordillera: Nature, origin, and implications for tectonism in the Cordillera
Invited Lecture, Arizona State University, March

Paleomagnetic record of the transitional part of a geomagnetic field reversal and implications for magma emplacement process, Paiute Ridge, Nevada
Invited Lecture, Arizona State University, March

Late Paleozoic remagnetization in the western Cordillera: Nature, origin, and implications for remagnetization processes
Invited Lecture, University of Wyoming, November

Reviews of manuscripts and proposals:

Reviewed proposals for National Science Foundation (9), American Chemical Society (3), Department of Energy (1), U.S. Geological Survey (1), The Third World Academy of Sciences (2), Lithoprobe, Canada (2). [Note, these do not include proposals associated with NSF Panel Member responsibilities]

Consultancies:

Volcanism Project, Los Alamos National Laboratory, November, 1990-Fall, 1995
Earth Sciences Research Institute, Univ. of Utah, Azerbaijan Magnetostratigraphy project, September, 1995-
Consultant, American Geological Institute, Glossary of Geology, 1996 Edition

Adjunct or associate-type positions at other institutions:

Technician, UNM Paleomagnetism and Rock Magnetism Laboratory

David Gutzler

Talk presented to Physics Dept., New Mexico Tech, October 19: "Decadal and interannual variability in the tropical western Pacific"

Reviews

Journal of Climate (other than Editor's duties): 2 manuscripts
Journal of the Atmospheric Sciences: 1 manuscript
Atmosphere-Ocean: 1 manuscript
National Science Foundation: 4 proposals
National Oceanic and Atmospheric Administration: 3 proposals

Stephen Huestis

Manuscript reviewed for Geophysical Journal International
Proposal reviewed for National Science Foundation
Rhian Jones

Reviewed 1 manuscript for "Meteoritics", 1 for Geochimica et Cosmochimica Acta, and 1 for Smithsonian Contributions to the Earth Sciences.


Karl Karlstrom

Invited Talks:
University of Texas at Dallas - January, 1995
University of Oregon - March 31, 1995
Iliad workshop - Feb. 13, 1995, Taos, New Mexico
USGS workshop - Geologic Studies of Middle Rio Grande Basin, April 4-5, 1995
Grand Canyon National Park symposium, Aug 2-4

Panel member: NSF Tectonics Panel - 150 proposals, one trip to Washington D.C.
NSF Continental Dynamics Panel - 40 proposals, two trips to Washington D.C.

Other review activities:
Australian Research Council (1 proposal), Precambrian Research (5 papers),
Geology (2 papers), Canadian Journal of Earth Sciences (2 papers),
Geological Society of America Bulletin (1 paper), Montana Research proposals (MONTS) (1 proposal), Bus leader and speaker for NMGS fieldtrip (days 1 and 2)

Cornelis Klein

Adjunct Curator, New Mexico Museum of Natural History, Albuquerque, NM.

Associate Editor, Precambrian Research a journal of Elsevier Science Publication, Amsterdam.

Consulting Editor, 1993-1995, for McGraw Hill Encyclopedia of Science and Technology, 9th edition, in preparation. Reviewed 353 articles in the 8th edition of this encyclopedia on the subject mineralogy-petrology. Recommended that 83 of them be rewritten. I was the editor in charge of these rewrites.


Reviewed research proposals for the National Science Foundation and the National Aeronautics and Space Administration.


Albert Kudo

Reviewed several manuscripts of geology textbooks for various publishers.
Served as Master Chairman of Physical Sciences for the Northwest Regional Science and Engineering Fair
Served as judge at the State Science and Engineering Fair, Socorro, NM
Served on Advisory Board of Northwest Regional Science and Engineering Fair
Barry Kues


Adjunct curator, New Mexico Museum of Natural History

Research Associate, New Mexico Bureau of Mines and Mineral Resources

Leslie McFadden

Off-Campus Talks

"Soil-geomorphic studies, applications to research in Quaternary and Archeological Investigations", presented at Ghost Ranch Conference Center, NM, August 3, 1995

"Arroyo development and plant-landscape changes in Navajo/Hopi region, NE Arizona: Result of Grazing or climatic changes?" presented at the Dept. of Geology symposium, New Mexico State University, Las Cruces, NM, Nov. 13, 1995

Peer Reviews of Articles and Proposals

Catena (3 papers), Geological Society of America Bulletin (1 paper), 1 Proposal to the National Science Foundation, Reviewed Petrified Forest National Park, Geology Guide

Promotion Review

Reviewed Assoc. Professor for Promotion to Full Professor in Univ. California, Davis

Consultancies

Los Alamos National Laboratories/Department of Energy: Field studies in volcanic fields, Mojave Desert and Great Basin in support of the Yucca Mountain Program to evaluate the proposed high-grade nuclear waste repository.

Roberto Molina-Garza

Reviewed 3 proposal for the National Science Foundation (Tectonics and Geophysics), 2 manuscripts for Journal of Geophysical Research, 2 manuscripts for Geol. Soc. Am. Spec. Paper, Served as member of the advisory board of the Archeomagnetic dating laboratory of the Museum of Santa Fe

Horton Newsom

Reviewed scientific papers submitted for publication in Geochimica et Cosmochimica Acta (4 papers), Meteoritics (1), Journal of Geophysical Research Planets (1)

Reviewed grant proposals submitted to NASA (1) and the National Science Foundation (2).

NASA committee meeting: Curation and Analysis Planning Team for Extraterrestrial Materials (CAPTEM), Houston, TX., March 11-12, 1995, Houston Texas.


Interviewed by Roland Pease, BBC World Service Science Unit for a series of shows on the origin of the solar system, Nov. 17, 1995.
Traveled to Tucson, AZ., to use the ICPMS facilities at the University of Arizona, Dec. 1, 1995.

**James Paplke**
Reviewed 30 Proposals and 15 Manuscripts

**Frank Pazzaglia**
Two invited seminar-series talks at the University of California, Santa Barbara in October, 1995.
Two talks at New Mexico Tech.
Editor, New Mexico Geology, a publication of the New Mexico Bureau of Mines and Mineral Resources.

Reviewed

Two papers for the Geological Society of America Bulletin
Two papers for the New Mexico Geological Society 45th annual field conference guidebook
Three NSF proposals (Two from the Tectonics division, one from the Facilities and Instrumentation division)

**Frans Bletmoller**

Peer review Scientific Papers

Geochimica et Cosmo/ohimica Acta, Geophysical Research Letters, Conference Proceedings to Chondrules and the Protoplanetary Disk, IAU Colloquium No 150 Proceedings

Proposal Reviews

National Aeronautics and Space Administration, Lunar and Planetary Geosciences Program (8),
National Aeronautics and Space Administration, Planetary Instrument Definition and Development Program (8), Natural Environment Research Council (United Kingdom) (1)

Panel Membership

Member, Proposal Review Panel for the NASA Lunar and Planetary Geosciences Program.
Member, Proposal Review Panel for the NASA Planetary Instrument Definition and Development Program.
Member of the NASA Johnson Space Center Cosmic Dust Review Panel.

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Jane Silverstone

Presented Seminar

"Fluid inclusions constraints on footwall uplift during crustal extension in the Alps", New Mexico Tech, 10/95.

Manuscripts reviewed


Reviewed petrology textbook proposal for Blackwell Science

Proposals reviewed

NSF Tectonics Panel (4), NSF Petrology Panel (3), NSF Continental Dynamics Panel (2), Petroleum Research Fund (1), NERC (UK) (1)

Reviewed tenure file for Lehigh University

Reviewed promotion file for Sultan Qaboos University, Sultanate of Oman

Gary Smith

Reviewed manuscripts for Journal of Sedimentary Research (6), New Mexico Geological Society Guidebook (3), Quaternary International (1), Geological Society of America Bulletin (3), Sedimentology (1), Sedimentary Geology (1)

Reviewed proposals for the National Science Foundation (2), Idaho Board of Education (1), Petroleum Research Fund (1)

Adjunct Curator, New Mexico Museum of Natural History and Science

Presented lectures at University of California at Santa Barbara, April 18, 1995:
- Climatic influences on late-stage sedimentation in an extensional basin
- What really are composite volcanoes and why do they shed so much coarse debris?

Presented lectures at Northern Arizona University, October 11-12, 1995:
- Climatic influences on late-stage sedimentation in an extensional basin
- What really are composite volcanoes and why do they shed so much coarse debris?


Lu-Min Wang

Presented an invited talk, "TEM study of irradiation effects in complex ceramic materials", at the Department of Nuclear Engineering and Engineering Physics, University of Wisconsin-Madison, June 30, 1995
Reviewed manuscripts and proposal for the following:

Applied Physics Letters (2), Microstructure of Irradiated Materials, MRS proceedings (1), National Science Foundation (academic research infrastructure) (1), Nuclear Instruments and Methods for Physical Research B (1)

Lee Woodward

7. NON-TEACHING UNIVERSITY SERVICE

Yemane Asmerom

Committees:

Facilities committee
MEMS
MEMS summer science coordinator
Stable isotope geochemistry search committee
Radiogenic isotope scientist search committee

Other:

Brown Bag Seminar co-organizer
Faculty Advisor: MEMS Student organization

Hosted to 401 Seminar visitor:

Julie Morris [Spring, 1995]

Susan Barger

Testified before state legislature twice for HB1018, Arid Americas Research and Design Center Bill introduced by Rep. Gary King.

Adrian Brearley

Host to visitors

Dr. Hap McSween, University of Tennessee, Knoxville, October 4-8, 1995.

Departmental service

Curator of the Meteorite Museum and Collection, Institute of Meteoritics engaged in cataloging, acquiring and loaning of meteorites. Developed Institute Home Pages and Catalog for the World Wide Web.

Member, Department of Earth and Planetary Sciences and Institute of Meteoritics Facilities Committee
Michael Campana

Steering Committee, Master of Water Resources Administration Program
Interdisciplinary Water Curriculum Committee, Master of Water Resources Administration Program
Reviewer, San Pedro Grant community development project, ARCH 503-
Advanced Design Studio/CRP 520 - Urban Planning Studio, March 8, 1995

Departmental

Undergraduate Committee

Laura Crosey

Department:

Undergraduate Advisor
Alumni Relations Committee
Scholarship Committee
Sigma Gamma Epsilon (National Honorary Geological Society) - Faculty Advisor
Undergraduate Committee
Undergraduate Geology Club - Faculty Advisor
Department Representative to the Minority Engineering, Math, and Science Program

Special duties:

Editor, Departmental Newsletter
Co-organizer, Silver Anniversary Celebration (E&PS Department)

College

Junior Promotion and Tenure Committee
Minority Engineering, Math, and Science Coordinating Committee

Maya Elrick

Departmental committees

Scholarships, undergraduate, microscope, vehicle maintenance, new faculty search committee

University committee

Undergraduate committee, College of Arts and Sciences

Wolfgang Elston

Coordinator of UNM-LANL Volcanology Program. General administration of program, chaired
meeting of UNM-LANL Volcanology Group.
Wrote memorial for Professor Emeritus Sherman A. Wengerd, read to Faculty Senate, March 7, 1995.

Initiated modification of University regulations regarding compositions of Ph.D. dissertation committees, to permit an expert external examiner from another institution in place of UNM faculty member from a non-major department.

Rodney Ewing

Department

Undergraduate Honors Advisor
Collections Committee (member)
Facilities Committee (member)
Undergraduate Committee (member)
Radiation Safety Permit Holder: XRD, AEM, XRF, Mineral Collections
Supervision of:
Harding Pegmatite
X-Ray Diffraction Laboratory (with M.L. Miller)
Electron Microscopy Facility (with L.M. Wang)

University

A&S Senior Faculty and Promotion and Tenure Committee (1995-1996)

Host and sponsor of adjunct faculty, visiting scholars, and post-doctoral fellows:

S. Barger, Adjunct Associate Professor, UNM
P. Burns, NSERC post-doctoral fellow
R. Doremus, Rensselaer Polytechnic Institute
M. Mayek, NSERC post-doctoral fellow
J. Janezcek, Uniwersytet Slaski, Poland
W. Gong, Institute of Geochemistry, Chinese Academy of Sciences

Host to guests and lecturers:

Hj. Matzke, Transuranium Institute, Germany
T. Murakami, Mineralogical Institute, Tokyo University
Wenzhong Zhou, Consul-General, People's Republic of China
Yingke Lu, Consul, People's Republic of China

John Geissman

University service and activities:

Member, Faculty Senate, 1995-1997
Member (replacement), Faculty Senate, 1994-1995
Academic Freedom and Tenure Committee, 1994-
College of Arts and Sciences Sabbatical Evaluation Committee, 1994-
College of Arts and Sciences Senior Promotion and Tenure Committee, Spring, 1995
College of Arts and Sciences Graduate Committee
Departmental service:

Geology Department Graduate Committee; Co-Chair,
Geology Department Assistant Chair; Fall, 1992-
Geology Department Computer Use Committee
Geology Department Facilities Committee

Special Projects:

Administrative Positions
Co-Chair, Graduate Committee

Other Service:

UNM One-On-One Program

David Gutzler

Participation in both E&PS and Geography Departments
Departmental committees: Computer Committee, Paleoclimatologist search committee

Stephen Huestis

University Service and Activities:

Virginia Creepers String Band performances:

English Department, Course 660: St/Whitman and Dickinson, April 18.
UNM New Faculty Event, Dixon Apple Orchard, May 7.

Departmental Service:

Committees:

   Computer (Chair)
   Undergraduate (through Spring, 1995)
   Scholarship (beginning Fall, 1995)
   Library liaison
   Structure/tectonics/geophysics track ad hoc committee

Rhian Jones

Departmental service

Manager of Experimental Petrology Laboratory.
Assistant Curator of Meteorite Collection.
Member of Planetary Sciences Curriculum Committee.
Member of Chemical Hygiene Committee, Department of Earth and Planetary Sciences.
Karl Karlstrom

Research Policy Committee

Chair of subcommittee on centers and institutes
Member, subcommittee on Research Recognition

Graduate Committee
Rock Room Coordinator
Organized REU undergraduate Research Symposium Feb 3/95
Host for Kelly-Silver candidate, Pilar Garcia, March 20-22
Host for SEPM speaker (401 speaker) Kenneth McClay, April 9-11

Cornells Klein

Chair, search committee for Isotope Geochemistry position.
Member of the Undergraduate Committee.
Member of Collections Committee.
Host for Professor Andrew Knoll, April 19-21, 1995 our Caswell Silver Distinguished Lecturer.

Albert Kudo

University

Member of the Research Allocations Committee
Member of the President's committee to select the Vice President for Student Affairs

College

Member of Dean's committee for Restructuring the Science and Math Curriculum for Pre-service Elementary Education Students

Departmental

Chair of Scholarship Committee
Member of Microscope Committee
Member of Speakers Committee

Barry Kyes

Department:

Chair of Department of Earth and Planetary Sciences

University:

Member, ad-hoc committee for planning of proposed new Science-Technology building
Internal (UNM) member of committee to review the Biology Department
Member, Faculty Senate task force to recommend a core curriculum program
Member, focus group evaluation of Research Administration office
Helped organize and appeared in KNME-TV/Research Administration Office hour program, "Deep Time", concerning research in the geosciences at UNM and the geology of New Mexico; aired October 17, 1995.

Leslie McFadden

Associate Chairman, Department of Geology

Member, Search Committee, Paleoclimate Position

Hosted Visit to Department by Dr. Bruce Harrison, NM Institute of Technology, Socorro NM; Geology 401 Seminar Speaker

Gave E&PS Undergraduate "Green Chile" Seminar Presentation

Participated in filming of overview of Dept. of E&PS called, "Deep Time", produced by KNME TV

Mark Miller

Departmental service:

Served on the Departmental computer committee.

Horton Newsom

Developed educational initiatives for the Institute of Meteoritics: NM TOPPS, the New Mexico Teacher Outreach Program for Planetary Science. and NM HOTSS a concept for Hands On The Solar System, an enrichment demonstration and lecture program for visitors to the I.O.M. Meteorite Museum and future resource center. The NM HOTSS program has received initial funding from the Space Telescope Science Institute.

Radiation Safety Permit Holder from University of New Mexico Occupational Safety Department. Facilitated transfer and monitoring of radioactive materials for department personnel. Directed the Neutron Activation Analysis Laboratory, Institute of Meteoritics.

Hosted visit of Bill Leeman, Rice University, Feb. 5-9, 1995.

Member, New Mexico Space Grant Faculty Advisory Board (Facilitated successful application of IOM student Laurie Bowman).

Member, Planetary Science Curriculum Committee, Department of Earth and Planetary Sciences.

Attended Arts and Sciences Chair Council for J.J. Papike, Nov. 6, 1995.
James Paplke

University Service and Activities:
Director, Institute of Meteoritics
Member, Faculty Senate Research Allocations Committee

Departmental Service:
Chair, Facilities Committee
Member of Graduate Committee

Frank Pazzaglia

I serve on the Department Graduate committee and Computer Committee

Jane Selverstone

Department of Earth and Planetary Sciences:
Graduate Committee
Stable Isotope Search Committee
Ion Probe Facility Manager Search Committee

Charles Shearer

Manager of the ICP-MS facility in the Department of Earth and Planetary Sciences.
Search Committee for ion microprobe manager.
SRA representative to E&PS faculty meetings.

Gary Smith

University Service:
Faculty Senate Undergraduate Committee
Ad-Hoc Committee on UNM Undergraduate Research Conference

Departmental Service:
Chair, Collections Committee
Chair, Paleoclimatology Faculty Search Committee
Co-Chair, Graduate Committee

Hosted the following visiting speakers to the department:
Norm Gaume, City of Albuquerque
Nancy Riggs, Northern Arizona University
Mike Kernodle, U.S. Geological Survey, Albuquerque
Elizabeth Anthony, University of Texas, El Paso.

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Lu-Min Wang

Responsible for the operation of the Analytical Transmission Electron Microscopy Laboratory (TEM Lab.) in the department which is open to the entire campus, supervised, trained and collaborated with many users from several UNM departments as well as from other institutes.

Lee Woodward

Member of departmental undergraduate committee.
8. SCHOLASTIC HONORS AND FELLOWSHIPS

Susan Barger
Who’s Who in Science and Engineering.

Adrian Brearley
Elected Fellow of the Mineralogical Society of America.
Appointed Research Associate Professor in the Department of Earth and Planetary Sciences.

Michael Campana
Awarded Fulbright Scholarship to Belize (Lecturing in hydrology and earth science at University College of Belize, Belize City).

Laura Crossey
Selected as 1995-96 Distinguished Lecturer by the American Association of Petroleum Geologists.

Wolfgang Elston
Reappointed Research Professor of Earth Sciences, July 1, 1995.

Rodney Ewing
Research Program recognized by Basic Energy Sciences/DOE as winner of "Significant Implication for Department of Energy Related Technology" in the category Metallurgy and Ceramics (with W.J. Weber of PNNL).

Asked by the Mineralogical Society of America to stand for election to council (lost)
Appointed Pacific Northwest National Laboratory Affiliate Staff Scientist (PASS)
Appointed Adjunct Professor in the Institute of Earth Sciences, Aarhus University, Denmark
Appointed Adjunct Professor of Chemical and Nuclear Engineering, UNM

Who’s Who in Science & Engineering (3rd Edition)
Rhian Jones

Elected Fellow of the Mineralogical Society of America

Cornells Klein


Barry Kues

A new species of fossil snail named in my honor by Roger Batten: B. kuesi, from Lower Pennsylvanian rocks in the Hueco Mountains, Texas.

Leslie McFadden

Elected Second Vice Chairman of the Quaternary Geology and Geomorphology Division, Geological Society of America

Horton Newsom

Insight II seminar, Santa Fe NM April 5-9, 1995.

James Papiske

President for Mineralogical Society of America for 1995.

Jane Selverstone

Named a fellow of the Mineralogical Society of America, February, 1995.
9. SABBATICALS AND TRAVEL

Yemane Asmerom

University of Minnesota [to do collaborative research at Larry Edward's lab].

Adrian Brearley


CRSCM-CNRS Orleans, France and University of Orléans to serve on thesis committee for PhD candidate, Tahar Hammouda, April 27-29, 1995.

Bayerisches Geoinstitut, Bayreuth, Germany. Visit to carry out high pressure experiments on multianvil press, April 30 - 25 May, 1995.


Mineralogical Society of America Short Course on Chemical Weathering, New Orleans, Louisiana, October 31 - November 2, 1995.


Michael Campana

Sabbatical Leave, Fall 1995, at the Research Institute for Groundwater, National Water Research Center, El Kanater El Khairiya, Egypt


Various trips to field sites throughout the year: Sandia National Laboratories, Zuni Mountains, Jemez Mountains, Sangre de Cristo Mountains

Presented paper at 18th Pacific Science Congress, Beijing, China, June, 1995.


Laura Crossey

Fall Sabbatical leave
Wolfgang Elston


Rodney Ewing

Travel

January 9-13, Paris, France, Oklo/EU meeting
January 16-18, Aarhus, Denmark
January 19-20, Washington, D.C., NAS
February 5-7, Irvine, CA, BTW/NAS
February 9-10, Washington, D.C., WIPP/NAS
February 13-14, Las Vegas, NV, TMS
March 21-23, Bonn, Germany, NAS-GAAC
March 24-25, Blankenberge, Belgium, ESF
May 5, Harding Pegmatite Field Trip
May 12-18, St. Petersburg, Russia, NATO
May 19-20, Karlsruhe, Germany, KfK
May 21-24, Strasbourg, France, E-MRS
June 21-23, Saclay, France, Oklo/EU meeting
July 10-12, Richland, WA, PNNL Radiation Effects mtg.
July 23-26, Montreal, Canada, ACA
July 30-Aug. 2, Woods Hole, MA, NAS/BTW
August 2-4, Washington, D.C., NAS/WIPP
August 21-22, Argonne, IL, BES Geoscience Review
August 28 - Sept. 1, Cancún, Mexico, ICAM
September 9-16, Catania, Sicily, REI
September 17-22, Überlinger, Germany, Spent Fuel Workshop
October 24-25, Argonne, IL, IVEM dedication ceremony
November 9, Washington, D.C., NAS Vitrification Workshop
November 13, NMT Division Review, LANL, Los Alamos, NM
November 26 - December 1, Boston, MA, MRS
December 7-8, Denver, CO, NAS/WIPP
December 12-15, Washington, D.C., DOE Workshop on Pu-Disposition

John Geissman

Summer teaching:

University of Michigan Camp Davis, Geological Sciences 440, Advanced Field Geology, June 28-July 20

Travel:

February 24-26, Boulder, Colorado, GSA Hq. for Publication Committee meeting and Bulletin planning.
March 11-18, northern Sonora, Mexico, field sampling
March 22-23, Arizona State University, Guest Lecturer
April 25-28, NSF Panel Meeting, Purdue University
May 15-June 1, New Mexico, southern Colorado, UNM Introductory Field Geology course
May 17 (evening) - Las Vegas, Nevada, testifying at Yucca Mountain Volcanic Hazards hearing
June 16-18, Boulder, Colorado, GSA Hq, for Bulletin planning
June 22-25, eastern Utah, field sampling
June 27-July 22, Wyoming, University of Michigan, Field Camp
July 22-25, eastern Utah, field sampling
August 10-13, Boulder, Colorado, Geological Society of America, Joint Technical Program Committee
September 17-19, southern Nevada, field sampling
October 19-23, Boulder, Colorado, GSA Hq, for Bulletin planning
October 25-27, La Jolla, CA, for NSF panel Meeting, Scripps
November 4-9, Geological Society of America, Annual Meeting, New Orleans
November 19-21, University of Wyoming, Guest Lecturer
December 12-15, San Francisco, AGU Meeting

David Gutzler

Attendance at 20th Annual NOAA Climate Diagnostics Workshop, Seattle, 10-23 to 10-26.

Rhian Jones


Karl Karlstrom

Jan. 9-11 Field mapping, Sandia Mountains
Jan. 24 Invited talk, Univ. Texas at Dallas
Feb. 11 E&PS 307 fieldtrip
Feb. 25 E&PS 307 fieldtrip
Mar. 13-17 NSF Tectonics Panel, Washington D.C.
Mar. 22 Fieldtrip with Kelly Silver Candidate Pilar Garcia
Mar. 25 E&PS 307 fieldtrip
Mar. 30-Apr.1 Invited talk, University of Oregon
Apr. 8 E&PS 307 fieldtrip
May 11-12 Fieldwork with Adam Read, near Mora
June 6-June 28 E&PS 420 - taught Advanced Field Geology Course, northern New Mexico
Aug. 2-4 Science symposium at Grand Canyon - gave invited paper
Sept. 5 Fieldwork with Mark Wingstead, Picuris Mountains
Sept 15-16 Fieldwork with Adam Read, Mora area
Sept 27-28 NMGS fieldtrip, bus leader for day 2
Oct. 13-14 Fieldwork in Sandia Park
Oct. 19 Fieldwork in Sandia Park
Oct. 22-27 Research trip in western Grand Canyon
Oct. 31-Nov. 3 NSF Continental Dynamics Panel, Washington D.C.
Nov. 9 Fieldwork in Sandia Park
Nov. 10 Fieldwork in Manzano Mountains
Cornelia Klein

Attended the Geological and Mineralogical Societies of Canada Annual meetings in May 1994 in Waterloo, Ontario and presented an invited paper on "Precambrian iron-formations."

Attended the International Mineralogical Association meeting in Pisa, Italy in early September, 1994 and gave an abstract on "Turquoise and its imitations."

Barry Kues

Professional travel:

Feb. 24-26, Cerro de Cristo Rey, paleontological research
March 12, Wagonmound area, paleontological research
April 1, Field trip to Cerro de Cristo Rey with NMSU paleo class
April 7, Socorro, NMGS spring meeting
June 19, Jemez Springs, filming for KNME-TV program
June 27, Jemez Springs, paleo. research with REU student
July 13, 18, Los Alamos, planning for NMGS '96 field conference
Sept. 1-3, Indiana University
Sept. 27-30, NMGS field conference, Santa Fe area
Oct. 7, 12, Jemez Springs area, roadlogging for '96 NMGS field conference
Oct. 19, Los Alamos, NMGS planning
Oct. 22, Jemez Springs area, paleo research and class field trip
Nov. 5, Waldo area, paleo research and class field trip

Albert Kudo

Travel to Cancun, Mexico, to attend meeting of the International Conference on Advanced Materials, August

Travel to New Orleans, LA, to attend meeting of the Geological Society of America

Travel to San Francisco, CA, to attend meeting of the American Geophysical Union

Many trips to the El Malpais National Monument to research

Leslie McFadden

Travel

April 1,2 - Fieldwork, Yucca Mountain area, Nevada
April 25 - Fieldwork, Yucca Mountain area, Nevada
May 6 - Fieldwork, Sandia National Lab area
May 11 - Fieldwork, Sandia National Lab area
May 12-24 - Presentation of paper and participation in GERTEC/IGU International Conference, Israel
June 6 - Fieldwork, Sevilleta area, NM, with graduate student
June 19 - Fieldwork, Jemez Mountains, NM, with graduate student
June 19 - Participation in Dept/KNME Film Project, Jemez Mountains, NM
July 9 - Fieldwork, Petrified Forest National Park, Arizona, with graduate student
July 13 - Fieldwork, Sevilleta Wildlife Refuge/LTER study area, with graduate students
July 19, 20 - Fieldwork, Yucca Mountain area, Nevada
August 3 - Presentation of Lecture to Archeology Program participants at Ghost Ranch, NM
September 23-25 - Fieldwork and Field Conference, Yucca Mountain area, Nevada
September 28-29 - Participation, NM Geological Field Conference, Santa Fe area
October 16-21 - Presentation of paper at SEPM Conference, Death Valley, California
November 5-8 - Participation in Geological Society of America Annual Meetings, New Orleans, LA
November 11 - Fieldwork, southeast of Clines Corner, NM
November 15, 16 - Presentation of Invited talk in the Department of Geology, NMSU
November 26 - Fieldwork, Jemez Mts. area, with graduate students

Frans Rietmeijer

26th Lunar and Planetary Science Conference, Houston (TX), March, 13-17.

NASA Ames Research Center, Moffett Field (CA), March 29.

Scanning 95, Monterey (CA), March 30.


7th Annual Joint Meeting New Mexico sections of the Materials Research Society and the American Ceramic Society, Albuquerque (NM), October 30.


Jane Silverstone

Basel, Switzerland, 1/3-1/10/95 to attend a workshop and present an invited talk.
Northern Colorado Front Range: 15 days of fieldwork spread over spring and summer.
Northern New Mexico: 9/95, NMGS fieldtrip Sandia and Manzano Mountains, fall '95, several days of fieldwork with Karl Karlstrom.

Lu-Min Wang

Travel:

Feb. 5-10 attend the Ninth International Conference on Ion Beam Modification of Materials, Canberra, Australia
March 13-17 conduct experiments at Argonne National Laboratory, Chicago, IL.
April 16-May 10 on vacation in China and Hong Kong, visited the Institute of Physics, Chinese Academy of Sciences and Hong Kong University of Science and Technology
June 25-29 conduct experiments at Argonne National Laboratory, Chicago, IL.
June 30 visit and give an invited talk at the Department of Nuclear Engineering and Engineering Physics, University of Wisconsin-Madison, Madison, WI.

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August 13-17
attend the 53rd Annual Meeting of Microscopy Society of America, Kansas City, MO.

October 10-14
conduct experiments at Argonne National Laboratory, Chicago, IL.

Nov. 27-Dec. 1
attend the Materials Research Society 1995 Fall Meeting, Boston, MA.

Lee Woodward

10. PUBLIC SERVICE

Yemane Asmerom

Amnesty International
The Sierra Club
KUNM

Adrian Brearley


Devised meteorite display for Astronomy Day at the New Mexico Museum of Natural History, October 31, 1995.

Identified numerous suspect meteorites and provided information on meteorites for members of the public from both within and outside New Mexico.

Michael Campana

Occasionally provided water resources and related information to the general public.

Member, VOCA (Volunteers in Overseas Cooperative Assistance).

Member, VITA (Volunteers in Technical Assistance).

Laura Crossey

Vice-president, Parent-Teacher Association, Montezuma Elementary School Restructuring Council, Montezuma Elementary (parent representative)
Albuquerque North Science Center, Parent Co-ordinator representing Montezuma Elementary.

Wolfgang Elston

Responded to numerous requests for information from the public.

Rodney Ewing

Amnesty International

John Gelssman

Geoscience Advisor, Albuquerque Petroglyphs National Monument committee.
Geologic field excursion leader, miscellaneous Girl Scout and Elementary school groups Member, SIM.SI panel, Jefferson Middle School
Participant, Jefferson Middle School, Special Educational Events Day.
David Gutzler

Responded to calls from the public concerning climate change issues and weather map interpretation.

Stephen Huestis

Virginia Creepers String Band volunteer performances:
Albuquerque Mennonite Church retreat, September 23, 1995.

Rhian Jones

Co-ordinated and gave tours of Meteorite Museum for visiting elementary, middle, high school and UNM students.
Identified numerous suspect meteorites for members of the public.

Karl Karlstrom

Visiting lectures: geoscience courses at Sandia Prep (6 lectures)
Math Superstars program - Bandelier Elementary School, every Monday 2-3 pm
Work with Grand Canyon National Park on exhibits ("Trail of Time" proposal)

Cornells Klein

Member of the Albuquerque Rotary Club.
Member of the Program/Speakers Committee of the Albuquerque Rotary Club.

Albert Kudo

Presentation of geology to grade 3 at Tomasita Elementary School

Barry Kues

June 24, talk on paleontology of the Manzano Mountains, Tijeras Ranger Station, summer speaker series.
Identified rocks and fossils for the public and answered geological questions.

Leslie McFadden

Responded to numerous requests for advice and assistance from the public concerning issues related to soils and geology.
Horton Newsom

Space Science Presentations to Students in Grades K-12
MESA students from Wilson MS, Albuquerque
MESA students from Santo Domingo MS
MESA students from Bernalillo MS, Bernalillo
MESA students from Truman MS, Albuquerque
Incoming freshmen to UNM, MEMS summer program for minority students
Sixth grade science summer school class at Grants MS, Albuquerque
Eighth grade science summer school class at Grants MS, Albuquerque
H. Pappas' 5th grade class, Bandelier ES, Albuquerque
5th-grade class, Merman School for the Gifted, Los Angeles, CA.
Attended and set up IOM presentation for Astronomy Day at Coronado Mall, April 29, 1995.

James Paplke


Frank Pazzaglia

Career days at Pueblos, mentorship of Chris Toya.

Charles Shearer

Tours of labs to general public. Develop analytical techniques in the ICP-MS lab for private sector use.
Lectures and tours for public and private schools in Albuquerque.

Gary Smith

Identification of mineral and fossil specimens for department visitors.
IV. GEOLOGY MUSEUM AND COLLECTIONS
GEOLOGY MUSEUM AND COLLECTIONS

Approximately 4000 people visited the Geology Museum during the 1995-1996 academic year. Most of the visitors (2527) were school children.

The Museum received specimen donations from Eugene Meieran of Phoenix, Steven and Susan Bringe of Albuquerque, and David Ratoike and Terry Hicks of Boulder. In addition, donated funds were used to purchase 6 new exhibit-quality specimens. The UNM Geology Museum and Collections Fund, administered by the UNM Foundation, is about half way toward endowment; revenues from this fund will be used in the future to acquire new specimens.

The petrology collections have recently been enlarged by the transfer of two extensive research collections. Metamorphic rocks from the Sangre de Cristo Mountains, collected by late Professor Jeffrey Grambling and his students, represent important suites for documenting pressure-temperature histories for pelitic mineral assemblages. Samples and thin sections for specimens from which analytical data were collected and reported in Dr. Grambling's publications have now been curated into the Collections. In addition, specimens of Precambrian rocks collected in the Grand Canyon by Professor Karl Karlstrom and his students are also in the process of being curated in the Department Collections. A provision of National Park Service collecting permits requires that these specimens be permanently curated and they comprise one of the most important research collections of these well-known, but difficult to access, rocks that contain the record of the tectonic assembly of the crust under the southwestern United States.

The Geology Museum was represented by exhibits at the Tucson Gem and Mineral Show and the Albuquerque Gem and Mineral Show in early 1996. Twelve outstanding specimens were exhibited at the Tucson show in February and twenty specimens were exhibited at the Albuquerque Show in March.

The third revised edition of Minerals of New Mexico was published by University of New Mexico Press in February 1996. This well known compendium of New Mexico mineral species and localities was originally authored by Professor Stuart Northrop and the new edition is updated by Florence LaBrizza, who has also served as a volunteer assistant in the Collections. A reception recognizing the publication of the third edition was hosted in the Geology Museum on March 9 and was attended by about 100 people. Florence LaBrizza attended and autographed books, which were offered for sale by the UNM Book Store.
# MUSEUM LOG

**JULY 1, 1995 — JUNE 30, 1996**

<table>
<thead>
<tr>
<th>DATE</th>
<th>ORGANIZATION</th>
<th>GRADE</th>
<th>STUDENTS</th>
<th>NON STUDENTS</th>
</tr>
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<tbody>
<tr>
<td>7/13/95</td>
<td>Bright Beginnings</td>
<td>1st-5th</td>
<td>16</td>
<td>3</td>
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<tr>
<td>7/17/95</td>
<td>All Seasons Day School</td>
<td>1st-5th</td>
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<tr>
<td>7/19/95</td>
<td>Mountain View Academy</td>
<td>1st-5th</td>
<td>20</td>
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<tr>
<td>7/24/95</td>
<td>Sandia Heights Academy</td>
<td>1st-5th</td>
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**JULY, 95 TOTAL**
- 151 students, 18 non-students

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<th>NON STUDENTS</th>
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<tr>
<td>8/07/95</td>
<td>Bright Beginnings</td>
<td>pre-1st</td>
<td>20</td>
<td>5</td>
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<tr>
<td>8/10/95</td>
<td>Midtown Sr. Satellite</td>
<td></td>
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**AUGUST, 95 TOTAL**
- 20 students, 30 non-students

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<th>NON STUDENTS</th>
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<tr>
<td>9/19/95</td>
<td>Washington Mid. School</td>
<td>8th</td>
<td>10</td>
<td>4</td>
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<tr>
<td>9/22/95</td>
<td>Chelwood Elem.</td>
<td>4th</td>
<td>25</td>
<td>7</td>
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<tr>
<td>9/26/95</td>
<td>Monte Vista Elem.</td>
<td>1st-2nd</td>
<td>10</td>
<td>2</td>
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<tr>
<td>9/28/95</td>
<td>Hope Christian</td>
<td>2nd</td>
<td>20</td>
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**SEPTEMBER 95 TOTAL**
- 65 students, 18 non-students

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<th>NON STUDENTS</th>
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<tr>
<td>10/01/95</td>
<td>Chaparral Elem.</td>
<td>2nd</td>
<td>20</td>
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<tr>
<td>10/03/95</td>
<td>S.Y. Jackson</td>
<td>4th-5th</td>
<td>60</td>
<td>10</td>
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<tr>
<td>10/07/95</td>
<td>Madison Middle</td>
<td>6th-8th</td>
<td>25</td>
<td>5</td>
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<tr>
<td>10/09/95</td>
<td>Zuni Rainbow Project</td>
<td>10th-12th</td>
<td>25</td>
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<tr>
<td>10/10/95</td>
<td>Georgia O'Keefe Elem.</td>
<td>1st</td>
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<tr>
<td>10/13/95</td>
<td>Cleveland Middle</td>
<td>8th</td>
<td>65</td>
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<tr>
<td>10/14/95</td>
<td>Griegos Elem.</td>
<td>4th-5th</td>
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<td>10/15/95</td>
<td>Alameda Community Ctr.</td>
<td>pre-school</td>
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<tr>
<td>10/21/95</td>
<td>La Cueva H.S.</td>
<td>11th</td>
<td>10</td>
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<tr>
<td>10/28/95</td>
<td>Ernie Pyle</td>
<td>5th</td>
<td>120</td>
<td>25</td>
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<tr>
<td>10/29/95</td>
<td>Pino Hill Elem.</td>
<td>1st</td>
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**OCTOBER, 1995 TOTAL**
- 460 students, 92 non-students

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<th>NON STUDENTS</th>
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<tr>
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<td>Monte Vista Elem.</td>
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<td>11/04/95</td>
<td>Reyes Mormon Elem.</td>
<td>5th</td>
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<td>11/06/95</td>
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<td>11/10/95</td>
<td>Monte Vista Elem.</td>
<td>1st-2nd</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
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<td>Monte Vista Elem.</td>
<td>1st-2nd</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
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<td>25</td>
<td>5</td>
</tr>
<tr>
<td>11/27/95</td>
<td>Truman Middle</td>
<td>6th</td>
<td>120</td>
<td>20</td>
</tr>
<tr>
<td>11/31/95</td>
<td>Dennis Chavez Elem.</td>
<td>3rd-5th</td>
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<td>5</td>
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</table>

**NOVEMBER, 1995 TOTAL**
- 230 students, 46 non-students

<table>
<thead>
<tr>
<th>DATE</th>
<th>ORGANIZATION</th>
<th>GRADE</th>
<th>STUDENTS</th>
<th>NON STUDENTS</th>
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<tr>
<td>12/01/95</td>
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<td>12/08/95</td>
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<td>K-1</td>
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**DECEMBER, 1995 TOTAL**
- 175 students, 40 non-students

127
<table>
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<tr>
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**JANUARY, 1996 TOTAL**

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<tr>
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<td>Inez Elem.</td>
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**FEBRUARY, 1996 TOTAL**

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<td>Sandia Hts. Academy</td>
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<td>Kirtland</td>
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<td>Kinder.</td>
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<tr>
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<td>Cottonwood</td>
<td>1st - 3rd</td>
<td>25</td>
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<tr>
<td>3/14/96</td>
<td>Our Lady of Fatima</td>
<td>2nd</td>
<td>20</td>
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<tr>
<td>3/15/96</td>
<td>Eugene Field</td>
<td>2nd</td>
<td>20</td>
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<tr>
<td>3/15/96</td>
<td>Manzano Day Sch.</td>
<td>pre-school</td>
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<td>Lincoln Mid. Sch.</td>
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**MARCH, 1996 TOTAL**

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<td>15</td>
</tr>
<tr>
<td>4/5/96</td>
<td>J. Jackson</td>
<td>pre-school</td>
<td>20</td>
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<tr>
<td>4/8/96</td>
<td>Kindercare</td>
<td>2nd</td>
<td>25</td>
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<tr>
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<td>San Jose Elem.</td>
<td>6th - 10th</td>
<td>100</td>
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<tr>
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<td>Kinder.</td>
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<td>4/17/96</td>
<td>Onate</td>
<td>6th - 8th</td>
<td>50</td>
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<tr>
<td>4/18/96</td>
<td>McKinley</td>
<td>3rd - 5th</td>
<td>6</td>
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<tr>
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<td>Montezuma</td>
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<tr>
<td>4/22/96</td>
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<td>20</td>
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<td>Lew Wallace</td>
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<td>4/22/96</td>
<td>Petroglyph</td>
<td>1st</td>
<td>20</td>
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<td>H.S. Canada</td>
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<td>15</td>
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<td>4/25/96</td>
<td>Whittier</td>
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<td>4/26/96</td>
<td>S.Y. Jackson</td>
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<tr>
<td>4/26/96</td>
<td>Santo Domingo</td>
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**APRIL, 1996 TOTAL**

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<td>3rd - 5th</td>
<td>6</td>
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<td>Montezuma</td>
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<td>McKnight</td>
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<td>Cleveland</td>
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**MAY, 1996 TOTAL**

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**JUNE, 1996 TOTAL**

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**GRAND TOTAL**

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<td><strong>GRAND TOTAL</strong></td>
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V. GRADUATE PROGRAMS AND STUDENT SCHOLARSHIPS
SUMMARY OF GRADUATE PROGRAM

Introduction

The Department of Earth and Planetary Sciences regards the education and training of graduate students, as modern geoscientists, as important and integral teaching and research functions. Through classroom, laboratory, and field experiences, graduate students acquire the mentoring, expertise, and skills required to become successful professional geoscientists in a spectrum of employment opportunities, including industry, environmental and geological consulting companies, governmental organizations, and academia. Individualized teaching opportunities in a broad range of undergraduate courses (from introductory physical geology laboratory sections to advanced field geology), participation in graduate level seminars, and the opportunity to present the results of their graduate research at professional geoscience meetings and in numerous publications all further enhance interpersonal skills and abilities of graduate students to discuss their knowledge of and research in geoscience in a range of settings and situations.

During the Fall 1995 term, a total of 58 students (33 M.S., 25 Ph.D.) were working towards graduate degrees in the Department, including 6 new students (Table 1). Of the M.S. students in Fall, 52% were women, and of Ph.D. students, 36% were women. During Spring 1996, the graduate population numbered 29 M.S. and 21 Ph.D. students.

Graduate Admissions

Twenty-four applicants to the graduate program for Fall 1995 and Spring 1996 were offered admission out of 70 total applicants; of these, 8 new students actually enrolled - 5 in the M.S. program and 3 in the Ph.D. program. The stated disciplinary interests of these new students were: Structure/Tectonics = 3; Stratigraphy/Sedimentology = 1; Planetary Sciences = 1; Geochemistry = 1; Climatology = 1; Geomorphology = 1. In addition, 12 new students will be entering our graduate program in Fall 1996; 9 in the M.S. and 3 in the Ph.D. program.

Information on graduate admissions for the past 3 semesters is given in Table 2. For several years, the Department has maintained an aggressive recruitment effort involving funding visits to UNM by top applicants, offers of one-time $1,000 scholarships in addition to TA- or RA-ships, and offers of multi-year TA-ships to top potential students. Competition for excellent prospective students in the geosciences remains keen across the country. The national visibility and excellence of the faculty and their programs, high admissions standards, and recruitment efforts have successfully attracted many excellent students to the Department this year as in the past, but the relatively low assistantship salaries at UNM have somewhat hindered this effort, although the salary situation has been improving.
TABLE 1. Master’s and Doctoral Students, Fall, 1995, - Spring, 1996.

### M.S. students

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<th>Master’s Students</th>
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<td>Brainard, James</td>
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<td>Ellwein, Amy</td>
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<td>Gay, Kyle</td>
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<td>Goodspeed, Thomas</td>
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<td>Heckert, Andrew</td>
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<td>Lavine, Alexis</td>
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<td>Maehr, Stephanie</td>
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<td>Minchak, Sharon</td>
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<td>Newcomer, Paula</td>
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<td>Trigilio-Formento, Merri-Lisa</td>
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### Doctoral Students

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<td>Eberly, Paul</td>
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<td>Hanowski, Nicholaus</td>
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<td>Ilg, Brad</td>
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<td>Wawrzyniec, Tim</td>
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<tr>
<td>Total Applicants</td>
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<tr>
<td>Number Admitted</td>
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<td>% of Total Applicants Admitted</td>
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<td>Number Actually Enrolled</td>
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<td>Average Grade-point Average</td>
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<td>GRE score - Verbal (percentile)</td>
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<td>GRE score - Geology (percentile)</td>
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</table>
TABLE 3. Graduate Students Supported by Teaching Assistantships (TA), Research Assistantships (RA), and Fellowships (F) during the 1995-1996 Academic Year. (1/2 TA or RA refers to half-time support). OGS = Office of Graduate Studies; K/S = Kelley/Silver; NSF = National Science Foundation.

<table>
<thead>
<tr>
<th>M.S. Students</th>
<th>Fall, 1995</th>
<th>Spring, 1996</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aby, Scott</td>
<td>½ TA</td>
<td>-</td>
</tr>
<tr>
<td>Andrew, Joseph</td>
<td>RA</td>
<td>-</td>
</tr>
<tr>
<td>Bird, Jerry</td>
<td>RA</td>
<td>½ RA + ½ TA</td>
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<tr>
<td>Bowman, Laurie</td>
<td>RA</td>
<td>RA</td>
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<tr>
<td>Brown, Cynthia</td>
<td>½ RA</td>
<td>-</td>
</tr>
<tr>
<td>Carpenter, Sharman</td>
<td>RA (Civil Engineering)</td>
<td>RA (Civil Engineering)</td>
</tr>
<tr>
<td>Dunaway, Carter</td>
<td>TA</td>
<td>TA</td>
</tr>
<tr>
<td>Ellwein, Amy</td>
<td>½ TA + ½ RA</td>
<td>TA</td>
</tr>
<tr>
<td>Garcia, Antonio</td>
<td>½ TA (MEMS) + OGS-F</td>
<td>½ TA (MEMS) + OGS-F</td>
</tr>
<tr>
<td>Gardner, Rebecca</td>
<td>NSF-F</td>
<td>NSF-F</td>
</tr>
<tr>
<td>Heckert, Andy</td>
<td>TA</td>
<td>½ TA</td>
</tr>
<tr>
<td>Hodgins, Meghan</td>
<td>RA</td>
<td>RA</td>
</tr>
<tr>
<td>Karner, James</td>
<td>RA</td>
<td>RA</td>
</tr>
<tr>
<td>Kuhle, Andrika</td>
<td>RA</td>
<td>½ TA + ½ RA</td>
</tr>
<tr>
<td>Lavine, Alexis</td>
<td>TA</td>
<td>TA</td>
</tr>
<tr>
<td>Maehr, Stephanie</td>
<td>RA</td>
<td>RA</td>
</tr>
<tr>
<td>Melker, Marc</td>
<td>½ TA</td>
<td>-</td>
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<tr>
<td>Minchak, Sharon</td>
<td>½ TA</td>
<td>½ TA</td>
</tr>
<tr>
<td>Read, Adam</td>
<td>RA</td>
<td>RA</td>
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<tr>
<td>Rowe, Harry</td>
<td>TA</td>
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<tr>
<td>Shaffran, Karen</td>
<td>½ RA</td>
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<td>Simmons, Mary</td>
<td>-</td>
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<tr>
<td>Timmons, Mike</td>
<td>-</td>
<td>TA</td>
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<tr>
<td>Trigilio-Formento, Merri Lisa</td>
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<td>OGS-F</td>
</tr>
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<tr>
<th>Ph.D. Students</th>
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<th>Spring, 1996</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bergfeld, Deb</td>
<td>½ TA + OGS-F</td>
<td>TA + OGS-F</td>
</tr>
<tr>
<td>Cascadden, Tracey</td>
<td>TA</td>
<td>TA (Natural Science)</td>
</tr>
<tr>
<td>Eberly, Paul</td>
<td>½ RA</td>
<td>-</td>
</tr>
<tr>
<td>Groffman, Armand</td>
<td>RA</td>
<td>RA</td>
</tr>
<tr>
<td>Hanowski, Nicolaus</td>
<td>RA</td>
<td>RA</td>
</tr>
<tr>
<td>Ilg, Brad</td>
<td>K/S-F</td>
<td>RA</td>
</tr>
<tr>
<td>Keating, Gordon</td>
<td>TA</td>
<td>TA</td>
</tr>
<tr>
<td>Loomis, Jennifer</td>
<td>½ RA</td>
<td>-</td>
</tr>
<tr>
<td>Ma, Ancheng</td>
<td>TA</td>
<td>TA</td>
</tr>
<tr>
<td>Meldrum, Al</td>
<td>½ TA, Canada-F</td>
<td>1/2 TA + Canada-F</td>
</tr>
<tr>
<td>Pederson, Joel</td>
<td>TA</td>
<td>TA</td>
</tr>
<tr>
<td>Pun, Aurora</td>
<td>TA</td>
<td>½ TA + ½ RA</td>
</tr>
<tr>
<td>Servilla, Mark</td>
<td>RA</td>
<td>-</td>
</tr>
<tr>
<td>Treadwell, Carol</td>
<td>TA</td>
<td>½ RA + ½ RA</td>
</tr>
<tr>
<td>Wang, Shixin</td>
<td>RA</td>
<td>RA</td>
</tr>
<tr>
<td>Watt, Paula</td>
<td>RA</td>
<td>RA</td>
</tr>
<tr>
<td>Wawrzyniec, Timothy</td>
<td>TA</td>
<td>½ TA + ½ RA</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Type of Support</th>
<th>Amount of Support ($ x 1000)</th>
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</thead>
<tbody>
<tr>
<td><strong>1. University</strong></td>
<td></td>
</tr>
<tr>
<td>Departmental Teaching Assistantships (salary*)</td>
<td>$123</td>
</tr>
<tr>
<td>TA support from outside department</td>
<td>5</td>
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<tr>
<td>MEMS TA-ships</td>
<td>12</td>
</tr>
<tr>
<td>OGS Fellowships and awards</td>
<td>25</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>165</td>
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<tr>
<td><strong>2. Department</strong></td>
<td></td>
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<tr>
<td>Research Assistantships</td>
<td>148</td>
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<tr>
<td>Other departmental support</td>
<td>7</td>
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<tr>
<td>Silver/Kelley Fellowships</td>
<td>8</td>
</tr>
<tr>
<td>Alumni Fund and other Fellowships</td>
<td>12</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>175</td>
</tr>
<tr>
<td><strong>3. External Professional awards, Fellowships, etc.</strong></td>
<td>23</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>$363</td>
</tr>
</tbody>
</table>

* University also provided an unknown amount of tuition-waiver support for TAs
Support for Graduate Students

Over the past decade, the Department has considerably increased its ability to provide support for students enrolled in its graduate program. In 1995-96 nearly all active graduate students in residence were supported to some extent, mainly through teaching and research assistantships and by fellowships from various sources (Table 3). Salaries for full-time TAs were $4,500 for Fall, 1995 and $4,859 for Spring, 1996, the latter an increase of about 20% over the Fall, 1993 salary. The College has made a significant and appropriate effort to increase graduate assistant salaries over the past few years. Total University support for E&PS graduate students amounted to an equivalent of about 18 students fully supported each semester, and Departmental support (primarily RA-ships) was provided to an equivalent of an additional 19 students per semester. Because some students are awarded half-time assistantships in some semesters, the total number of different students supported is larger, 41 during the 1995-96 AY (Table 3). Table 4 indicates the sources and approximate amounts of support that were provided to graduate students during the past year; such support totalled more than $350,000. Of this, about 48% was derived from the Department (chiefly from faculty grants and contracts and departmental fellowships), 45% from University sources (mainly TA-ships and several graduate fellowships), and 6% from external sources (e.g., awards from professional organizations). Of the 8 entering new students in 1995-96, 2 were supported by RA-ships, 3 by TA-ships, 1 by an NSF Fellowship, and 2 were working at nearly full-time jobs. Strong support is not only essential in providing graduate students the means to pursue their studies, but also is instrumental in attracting excellent students into our program.

Outcomes

Study in the Department’s graduate programs prepares students for a wide variety of careers in the geosciences and related fields. Below are listed the positions obtained by Ph.D. and M.S. students who graduated in 1995-1996:

Ph.D.

Charles Bryan Research Scientist at Sandia National Labs
Michael Grubensky Computer firm in Albuquerque
Brad Ilg Field geologist, N.M. Bureau of Mines and Mineral Resources
Jennifer Loomis Post-doctoral appointment in Great Britain
Jane Pedrick Coal geology division of Iowa Geological Survey
Aurora Pun Post-doctoral appointment, UNM E&PS Department
Mark Servilla Not employed
Amy Thompson Visiting Assistant Professor, Hope College, MI
Carol Treadwell Post-doctoral appointment at Indiana State University
Paula Watt Not employed
<table>
<thead>
<tr>
<th>M.S.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Joe Andrew</td>
<td>Unknown</td>
</tr>
<tr>
<td>Kyle Gay</td>
<td>Geologist, Golder Associates, consulting company, Los Alamos</td>
</tr>
<tr>
<td>Tom Goodspeed</td>
<td>Teacher, College-Preparatory School in Hawaii</td>
</tr>
<tr>
<td>Hohweiler, Leslie</td>
<td>Hydrogeologist, International Technologies, Albuquerque</td>
</tr>
<tr>
<td>Jimmie Hutchison</td>
<td>Environmental Property Audits, Inc., Scottsdale, AZ.</td>
</tr>
<tr>
<td>Alex Lavine</td>
<td>Self-employed</td>
</tr>
<tr>
<td>Marc Melker</td>
<td>Geologist, Pike’s Peak Mining, Colorado</td>
</tr>
<tr>
<td>Paula Newcomer</td>
<td>Technical Staff, Sandia National Laboratories</td>
</tr>
<tr>
<td>John Rogers</td>
<td>Environmental Specialist, New Mexico Environment Department, Contract Geologist</td>
</tr>
<tr>
<td>Harry Rowe</td>
<td>Ph.D. Program, Rice University</td>
</tr>
</tbody>
</table>
Graduate Degrees Awarded

The following students received M.S. and Ph.D. degrees in Earth and Planetary Sciences, between Fall 1995 and Summer 1996; thesis/dissertation titles and faculty advisors are also indicated.

**Master of Science**

Joseph E. Andrew, Fall, 1995 - Chemical and Spatial Evolution of the Northern Chain of Craters: Implications for the History of the Quaternary Basaltic Zuni-Bandera Volcanic Field and Volcanism Around the Colorado Plateau. (Dr. Albert M. Kudo, Advisor)

Kyle R. Gay, Fall, 1995 - Different Eruptive Products Produced During Simultaneous Eruptions, as Recorded in the Peralta Tuff, New Mexico. (Dr. Gary A. Smith, Advisor)

Thomas Goodspeed, Spring, 1996 - Stratigraphic, Sedimentologic, and Paleontologic Analysis of the Sinbad Formation of the Lower Triassic Thaynes Group, San Rafael Swell Region, Southeastern Utah. (Dr. Barry S. Kues, Advisor)

Leslie Alex Hohweiler, Spring, 1996 - A Method for Predicting Land Subsidence as a Result of Groundwater Withdrawal, Albuquerque, New Mexico. (Dr. Michael E. Campana, Advisor)


Alexis Lavine, Summer, 1996 - Volcaniclastic Rocks of the Keres Group: Insights Into Mid-Miocene Volcanism and Sedimentation in the Southeastern Jemez Mountains. (Dr. Gary A. Smith, Advisor)

Marc D. Melker, Spring, 1996 - Paleomagnetism of the Oquirrh Mountains and Implications for the Cenozoic Structural History of the Easternmost Great Basin. (Dr. John W. Geissman, Advisor)

Paula P. Newcomer, Fall, 1995 - Temperature Dependent Irradiation-Induced Modification of Thallium Containing Perovskite Cuprates. (Dr. Rodney C. Ewing, Advisor)

John B. Rogers, Summer, 1996 - The Fluvial Landscape Evolution of San Diego Canyon, Jemez Mountains, New Mexico. (Dr. Gary A. Smith, Advisor)

Harold D. Rowe, Fall, 1995 - The Rock Magnetic Expression of Lake and Basin Response to Late Pleistocene Climate Change, Lake Estancia, Central New Mexico. (Dr. John W. Geissman, Advisor)
Doctor of Philosophy

Charles R. Bryan, Fall, 1995 - Stratigraphy, Chemistry and Petrogenesis of Volcanic Rocks of the Mid-Tertiary Boot Heel volcanic Field, Southwestern New Mexico and Southeastern Arizona. (Dr. Wolfgang E. Elston, Advisor)

Michael J. Grubensky, Summer 1996 - Volcanic Breccias: Evaluation of Fragment and Deposit Origins and Distribution Within Composite Volcanoes. (Dr. Gary A. Smith, Advisor)

Bradley Ilg, Spring, 1996 - Tectonic Evolution of Paleoproterozoic Rocks in the Grand Canyon: Insights into Middle Crustal Processes. (Dr. Karl E. Karlstrom, Advisor)

Jennifer L. Loomis, Spring, 1996 - Diagenesis in the Upper Cretaceous Point Lookout Sandstone, Colorado and New Mexico (Dr. Laura J. Crossley, Advisor)

Jane N. Pedrick, Fall, 1995 - Polyphase Proterozoic Tectonometamorphic History of the Taos Range, Northern New Mexico. (Dr. Karl E. Karlstrom, Advisor)

Aurora Pun, Spring, 1996 - Petrogenesis of Eucrites Based on Secondary Ion Mass Spectrometry Studies of Pyroxene and Plagioclase. (Dr. James J. Papike, Advisor)

Mark S. Servilla, Spring, 1996 - Characterization of the ~760 Ka Eruption of the Bishop Tuff Based on Geochemical Trends and Numerical Modeling. (Dr. James J. Papike, Advisor)

Amy G. Thompson, Spring, 1996 - Proterozoic Thermal and Deformational History and Geochemical Evolution of the 1.4 Ga Priest Pluton and its Aureole. (Dr. Karl E. Karlstrom, Advisor)

Carol J. Treadwell, Summer, 1996 - The Role of Semi-Arid Landscapes in the Global Carbon Cycle. (Dr. Leslie D. McFadden, Advisor)

Paula Muir Watt, Spring, 1996 - Landscape Evolution and Soil Genesis on the Pajarito Plateau and the Impact of Soil Chemical and Physical Properties on Contaminant Uranium Migration, Los Alamos National Laboratory, New Mexico. (Dr. Les D. McFadden, Advisor)
STUDENT SCHOLARSHIPS AND OTHER AWARDS

Many Graduate and Undergraduate students were supported by scholarships, fellowships, and other awards during the 1995-96 year. Many scholarships are derived from various funds that have been established for this purpose by alumni and other friends of the Department. The Department augments these awards with travel scholarships that partially offset the expenses of travelling to professional meetings (and often provides free use of vehicles to these meetings), and other scholarships supporting use of the analytical instruments and other research expenses. Recipients of such awards are listed below.

Undergraduate Scholarships and Awards

Harry and Mabel Leonard Scholarships

<table>
<thead>
<tr>
<th>Scholarship</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Jake Armour</td>
<td>$ 500</td>
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<tr>
<td>Deidre Begay</td>
<td>2,000</td>
</tr>
<tr>
<td>Nathaniel Brunsell</td>
<td>2,000</td>
</tr>
<tr>
<td>Kate Helean</td>
<td>2,500</td>
</tr>
<tr>
<td>John Lewis</td>
<td>2,000</td>
</tr>
<tr>
<td>Kate Helean</td>
<td>900</td>
</tr>
<tr>
<td>Joshua Ring</td>
<td>2,500</td>
</tr>
<tr>
<td>Lisa Rosi</td>
<td>2,000</td>
</tr>
<tr>
<td>LuAnn Steele</td>
<td>1,000</td>
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<tr>
<td>Joe Sterling</td>
<td>2,500</td>
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General Thomas Campbell Scholarships

<table>
<thead>
<tr>
<th>Scholarship</th>
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<tbody>
<tr>
<td>Jake Armour</td>
<td>$ 1,000</td>
</tr>
<tr>
<td>Mike Munday</td>
<td>1,000</td>
</tr>
<tr>
<td>Laura Pletsch-Rivera</td>
<td>1,000</td>
</tr>
<tr>
<td>Heather Weigel</td>
<td>1,000</td>
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James Drew Pfeiffer Scholarship

<table>
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<tbody>
<tr>
<td>Deidra Begay</td>
<td>$ 290</td>
</tr>
</tbody>
</table>

Outstanding Student of Year Awards

S.A. Northrop Outstanding Senior: Joshua Ring
S.A. Wenger Outstanding Junior: Jake Armour
J.P. Fitzsimmons Outstanding Sophomore: Jessica Preston
V.C. Kelley Best Field Geology Undergraduate (Estwing Award): Karen Homes

Department Travel and Equipment use Awards

<table>
<thead>
<tr>
<th>Scholarship</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>Carol Hibbits</td>
<td>$ 125</td>
</tr>
<tr>
<td>Brian Joy</td>
<td>$ 350</td>
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</table>
Other Undergraduate Student Awards

Albuquerque Gem and Mineral Club: Kate Helean and Joshua Ring ($500)
NMGS Lucille Pipkin Book Scholarships: Joe Sterling and Joshua Ring ($100)
NMGS Outstanding Senior: Honore Southern
Association of Women Geoscientists Award: Honore Southern, Kate Helean
Los Alamos Geological Society-NMGS Field Conference Award: Honore Southern ($300)
Sigma Xi, 1996 Superior Undergraduate Student Award: Kate Helean

NSF Research Experiences for Undergraduates

Numerous students were supported on research projects in 1995-96 by an NSF REU grant awarded to Drs. Karl Karlstrom and John Geissman. These students presented talks on their research at the Department’s undergraduate research symposium on October 20, 1995:

Karen Foster: Data analysis: Hydrogeochemistry of Rio Calaveras, New Mexico.
Heather Gustafson: Tectonic geomorphology of Sandia Mountains and eastern piedmont of Albuquerque Basin.
Carl Hibbitts: Probable hydrologic parameters of large Martian impact craters.
Kate Helean: The kinetics of zircon dissolution and surface analysis.
Honore Southern: Rio Grande Rift Andesites: Cerro de Los Lunas, New Mexico, a petrographic and geochemical investigation.
Deb Carrao: Study of Pennsylvanian marine communities of the Jemez Springs area.
Joshua Ring: Stratigraphic relationships and within-flow variations in the El Calderon and Hoya de Cibola quaternary basaltic lava flows; central Zuni-Bandera volcanic field, NM.
Heather Weigel: Depositional environments in a portion of the Middle Pennsylvania Madera Formation.
Al Gomez: A concordant Late Triassic paleomagnetic pole from the Uinta Uplift, Utah.
Jessica Preston: Modulation of SW North American summer precipitation by snowpack in the American Rockies.
Brian Joy: The effects of pore fluid pressure during contact metamorphism: empirical testing of a conceptual model.
Michael Smith: Paleostress of Sandia pluton dike emplacement.
Brandon Pease: Mineralogy, petrology, and wall rock alteration of the Milagros Gold Deposit, northern Manzano Mountains, New Mexico.
Nelda Creager: Identification of source clay by electron microprobe analysis of pottery from the Fernandez Pueblo (LA 781).

Graduate Student Scholarships and Awards - Departmental

Caswell Silver Foundation, V.C. Kelley - L.T. Silver Fellowship

<table>
<thead>
<tr>
<th>Name</th>
<th>Amount</th>
</tr>
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<tbody>
<tr>
<td>Tracey Cascadden</td>
<td>$1,046</td>
</tr>
<tr>
<td>Brad Ilg</td>
<td>$11,350</td>
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</tbody>
</table>

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Geology Alumni Fund Scholarship:

- Nicolaus Hanowski $900
- Andy Heckert $900
- Ancheng Ma $200
- Al Meldrum $1,000
- Joel Pederson $1,100
- Adam Read $1,000
- Mary Simmons $700
- Merri-Lisa Trigilio $600
- Tim Wawrzyniec $600

Jean-Luc Miossec Memorial Scholarship:

- Merri Lisa Trigilio $750

Rodney Rhodes Memorial Award:

- Nicolaus Hanowski $300

Richard P. Vann Memorial Scholarship:

- Ancheng Ma $700

Alexander and Geraldine Wanek Scholarship

- Deb Bergfeld $1,700

Sherman and Florence Wengerd Travelling Fellowship

- Tim Wawrzyniec $1,000

Departmental Travel Scholarships

- Amy Ellwein $100
- Andy Heckert $160
- Jennifer Loomis $176
- Tim Wawrzyniec $150

Departmental Equipment Use Scholarships

- Jennifer Loomis $300

Graduate Student Scholarships and Awards - UNM

- Laurie Bowman - New Mexico Space Grant Consortium Scholarship ($4,500)
- Amy Ellwein - T.A. Resource Program Outstanding T.A. Award ($500)
- Tony Garcia - OGS Fellowship ($7,200)
- Deb Bergfeld - OGS Fellowship ($7,200)
- Merri-Lisa Trigilio - OGS Graduate Scholars Fellowship ($5,000)
Jennifer Loomis - UNM Sigma Xi Doctoral Award
Carol Treadwell - OGS RPT Grant ($500)
Tim Wawrzyniec - OGS RPT Grant ($500)
Merri-Lisa Trigilio - OGS RPT Grant ($500)
Al Meldrum - OGS RPT Grant ($200)
Andy Heckert - OGS RPT Grant ($500)
Deb Bergfeld - OGS RPT Grant ($500)
Carter Dunaway - OGS RPT Grant ($500)
Amy Ellwein - OGS RPT Grant ($389)
Ancheng Ma - OGS RPT Grant ($300)
Adam Read - OGS RPT Grant ($500)
Armand Groffman - OGS Tuition Fellowship ($300)

Graduate Student Scholarships and Awards - Professional Organizations

Andrika Kuhle - SEPM (Society for Sedimentary Geology) Student Excellence and Development Award
Andrika Kuhle - New Mexico Geological Society, Field Conference Scholarship ($175)
Adam Read - New Mexico Geological Society, Field Conference Scholarship ($175)
Tony Garcia - American Geological Institute Minorities Fellowship ($1,000)
Tony Garcia - Sigma Xi Research Scholarship ($1,500)
Tony Garcia - Geological Society of America Research Scholarship ($1,800)
Jennifer Loomis - Association of Women Geoscientists Award
The Annual Report Of

THE INSTITUTE OF METEORITICS

July 1, 1995 through June 30, 1996

James J. Papike, Director

Institute of Meteoritics
Department of Earth and Planetary Sciences
University of New Mexico
Albuquerque, NM 87131, USA
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INTRODUCTION

The Institute of Meteoritics (IOM) was founded in 1944, and is one of the oldest institutions of its kind in the world. The Institute continues its role as a leading center in research relating to planetary materials and processes. Charter goals of the IOM are:

1. To carry out research in the detailed laboratory analysis of meteoritic and other planetary materials and in other fields of planetary and geologic sciences.

2. To provide materials, facilities, and supervision for research by candidates for advanced degrees in geology and in other fields. To offer instruction in these areas as may be approved through the appropriate academic procedures and channels.

3. To promote the identification and acquisition of meteorites. To participate in exchange programs as may enhance the representative scope and scientific value of the Institute's collections of meteorites. To preserve and place on public exhibition both meteorites and related meteoritic materials and to make these materials available to scientists working in fields closely allied to meteoritics.

Research at the Institute of Meteoritics covers a wide range of problems, including studies of geological processes on meteorite parent bodies (asteroids), the Moon, Mars, and Earth. Our research is aided by collaborations with investigators at other universities and at national laboratories. Microbeam analytical techniques, including electron microprobe (EMP), scanning electron microscope (SEM), transmission electron microscope (TEM), and ion microprobe (SIMS) constitute the most important tools for this research, and state of the art facilities are available at UNM. Another technique for bulk trace element geochemical analyses, supported by IOM, is inductively coupled plasma-mass spectrometry (ICP-MS). The 95-96 fiscal year was a time of continued developments in the progress of the UNM-Sandia National Laboratories Ion Microprobe Facility. This facility provides state-of-the-art capabilities for in situ trace element analysis of geologic materials, and there is a high demand for instrument time from research groups throughout the country. This facility is partially funded by the National Science Foundation as one of their national facilities for ion microprobe analyses of geological materials.

Teaching activities of the staff of IOM consist of both formal courses and informal meetings with graduate and undergraduate students. We emphasize the direction and supervision of both graduate and undergraduate student research and encourage presentation and publication of the
results of this research at national and international levels. The Meteorite Museum continues to play an important role in our educational efforts, and several school groups requested tours of the Museum and research laboratories.
INSTITUTE OF METEORITICS FACULTY AND STAFF

Director, Institute of Meteoritics
Dr. James J. Papike, Regents Professor of Earth & Planetary Sciences

Research Professors
Dr. Adrian Brearley, Associate
Dr. Charles Shearer, Full

Senior Research Associates
Dr. Rhian Jones
Dr. Graham Layne
Dr. Horton Newsom
Dr. Michael Wiedenbeck

Research Associates
James Connolly
Grant Fowler
Michael Spilde

Support Personnel
Christopher Adcock, Laboratory Technician
Mary Sisley-Franson, Administrative Assistant
Sarah Coulie, Staff Assistant

Graduate Students
Laurie Bowman
Nicolaus Hanowski
Stephanie Maehr
Aurora Pun
Mark Servilla
Ivan Thorsos

Undergraduate Students
Christopher Adcock
Lisa Danielson
Rhawn Denniston
Charles Hibbitts
Windy Jaeger
Heather Weigel

Additions to Staff
Chris Adcock, May 13, 1996
Dr. Michael Wiedenbeck, April 15, 1996

Separations from Staff
Dr. Graham Layne, November 1, 1996
SECTION I

RESEARCH
I. RESEARCH

Research activities of staff and students of the Institute of Meteoritics cover a wide range of topics, mostly aimed at understanding the origin and early history of our solar system and the evolution of the planets. More specifically, we have major research initiatives to investigate the igneous evolution of achondrite meteorites, martian meteorites, and the Moon, and research into an understanding of early solar system processes through the study of chondritic meteorites. The large scale problems of planetary evolution and core formation are being investigated using evidence from siderophile trace elements in the Earth. Research into terrestrial volcanic systems is being carried out on samples from Long Valley Caldera, California. The geophysical properties of the Earth's upper mantle and diffusion properties of olivine are the subjects of two experimental studies. Mineralogical and geochemical studies of the Yucca Mountain, Nevada, proposed nuclear waste repository are also being performed. We are continuing to develop advanced applications of secondary ion mass spectrometry for the analysis of geological materials.

Our research during the report period has resulted in the publication of 23 scientific articles in major national and international journals (p. 17), as well as in the publication of 25 abstracts of papers presented at national and international conferences (p. 19). The extensive involvement of students in original research projects in the Institute of Meteoritics is particularly important for their education and advanced training.

We continue to be very successful in attracting research grants and contracts to the Institute of Meteoritics in support of the research activities of staff and students. Details are provided in Tables I-III (pp. 14-16). Funding was provided by the National Aeronautics and Space Administration (NASA), the National Science Foundation (NSF), Department of Energy (DOE), Sandia National Laboratories (SNL), Waste-Management Education and Research Consortium (WERC), and the Institute for Geophysics and Planetary Physics, Los Alamos National Laboratory (IGPP/LANL).

1. Specific Projects

a. Microbeam Studies of Lunar Samples, Achondrite Meteorites and Martian Meteorites (Funded by NASA)

Microbeam Studies of Lunar Samples. The modern explosion of trace element geochemistry has resulted in a much better understanding of petrogenetic processes...
on the planetary scale. With the introduction and advancement of trace element microbeam technologies, the analysis of minute volumes in situ on petrographic thin sections increases the scope of this trace element revolution in the geological and planetary sciences. Our ongoing microbeam study of lunar materials combines ion and electron microprobe techniques focusing upon four major areas: (1) calibration of microbeam instruments for the analysis of elements and isotopes useful in deciphering lunar materials, (2) studies of trace and volatile element behavior in lunar picritic volcanic glasses, (3) trace and volatile element studies of melt inclusions (including immiscible melts) in minerals in mare basalts, and (4) trace element studies of olivine in lunar mare basalts with emphasis on Co, Ni systematics and the effects of metal fractionation.

Interpretation of these trace element data has produced new insights into the fundamental processes involved in the origin and evolution of the Moon. New data for the lunar picritic magmas provide a much better understanding of the evolution of lunar basalts, the composition, evolution, and dynamics of the lunar mantle, and the origin and composition of the Moon. Studies of minerals from the lunar highlands have provided additional insights on the nature and evolution of the lunar crust and the evolution of the early lunar mantle.

Microbeam Studies of the Origin and Evolution of Achondrite Meteorites and Martian Meteorites. Our microbeam studies of achondrite meteorites are designed to unravel the nature and history of their parent asteroid or planet. These meteorites provide us with clues to decipher early planetary conditions under which they evolved, to understand the development of early planetary crusts, and to elucidate early planetary magmatism. Using ion and electron microprobe techniques, we are focusing our studies upon 3 major topics: (1) Origin of diogenites (orthopyroxenites) using trace and minor element characteristics of orthopyroxenes and spinel, (2) Origin and evolution of eucrites using trace element characteristics of pyroxenes and plagioclase, and (3) Nature of the hydrothermal events that are represented in SNC (Martian) meteorites. Minor and trace element studies of diogenites have given us a clearer understanding of their role in asteroidal magmatism on asteroid 4 Vesta. Comparative studies of diogenites (orthopyroxene cumulates) with their terrestrial analogs in layered intrusions have demonstrated the potential complexity of magmatic processes on "simple" asteroids.
b. Origin of Chondrites (Funded by NASA)

Chondritic meteorites are among the most pristine extraterrestrial materials available for study in the laboratory. The principal components of chondritic meteorites are chondrules (millimeter-size spherules of silicate material) and matrix (an ultrafine-grained assemblage of silicates, oxides, sulfides, and carbonaceous material). The study of such components provides important insights into processes which occurred as the planets, comets, and asteroids formed from the cloud of interstellar dust and gas, the solar nebula. Our overall aim is to integrate these observations with current astrophysical data to develop a viable model for the early solar nebula.

Specific questions relating to the origin of chondritic meteorites which we are currently addressing are: (1) How and under what conditions did chondrules and matrix form and in what location in the nebula? (2) How were chondrules and matrix processed in the solar nebula after their formation? (3) How much and what type of presolar material is preserved in fine-grained matrix material? (4) How were chondrules and matrix affected after accretion by parent body processes such as thermal metamorphism, aqueous alteration, and brecciation? (5) What were the physical conditions and mechanisms of these secondary processes?

Our studies of ordinary and carbonaceous chondrites use a combination of petrographic studies, microbeam techniques (SEM, EMP, STEM, and synchrotron x-ray fluorescence microprobe) and SIMS analysis of mineral compositions, as well as experimental and isotopic studies.

c. A SIMS Study of Calcite: Investigation of Shallow Crustal Transport Phenomena at Yucca Mountain. (Funded by WERC)

Understanding and reconstructing the paleohydrology of shallow crustal environments that are potential sites for waste repositories are critical in forecasting possible future changes in the ground water table, the flux of recharge, the nature of fluid flow, and other factors that may adversely impact the integrity of the site. One approach to take in reconstructing the hydrologic history of a potential site is to use mineralogical indicators of fluid flow and water characteristics. This mineralogical approach utilizes mineral stability, mineral assemblages and major, minor, and trace element compositions of individual minerals. Calcite appears to be a ubiquitous mineral occupying fracture systems in many of these shallow crustal environments. We have developed trace and minor element techniques to study hydrogenic calcite, and are currently applying these techniques to calcite from
I. RESEARCH

fracture systems at the potential high level waste repository at Yucca Mountain, Nevada.

The chemistry of calcite from the Yucca Mountain site provides a unique perspective concerning the chemistries and flow characteristics of infiltrating water at the site. Our current studies have demonstrated that fracture calcite from Yucca Mountain had a variety of distinctly different bulk elemental and isotopic signatures. These signatures are generally correlated to location within the site (saturated zone versus unsaturated zone) and are thought to reflect source of the water, water chemistry, and phases that precipitated prior to the calcite. Bulk analyses have numerous interpretive problems such as mineral zoning (averages distinctly different episodes of calcite growth), mineral contamination, and mineral grain size. Our approach to this problem is to use microbeam analytical techniques to study the trace and minor element concentrations and distributions in growth zones in calcite.

d. Formation of the Continental Crust: Evidence from Siderophile and Chalcophile Trace Elements. (Funded by NSF)

The abundances of siderophile and highly mobile elements are being used to investigate the accretion of the Earth and the separation of the Earth's core and the continental crust from the Earth's mantle. Well characterized samples from different geochemical reservoirs are being analyzed by inductively coupled plasma mass spectrometry for the moderately siderophile and chalcophile trace elements Mo, W, As, Sb, and Pb. The differing behavior of the chosen elements provides windows into different processes involved in the early evolution of the Earth. The earliest events of accretion and core formation are being studied directly by the abundance of Mo, which behaves coherently with the light rare earth elements, thus providing a window through the complicated crustal formation process. In contrast, the formation of the continental crust involves the extra enrichment of highly mobile elements including Pb, As, and Sb. The abundances of the siderophile elements in different terrestrial reservoirs including ancient and younger (arcs) continental crust are being used to determine the abundances in the bulk silicate Earth. These abundances provide clues to accretion and metal segregation in the mantle.
I. RESEARCH

e. Geochemical and Mineralogical Characterization of Tuff and Related Rocks from Yucca Mountain, Nevada (Funded by SNL/DOE)

The Yucca Mountain Site Characterization Project of the U.S. Department of Energy is concerned with evaluation of the Yucca Mountain site as the host for a proposed commercial high-level nuclear waste repository. The site is located about 90 miles north of Las Vegas, Nevada, in the vicinity of the Nevada Test Site. Sandia National Laboratories is the prime DOE contractor involved in gathering data on geoengineering properties for site characterization. Sandia is also responsible for development of performance assessment models for all phases of the life of a repository based on the site characterization data. The Institute of Meteoritics supports the Sandia mission by providing sample-specific geochemical and mineralogical analyses of rock from Yucca Mountain on an as-needed basis. Construction of an access tunnel for in situ study of the potential repository locality began in early 1993, and includes development of an access incline utilizing a state-of-the-art tunnel boring machine. We are providing petrologic, mineralogic and geochemical data on numerous rock samples obtained from core holes drilled from surface sites in advance of the incline. These data are being numerically quantified and integrated into a database of thermal, mechanical, hydrologic and other physical properties. The data will be analyzed statistically to determine which factors are reliable predictors of those properties required to produce accurate design and performance models. The importance of coupling of mineralogic, hydrologic, thermal, and mechanical processes is being recognized as crucial to the development of good models of total systems performance.

f. Phase Transformations Involving Olivine, β-Phase and Spinel in the Mantle Transition Zone: Experimental Studies of Transformation Mechanisms in Mg2SiO4 and (Mg,Fe)2SiO4. (Funded by NSF)

The importance of the phase transformations of the polymorphs of Mg2SiO4 on the geophysical properties of the upper mantle has been widely recognized over the last 20 years. Olivine, the most volumetrically important phase in the Earth's upper mantle, undergoes a series of transformations as a function of increasing depth in the mantle, which result in the formation of modified spinel (β-phase) and finally, spinel (γ). Transformations of olivine to β-phase are widely regarded as being responsible for the seismic velocity variations in the transition zone of the mantle in the 370-420 km range in the Earth. The mechanisms of the transformations have major implications for several important aspects of the behavior of the mantle in the
I. RESEARCH

transition zone, the dynamics of subduction zones and mantle convection. In particular the olivine-spinel transformation may provide one of the major forces for subduction, be one of the causes of deep focus earthquakes, and may significantly affect the rheology of subducting oceanic lithosphere.

The principal objective of this project is to study in detail the mechanisms of these high pressure mantle phase transformations over a wide range of pressure/temperature conditions relevant to the model mantle geotherm and subducting oceanic lithosphere. This study is the first to try and delineate the pressure/temperature regimes over which different transformation mechanisms may operate in the Earth's mantle and identify what factors may cause changes in the transformation mechanism. The research is a collaborative project involving high pressure experimental work coupled with transmission electron microscope characterization of the products of the experiments. Experimental work is carried out in collaboration with Professor David Rubie on a multianvil press at the Bayerisches Geoinstitut, Germany, whilst transmission electron microscopy and subsequent interpretation are carried out in the Institute of Meteoritics.

g. Eruption Evolution of the 720 ka Bishop Tuff at Long Valley Caldera, California (Funded by IGPP/LANL)

The withdrawal and eruption of silicic magma during the formation of large calderas is not well understood because of the variation of vent configurations and the explosive nature of the magma involved. Using geochemical data obtained from electron and ion microprobe analyses of melt inclusions from the Long Valley Exploratory Well (LVF 51-20) located within the caldera and previously analyzed melt inclusions from the Bishop Tuff outflow sheet, we have gained new insights into the complex eruptive dynamics that occurred during the eruption of the Bishop Tuff. In addition, the melt inclusion geochemistry has provided necessary information to constrain initial and boundary conditions required by numerical simulations of the caldera forming eruption of the Bishop Tuff. Simulations based on real data involving a large volcanic center, such as Long Valley, have never been performed to our knowledge. Results from the numerical simulations yield information on gas and solid volume fraction gradients, temperature gradients, pressure gradients, pyroclastic flow direction and velocity, and how these variables change in linear time. Applications of this study will provide important and timely conclusions regarding the evolution of caldera forming eruptions of silicic magma,
I. RESEARCH

the dynamics of explosive, high-volume eruption columns, and the mechanics of large-scale pyroclastic flow deposition and its associated hazards.

h. Advanced Methods for the Determination of Moderately Siderophile Elements by Mass Spectrometry. (Funded by IGPP/LANL)

This project is developing new mass spectrometric methods for the determination of siderophile elements at trace levels. We are evaluating the sensitivity and precision of conventional analytical methods using Inductively Coupled Plasma Mass Spectrometry. An isotope dilution technique for the more precise determination of the moderately siderophile element molybdenum (Mo) is also being developed. The abundance of the moderately siderophile element Mo provides important constraints on the process of core formation in the differentiated planets, moons and asteroids. These techniques will allow for important measurements of the abundance of these elements in materials from the Earth, and in materials from other bodies returned by spacecraft, or delivered to the Earth as meteorites.

i. Development of Advanced SIMS Techniques - Ion Microprobe Facility (Funded by NSF)

One of the main franchises of the Ion Microprobe Facility is the development of new and innovative applications of Secondary Ion Mass Spectrometry (SIMS) to the analysis of natural materials. Two main initiatives have occupied the bulk of technique development time.

The first is the optimization of the instrument for small, high current primary microbeams. This development has become essential for a number of projects involving objects smaller than the traditional 25-30 µm lateral resolution of the ion microprobe for quantitative trace element analysis. A number of optical and electronic modifications have been completed, allowing substantial primary beam currents to be focused routinely to diameters of less than 10 µm. This new capability is being applied to the trace element analysis of both volcanic tephras (for stratigraphic correlation research) and volcanic melt inclusions.

The second major development initiative has been in the area of Stable Isotope Ratio Analysis (SIRA). Optimization of a new detector and counting electronics has allowed the microbeam analysis of sulfur isotope ratios in sulfides to precisions approaching those of conventional gas source SIRA instruments (which require much larger samples). This new capability will be applied to isotopic investigations of both meteoritic and terrestrial materials.
I. RESEARCH

j. Educational Initiatives (Funded by NASA, LANL and NSF)
In the past year several educational initiatives for New Mexico Students and Teachers, and college of education faculty and graduate students, were implemented under the direction of Dr. Horton Newsom. These programs take advantage of the resources of the Institute of Meteoritics, including the research staff and the Meteorite Museum. The programs include Hands-On the Solar System: Workshops for Middle School Students from Under-represented Groups and their Teachers in New Mexico funded by NASA's Space Telescope Science Institute. This project involves presentations to middle school groups from New Mexico Math, Engineering, Science Achievement (MESA), and this project will continue in the Fall. A one week teacher training Institute: "The solar system for Elementary and Middle School Students" funded by the New Mexico State Systemic Initiative for Math and Science Education, was successfully presented June 10-14, 1996, for teachers from Lincoln, Taylor and Cleveland middle schools, and follow-ups will continue in the Fall. The curriculum is based in part on materials developed under the auspices of NASA and NSF, but adapted to take advantage of local resources, such as the Institute of Meteoritics Meteorite Museum, and Scanning Electron Microscope. Another education program was funded by the Los Alamos National Laboratory, Faculty and Student Teams (FAST), research and educational program. This program involved faculty and students from the college of education, and the Institute of Meteoritics in a program designed to expose the education personnel to planetary research, and the IOM personnel to the concerns of the K-12 educational establishment.

2. Grants and Contracts
Table 1 documents that IOM was funded by a variety of agencies during FY 95/96 including NSF, NASA, SNL, IGPP and WERC. Grant contract expenditures totalled $419.0K. Table 2 lists grants and contracts that are already in effect or have already been approved; $578.9K remains in these grants and contracts. Table 3 tabulates proposals that are now in the review process. These proposals request $2,810.5K for IOM research support.

In summary, IOM continues to enjoy healthy grant/contract support in these times of rigorous competition and limited budgets in the major funding agencies.
TABLE 1: EXPENDITURES ON GRANTS AND CONTRACTS IN EFFECT FOR FY 95/96

<table>
<thead>
<tr>
<th>AGENCY</th>
<th>TITLE</th>
<th>PI/CO's</th>
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<tr>
<td>NSF</td>
<td>&quot;Mechanisms of High Pressure Phase Transformations Between the α, β and γ Polymorphs of Mg2SiO4&quot; (EAR 93-05184)</td>
<td>A. Brearley</td>
<td>13.4K</td>
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<tr>
<td>NSF</td>
<td>&quot;Phase Transformations involving olivine&quot; (EAR 95-06481)</td>
<td>A. Brearley</td>
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<td>NSF</td>
<td>&quot;Siderophile elements and the origin of the continental crust.&quot; REU supplement. (221-74/0824)</td>
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<td>NSF</td>
<td>&quot;Siderophile elements and the origin of the continental crust.&quot; (EAR-9506597)</td>
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<td>NSF</td>
<td>&quot;Support of UNM/SNL Ion Microprobe Facility&quot; (EAR 93-03864)</td>
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<td>NSF</td>
<td>&quot;Support of UNM/SNL Ion Microprobe Facility&quot; (EAR 95-06611)</td>
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<td>NASA</td>
<td>&quot;Hands on the Solar System: Workshops for Middle School Students from Under represented Groups in NM.&quot; (221-4333)</td>
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<td>NASA</td>
<td>&quot;Microbeam Studies of Planetary Materials&quot; (NAGW-3347)</td>
<td>J. Papike/Brearley, Jones, Shearer</td>
<td>184.6K</td>
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<td>SANDIA</td>
<td>&quot;Geologic Support for SNL activities for the Yucca Mountain Site Characterization Project&quot; (AB-1106)</td>
<td>J. Connolly</td>
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<td>IGPP</td>
<td>&quot;Simulating Silicic Eruptions at Long Valley, California, to understand processes of Continental Crust Formation&quot; (No. 414)</td>
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<td>IGPP</td>
<td>&quot;Advanced Methods for the Determination of Moderately Siderophile Elements by Mass Spectrometry&quot; (No. 411)</td>
<td>H. Newsom</td>
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<td>WERC</td>
<td>Forecasting the integrity of Waste Sites. A Mineralogical Approach to Understanding Fluid Flow.</td>
<td>C. Shearer</td>
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<td>NSF/SIMSE</td>
<td>&quot;The Solar System for Elementary and Middle School Students&quot; (418525)</td>
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<td>&quot;Mechanisms of High Pressure Phase Transformations Between the α, β and γ Polymorphs of Mg2SiO4&quot; (EAR 93-05184)</td>
<td>A. Brearley</td>
<td>8/1/93-7/31/96</td>
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<td>NSF</td>
<td>&quot;Phase Transformations involving Olivine, β-phase and Spinel in the Mantle Transition Zone&quot; (EAR-9506481)</td>
<td>A. Brearley</td>
<td>8/1/95-7/31/97</td>
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<td>NSF</td>
<td>&quot;Siderophile elements and the origin of the continental crust&quot; (EAR 95-06597)</td>
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<td>&quot;REU Supplement: Siderophile Elements and the origin of the continental crust.&quot; (EAR-953543, AMD 1)</td>
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<td>NSF</td>
<td>&quot;Formation of continental crust: evidence from siderophile and chalcophile trace elements in volcanic arcs&quot; (EAR 9304131)</td>
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<td>NSF</td>
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<td>NASA</td>
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<td>J. Papike/Brearley, Jones,Shearer</td>
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<td>SANDIA</td>
<td>&quot;Geologic Support for SNL activities for the Yucca Mtn Site Characterization Project&quot; (AB-1106)</td>
<td>J. Connolly</td>
<td>6/1/95-5/30/97</td>
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<td>IGPP</td>
<td>&quot;Advanced Methods for the Determination of Moderately Siderophile Elements by Mass Spectrometry&quot; (No. 411)</td>
<td>H. Newsom</td>
<td>10/1/94-9/30/96</td>
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<td>AWU</td>
<td>&quot;AWU Faculty Fellowship&quot;</td>
<td>C. Shearer</td>
<td>7/1/96-8/31/96</td>
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<td>LANL/FAST</td>
<td>&quot;The origin of the continental crust and teaching geochemistry with the world wide web&quot; (221-5077)</td>
<td>H. Newsom</td>
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TOTAL 578.90K
TABLE 3

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<td>NSF</td>
<td>&quot;High Resolution Intercomparison and Evaluation of the Trace Element Proxy Record Preserved in Vein Carbonate&quot;</td>
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<td>NSF</td>
<td>&quot;Acquisition of an analytical scanning electron microscope&quot;</td>
<td>A. Brearley/ Papike, Spilde, Crossey, Selverstone, Geissman</td>
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<td>J. Pupike</td>
<td>12/1/96-11/30/98</td>
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<td>NASA/Exobio</td>
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<td>7/1/97-6/20/00</td>
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<td>NASA/OSS</td>
<td>&quot;Diffusion in olivine: Experimental measurement and modeling of solar nebula processes&quot;</td>
<td>R. Jones</td>
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<td>NASA/OSS</td>
<td>&quot;Mechanisms and kinetics of aqueous reactions in chondritic meteorites&quot;</td>
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<td>&quot;Microbeam Studies of Planetary Materials&quot;</td>
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<td>749.7K</td>
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<td>116.5K</td>
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<td>NASA/PM&amp;G</td>
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<td>J. Papike/Brearley, Spilde</td>
<td>12/1/96</td>
<td>90.0K</td>
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<td>DOE</td>
<td>&quot;High resolution trace element zoning in carbonates. Reconstruction of fluid in shallow crustal environments and utilization as a tracer of anthropogenic effects on groundwater systems&quot;</td>
<td>C. Shearer</td>
<td>7/1/96-6/30/99</td>
<td>160.7K</td>
<td>481.1K</td>
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<td>DOE</td>
<td>&quot;Movement of Heavy Metals in Soil. Development and application of combined Ion Chromatography ICP-MS soil column studies&quot;</td>
<td>C. Shearer</td>
<td>7/1/96-6/31/99</td>
<td>204.5K</td>
<td>518.8K</td>
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</tbody>
</table>

**TOTALS** | **1,186.9K** | **2,810.5K** |
I. RESEARCH


I. RESEARCH


4. Other Publications

I. RESEARCH


Members of IOM in bold print.
* Student authors.

5. Travel

During the period of the report, IOM Personnel attended six international and national meetings. Fourteen papers were presented orally, and six papers were presented as posters. Four were presented in the "print only" abstracts mode. Three of the talks and one of the posters were presented by students. Abstracts of all presentations were published in abstract volumes for individual meetings. In the list of meetings below, names of IOM presenters are underlined, and student contributions are indicated with an asterisk.

August 11, 1995
29th Annual Meeting of the Microbeam Analysis Society, Breckenridge, Colorado

Attended by:  C. Shearer, M. Spilde
I. RESEARCH

Abstracts were published in Proceedings of the 29th Annual Meeting of the Microbeam Analysis Society

Oral presentations:

Shearer, C.K. Exploring the lunar mantle with the ion microprobe. Our evolving awareness of the significance of lunar volcanic glasses.


October 30, 1995
Albuquerque Joint American Ceramics Society/Material Research Society Annual Conference, Albuquerque, New Mexico

Attended by: N. Hanowski
Abstracts were published in Abstracts with Programs

Poster presentations:

Hanowski, N.,* and A.J. Brearley "TEM Studies of Exsolved Oxides in Pyroxenes of the Meteorite, Juvinas."

November 3-9, 1995
Geological Society of America Fall Meeting, New Orleans, Louisiana

Attended by: A. Brearley, J. Papike, C. Shearer
Abstracts were published in GSA Abstracts with Programs

Oral presentations:

Brearley, A.J. "High pressure experimental studies of the mechanism of the spinel to modified spinel transformation."

Shearer, C.K., and J.J. Papike "Dynamics of Lunar magmatism and conditions of the Moon's mantle as deduced from Apollo 15 very low Ti picritic magmas (VLT)."

Papike, J.J. "Pyroxene as a recorder of cumulate formational processes; Asteroids, Moon, Mars, Earth: Reading the record with the ion microprobe." Mineralogical Society of America Presidential Address.

December 5-9, 1995
American Geophysical Union, Fall Meeting, San Francisco, California

Attended by: K. Hibbitts, S. Maehr, H. Newsom,
Abstracts were published in EOS, Vol. 75

Oral presentation:
I. RESEARCH


December 6, 1995
Fall Meeting of the New Mexico Microbeam Users Group, Albuquerque, New Mexico

Attended by: M. Spilde
Oral presentation:

Spilde, M.N., "Electron microprobe analysis of oxygen."

March 18-22, 1996
27th Lunar and Planetary Science Conference, Houston, Texas

Attended by: C. Adcock, A. Brearley, G. Fowler, N. Hanowski, R. Jones, H. Newsom, J. Papike, C. Shearer
Abstracts were published in Lunar and Planetary Science XXVII

Oral presentations:

Brearley, A.J., and M. Prinz "Dark inclusions in the Allende meteorite: New insights from transmission electron microscopy."

Hanowski, N.P.* and A.J. Brearley "Chondrule alteration in CM carbonaceous chondrite, LEW 90500."

Jones, R.H., and G.D. Layne "Trace element partitioning in porphyritic, pyroxene-rich chondrules in Semarkona."

Newsom, H.E., "W/Hf fractionation in chondrites and the earth: Constraints on timing of core formation."

Papike, J.J., G.W. Fowler, G.D. Layne, and C.K. Shearer " Ion microprobe investigation of plagioclase and orthopyroxene from lunar Mg-suite norites: Implications for calculating parental melt REE concentrations and for assessing postcrystallization REE redistribution."

I. RESEARCH

Poster presentation:

Brearley, A.J. "Compositional and mineralogical trends in fine-grained chondrule rims in CO chondrites."

Brearley, A.J. "Grain size distributions and textures in the matrices of metamorphosed CO3 chondrites."

Sutton, S.R., S. Bajt, and R.H. Jones "In situ determination of chromium oxidation state in olivine from chondrules."

Shearer, C.K., and J.J. Papike "Major and trace element modeling of a polybaric melting origin for Lunar (Apollo 15) very low Ti picritic magmas."

Shearer, C.K., J.J. Papike, and G.W. Fowler "Petrogenetic models for the origin of diogenites and their relationship to basaltic magmatism on the HED parent body."

Print only:

Brearley, A.J. "Trace element (REE, Y, Sr, Mn) abundances in carbonates in CM chondrites."


Pun, A., J.J. Papike, and G. D. Layne "Ion-microprobe investigation of feldspar and pyroxene from cumulate eucrites."

Spilde, M.N., and J.J. Papike "Pyroxenes from Lunar high-Ti mare basalts: Oxygen analysis by electron microprobe and estimates of Ti\(^{5+}/Ti^{4+}\)."

Other professional travel by IOM Personnel:


I. RESEARCH

October 31 - November 2, 1995. Mineralogical Society of America Short Course on Chemical Weathering. New Orleans, LA. A. Brearley

December 1, 1995. University of Arizona to use the ICP/MS facilities. H. Newsom


March 16-17, 1996. NASA committee meeting: Curation and Analysis Planning Team for Extraterrestrial Materials (CAPTEM). Houston, TX. H. Newsom

April, 1996 Cordilleran Section Meeting of the Geological Society of America. Portland, OR. A. Pun

May 9-10, 1996. IGPP Meeting. Los Alamos, NM. J. Papike

May 12-14, 1996. LPGRP Meeting. Houston, TX. J. Papike


May 28, 1996. Met with Dr. Bruce Jakosky at the University of Colorado, Boulder, Laboratory for Atmospheric and Space Physics and Department of Geological Sciences. H. Newsom

June 3, 4, 18, 21, 25, 1996. "Faculty and Student Teams" (FAST) program. Los Alamos National Laboratory. H. Newsom
SECTION II

FACILITIES
II. FACILITIES

II. FACILITIES

1. Curation and Meteorite Museum.

As in previous years, the Meteorite Museum has been an important educational and recreational attraction on campus and has been visited by many school parties and tourists alike. Several elementary and high schools from the Albuquerque area and elsewhere in the state arranged highly successful guided tours to the Museum, and the Museum has also been visited by school parties from as far away as Los Angeles. The continuing popularity of the Museum for school parties visiting UNM emphasizes the important educational role of this facility for the local community.

During the year, we commenced an initiative to develop the Institute's meteorite catalog for the World Wide Web, to allow faster and easier access to information regarding samples in the collection to scientists and other interested individuals worldwide. Adrian Brearley completed the initial stages of this task and the catalog in text form is now available and accessible through the Institute's Web page. There are many further aspects of the collection which we plan to develop for the World Wide Web in the near future, including providing images of selected samples and thin sections for on screen viewing.

The Institute's collection has continued to be a very important resource for researchers worldwide, and we have been extremely active loaning and providing samples to a number of scientists. Demand for samples in the collection has been high and this year 41 samples and thin sections were provided to 13 qualified investigators in the USA and Japan. In addition, the research agenda within the Institute continues to make use of extensive use of samples from the collection.

We have been fortunate to obtain samples of 9 new meteorites which were not previously represented in the Institute's collection. Several of these samples have been purchased with Institute funds and public donations to the museum. Most notable of these is a piece of the Dar Al Gani 078 (Algeria) meteorite, a rare carbonaceous chondrite type (CO3). With the addition of these new samples, the Institute's collection now contains samples of about 570 meteorite falls and finds from around the world. During 1995-1996 we also classified 6 new meteorite samples which were donated to us
II. FACILITIES

by private individuals and examined over 50 suspect meteorite samples for members of the public.

2. Experimental Petrology Laboratory

The experimental petrology laboratory includes two high-temperature furnaces: a new Deltech furnace and an older, Astro furnace. Both have gas-mixing capabilities and programmable temperature control and are operational up to 1600°C. Several different types of experiments are being conducted, including 1) an investigation of pyroxene microstructures formed at different controlled cooling rates, and during various annealing conditions, 2) measurement of diffusion coefficients, and 3) a kinetic study of olivine reduction reactions.

3. ICP/MS Laboratory

The ability to rapidly and precisely measure trace elements in sub-parts per billion concentrations is required in solving a wide range of environmental, petrogenetic, metallogenic and geochemical problems. For example, the analysis of "heavy metals" (e.g., As, Pb, Cu, Cd, Sb, Ag, Hg, Zn) in water/waste is critical to many environmental impact evaluations (e.g., ground water contamination). The same set of elements in planetary materials provides essential clues to early processes in the Earth and terrestrial planets, such as planetary accretion and core formation. In response to this need, geochemists have developed inductively coupled plasma-mass spectrometry (ICP-MS) for the environmental and geological sciences. ICP-MS is an analytical technique for multi-trace element and isotopic analysis. The technique combines an inductively coupled argon plasma generating ions at 8000 K and a quadrupole mass analyzer for ion detection. The main advantages of ICP-MS as a method for geochemical analysis are its multi-element (and isotopic) capability, sensitivity, and speed at a reasonable cost. It is possible to routinely determine 33 elements spanning the realm of geochemical behavior with detection limits to .001 mg/ml.

The Institute of Meteoritics operates a VG Plasma Quad PQ2 ICP/MS for institute, departmental, campus and off-campus analytical needs. An analytical methods course in ICP-MS is offered to undergraduate and graduate students interested in using trace element techniques in solving geologic problems. This course has helped undergraduate students gain acceptance into graduate school and graduates find
II. FACILITIES

employment. In addition, tutorials are also available for students that need short term access to the lab. The laboratory has developed analytical procedures for the analysis of most stable elements in the periodic table in a wide range of analytical matrices.

Current and projected use of the laboratory for trace element analysis include faculty, staff and students from the Institute of Meteoritics, Department of Earth and Planetary Sciences, Department of Chemistry, Center for Micro-Engineered Ceramics, and Department of Civil Engineering at UNM. A large number of students (undergraduate and graduate) within the Department of Earth and Planetary Sciences use the ICP-MS facility as part of their research projects. This involved eight faculty and staff in the department. Analyses were also carried out for the numerous off-campus projects for the private (Jacobs Engineering) and public (SNL, LANL, Temple University, University of Iowa, VPI) sectors:

4. Electron Microprobe and Scanning Electron Microscope Laboratories

The microprobe class (EPS 518) was offered in the Fall semester 1995 to 13 students. This number included 4 out-of-Department students and one person from the microprobe lab at Los Alamos. Five of these students then went on to take the Spring 1996 Advanced Microprobe Class (EPS 552, section 30), along with two additional undergraduates and 1 graduate student. The advanced microprobe class offers hands-on training on our microprobe and training in advanced techniques, such as elemental mapping and image analysis. With the addition of new users trained this year, the microprobe has 22 Departmental and IOM users, 2 from NM Tech, and 1 user from the University of Nevada. The SEM has 16 users, including 3 users from NM Tech, 1 from Sandia and 1 trained corporate user. The following out-of-department individuals used the labs this year, with training and supervision by IOM personnel:

M. Cather, Petroleum Recovery Research Center, NM Tech (SEM)
C. Bryan, Sandia National Labs (SEM)
N. Dunbar, Department of Geoscience, NM Tech (SEM and Microprobe)
L. Goodwin, Department of Geoscience, NM Tech (Microprobe)
R. Metcalf, Department of Geoscience, University of Nevada at Las Vegas (Microprobe)
C. Stein, Sandia National Labs (SEM)
J. Ward, Department of Geoscience, NM Tech (SEM)

Instrument demonstrations are conducted at IOM laboratories for out-reach programs to local schools and also as learning experiences for UNM classes in order to expose the students to basic instrumental techniques. Demonstrations were conducted by IOM
II. FACILITIES

personnel on the microprobe and SEM for 2 UNM classes (Art History 429 and Anthropology 570), along with demonstrations to a group of potential UNM freshmen. Demonstrations were also done for the MESA student group on campus and for the SIMSE out-reach program to Albuquerque-area elementary school teachers.

Analytical work is routinely performed by IOM personnel for Department faculty, research staff and students. In addition, analyses are regularly conducted for UNM departments, for NM Tech students and faculty, for Sandia National Laboratories, and for private corporations, both in and out of state. Analyses were conducted for the following clients:

B. Allen, NM Bureau of Mines (Microprobe)
J. Alba, Department of Material Science, NM Tech (Microprobe)
M. Cather, Petroleum Recovery Research Center, NM Tech (Microprobe & SEM)
R. Claus, Albuquerque (Microprobe)
D. Czor, Albuquerque (SEM)
B. Earl, Los Alamos, NM (Microprobe)
J. Gahl, Electrical and Computer Engineering Department, UNM (Microprobe)
K. Jenkins, Chemistry Department, UNM (Microprobe)
B. Lakshman, Chemistry Department, UNM (Microprobe)
Kaerh Plating, Albuquerque, NM (SEM).
R. Molina-Garza, Department of Earth and Planetary Sciences, UNM, (SEM)
T. Moore, New Mexico Engineering Research Institute, UNM (SEM)
P. Mozley, Department of Geoscience, NM Tech (Microprobe & SEM)
H. Newsom, Department of Earth and Planetary Sciences, UNM (Microprobe)
NM State Department of Environment, Albuquerque (Microprobe)
M. Nyman, Chemistry Department, UNM (Microprobe)
Office of Contract Archeology, UNM (Microprobe)
S. Peterson, Zeotech, Albuquerque (SEM)
L. Ruedas, Biology Department, UNM (SEM)
G. Shang, Chemistry Department, UNM (Microprobe)
Solv-Ex Corp., Albuquerque, NM (Microprobe & SEM)
I. Sullivan, Department of Geoscience, NM Tech (Microprobe & SEM)
M. Whitworth, NM Bureau of Mines (Microprobe)

5. The UNM/SNL Ion Microprobe Laboratory

A CAMECA IMS 4f Secondary Ion Mass Spectrometer (SIMS), originally purchased by Sandia National Laboratories (SNL) in 1989 at a cost of $1.2M, was relocated from SNL to the Advanced Materials Laboratory on the UNM South Campus in June 1992. This instrument is now jointly operated by IOM and SNL Department 1823 (Surface and Molecular Spectroscopy and Gas Analysis) as the UNM/SNL Ion Microprobe Facility. Graham Layne served as Manager of this joint venture until November 1995. Michael Wiedenbeck took over as Manager in April 1996. IOM Research Associate
II. FACILITIES

Grant Fowler joined the Facility in July of 1994 as an operator/analyst, and is now the Lab Assistant Manager.

Since mid-1993 the Facility has been funded as an open user facility by the NSF Division of Earth Sciences (Facilities and Instrumentation Program). This funding has recently been renewed, at an increased level, for the period extending until June 1997. Pursuant to our NSF funding arrangements, we continue to provide support to NSF-funded geoscience projects.

External Users of the Facility July 1, 1995 - June 30, 1996

D. London; University of Oklahoma.
L.A. Taylor, G. Snyder; University of Tennessee.
R. Cygan, D. Fisler; Sandia National Laboratory
D. Vaniman; Los Alamos National Laboratory
J. Pallister; US Geological Survey
G. McKay, C. Schwandt; Johnson Space Center
F. Tepley; University of California Los Angeles

Internal Users of the Facility July 1, 1995 - June 30, 1996

A. Brearley, G. Fowler, G. Layne, C. Shearer, J. Papike
SECTION III
TEACHING
III. TEACHING

1. Courses Taught

Fall 1995

Guest lectures by A. Brearley, G. Fowler, N. Hanowski, R. Jones, H. Newsom,
F. Rietmeijer, C. Shearer and M. Spilde.

EPS 518 Fall 1995 “Electron Microprobe Analysis” Cotaught by A. Brearley,
and M. Spilde, TA: A. Pun
Guest lectures by G. Fowler, R. Jones, J. Papike

Spring 1996

EPS 513 “Planetary Materials and the Evolution of the Solar System” Co-Taught by
J. Papike, A. Brearley, R. Jones, H. Newsom, and C. Shearer

EPS 552 “Problems Class - Advanced Microprobe Analysis” Taught by M. Spilde

Anthro 570 “Geoarcheology” Guest lecture by M. Spilde on April 23, 1996

2. Spring IOM Research Seminar Series

February 14  C. Shearer
S isotopic fractionation on Mars.

February 21  N. Hanowski
Alteration of chondrules in CM chondrites.

February 28  S. Maehr
The geochemistry of arc lavas northwest and southwest of the Quesada Sharp
Contortion in Costa Rica.

March 13  J. Papike
The evolution of the lunar crust: New insights based on ion microprobe analyses.

April 3  H. Newsom
Tungsten isotopes and core formation in the Earth and Moon.

April 10  A. Brearley
New views of CV chondrites.

April 17  R. Jones
III. TEACHING

The asteroid/meteorite connection.

April 17 L. Bowman
Diogenite modes/chromites.

May 1 G. Fowler
Defeating the myth of SIMS data reduction.

May 8 J. Connolly
An introduction to researching on the internet.

May 22 M. Spilde
Microprobe analysis of ancient ceramic artifacts.

3. Student Committees

Graduate Student Advisement

<table>
<thead>
<tr>
<th>Student</th>
<th>Committee</th>
<th>JOM Committee Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deborah Bergfeld</td>
<td>Ph.D.</td>
<td>J. Papike</td>
</tr>
<tr>
<td>Laurie Bowman</td>
<td>M.S.</td>
<td>J. Papike (Advisor)</td>
</tr>
<tr>
<td>Charles Bryan</td>
<td>Ph.D.</td>
<td>J. Papike</td>
</tr>
<tr>
<td>Rhawn Denniston</td>
<td>M.S.</td>
<td>C. Shearer (Advisor)</td>
</tr>
<tr>
<td>Nicolaus Hanowski</td>
<td>Ph.D.</td>
<td>A. Brearley (Advisor)</td>
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<td>J. Papike</td>
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<tr>
<td>Jim Karner</td>
<td>M.S.</td>
<td>J. Papike</td>
</tr>
<tr>
<td>Gordon Keating</td>
<td>Ph.D.</td>
<td>J. Papike</td>
</tr>
<tr>
<td>Stephanie Maehr</td>
<td>M.S.</td>
<td>H. Newsom (Advisor), C. Shearer</td>
</tr>
<tr>
<td>Al Meldrum</td>
<td>Ph.D.</td>
<td>J. Papike</td>
</tr>
<tr>
<td>Jane Pedrick</td>
<td>Ph.D.</td>
<td>A. Brearley, J. Papike</td>
</tr>
<tr>
<td>Aurora Pun</td>
<td>Ph.D.</td>
<td>J. Papike (Advisor), C. Shearer</td>
</tr>
<tr>
<td>Mark Servilla</td>
<td>Ph.D.</td>
<td>J. Papike (Advisor), C. Shearer</td>
</tr>
</tbody>
</table>
III. TEACHING

Shixin Wang  Ph.D.  J. Papike
Ivan Thorsos  Ph.D.  J. Papike (Advisor), A Brearley, R. Jones

Undergraduate Student Advisement

Charles Hibbitts  H. Newsom (Advisor)
Windy Jaeger  H. Newsom (Advisor)
Heather Weigel  H. Newsom (Advisor)
Malinda Stanley  R. Jones (Advisor)

4. Progress of Earth and Planetary Sciences Department Graduate Students Supported by IOM

Laurie Bowman joined IOM as an M.S. student in the fall of 1994. She received her B.S. in Earth and Planetary Sciences from the University of New Mexico in the summer of 1994. Her continuing research involves spinel chemistry of diogenites, which are believed to be meteorites from asteroid 4 Vesta. She received a New Mexico Space Research fellowship for 95/96. Laurie plans to graduate December, 1996.

Nicolaus Hanowski studied physics and geology as an undergraduate at the University of Munich and taught astronomy and planetary science for the adult education program, Munich. At the same time he was running a sales business for astronomical instruments and equipment. A one-year research project in spectroscopy followed at the German Space Research Establishment (DLR), Berlin. Nicolaus received his masters degree (diploma) in geology from the University of Munich in 1994 and joined IOM in August 1994 as a research assistant on a NASA grant. He successfully passed his comprehensive Ph.D. qualifying exam in October 1995 and expanded his research on the alteration behavior of various CM chondrites. He also received scholarships from the Geology Alumni Scholarship Fund and the Rodney Rhodes Scholarship.

Stephanie Maehr joined IOM as an M.S. student in the spring of 1994. She successfully defended her master’s thesis proposal in November of 1994. Her research involves examining the geochemistry of Pb, Th, and U with respect to B, Ba, La, and Nb in arc lavas from volcanoes located on both sides of the Quesada Sharp Contortion in Costa Rica. Her assistantship from the Institute of Geophysics and Planetary
III. TEACHING

Physics has been renewed for a third year. This assistantship involves developing sample preparation and analysis techniques for the determination of trace amounts of Mo and W in terrestrial and possibly in lunar basalts. In the summer of 1996, she received a grant from the Science Educational Outreach Center. This grant involves working in conjunction with Horton Newsom of the Institute of Meteoritics, Teresa Kokowski, a faculty member of the College of Education, and Carol Brown, a graduate student in the College of Education to expose and involve education majors to science and scientific research. The primary goal for this project is to develop a working dialog between the College of Education and Arts and Sciences. She plans to defend her thesis in the fall of 1996.

Aurora Pun completed her Ph.D. work entitled “Petrogenesis of eucrites based on secondary ion mass spectrometry studies of pyroxene and plagioclase” in the spring of 1996. Aurora is also in the process of publishing the last of three papers resulting from her dissertation work. She currently holds a post-doctoral position with Dr. Jane Selverstone in the Department of Earth and Planetary Sciences.

Mark Servilla defended his Ph.D. dissertation and graduated in spring 1995. He has submitted a manuscript, based on his dissertation, entitled “Eruption evolution of the ~760 Ka Bishop Tuff: Insights from electron and ion microprobe analysis of melt inclusions from the Long Valley Exploratory Well (LVF 51-20)” to Journal of Volcanology and Geothermal Research. Mark has been offered a postdoctoral position at the Alaskan Volcanological Observatory, University of Alaska, Fairbanks starting fall 1996.

Ivan Thorsos is continuing to make progress towards his Ph.D. degree. By the end of AY 96/97 he will have completed his course work and will have submitted abstracts for two research proposals which will form the basis of his Ph.D. comprehensive exam fall 1997. His likely dissertation topic is “Olivine as a recorder of nebular and parent body processes.”
SECTION IV

DEPARTMENTAL AND UNIVERSITY ACTIVITIES
IV. DEPARTMENTAL AND UNIVERSITY ACTIVITIES

IV. DEPARTMENTAL AND UNIVERSITY ACTIVITIES

A. Brearley

Curator of the Meteorite Museum and Collection, Institute of Meteoritics engaged in cataloging, acquiring and loaning of meteorites.

Developed Institute Home Pages and Catalog for the World Wide Web.

Member, Dept. of Earth and Planetary Sciences and Institute of Meteoritics Facilities Committee

Member of search committee for SIMS Lab Manager

J. Connolly

Member, Departmental Computer Use Committee

Manager, Departmental Local Area Network

Instructor, UNM Continuing Education Computer Program

R. Jones

Manager of Experimental Petrology Laboratory

Assistant Curator of Meteorite Collection

Member of Chemical Hygiene Committee, Department of Earth and Planetary Sciences


Member of search committee for SIMS Lab Manager

H. Newsom

Member, New Mexico Space Grant Faculty Advisory Board

Member, Planetary Science Curriculum Committee, Department of Earth and Planetary Sciences

Education Outreach Coordinator, Institute of Meteoritics

J. Papike

Director of IOM

Chair of Earth and Planetary Sciences Facilities Committee
IV. DEPARTMENTAL AND UNIVERSITY ACTIVITIES

Member, Department of Earth and Planetary Sciences Graduate Student Committee

Member, Faculty Senate Research Advisory Committee

A. Pun

Member, Search Committee for hiring of SIMS Manager

C. Shearer

Manager, ICP-MS Laboratory
Member, Search Committee for hiring of SIMS Manager

M. Spilde

Manager, Electron Microprobe and Scanning Electron Microscope Labs
Member, Department of Earth-and-Planetary Sciences Computer Committee

Visitors to IOM

Visitors to IOM during the period of this report included:


Dr. Hap McSween, University of Tennessee, Knoxville. Hosted by A. Brearley. October 4-8, 1995.


Dr. Detlef Koschny, Max-Planck-Institut fuer Aeronomie, Lindau, Germany. Hosted by N. Hanowski. March 1, 1996.

SECTION V
PROFESSIONAL ACTIVITIES
V. PROFESSIONAL ACTIVITIES

Adrian Brearley

Associate Editor, American Mineralogist (1994-1997).
Abstractor for Mineralogical Abstracts, abstracted papers from Analytical Chemistry.
Member, NASA/ESA Rosetta Orbiter Instrument Definition Panel.

Rhian Jones

Abstractor of "Meteoritics" for Mineralogical Abstracts
Associate Editor of the journal "Meteoritics"

Horton Newsom

Associate Editor for the international geochemistry journal Geochimica et Cosmochimica Acta, Journal of the Geochemical Society and the Meteoritical Society
Member of NASA committee: Curation and Analysis Planning Team for Extraterrestrial Materials (CAPTEM)
Member, New Mexico Space Grant Faculty Advisory Board
Member, NASA Review Panel: Mars '98 lander and orbiter instrument selection

Jim Papike

Member of the Advisory Committee for the Institute of Geophysics and Planetary Physics (IGPP), Los Alamos National Laboratory.
President, Mineralogical Society of America, 1995. Past President (= Council Member), 1996
Coordinator, Mineralogical Society of America, Planetary Materials Interest Group
Co-Organizer (with Dr. David Mittlefehldt, JSC) of Lunar and Planetary Institute Workshop "Evolution of Igneous Asteroids: Focus on Vesta and the HED Meteorites."
V. PROFESSIONAL ACTIVITIES

Charles Shearer
Mineralogical Society of America Representative to American Geological Institute
AGI Ian Campbell Medal Committee
Participant in AGU FAST (government action network).

Mike Spilde
Arranged and hosted Fall Meeting of the New Mexico Microbeam Users Group.
December 6, 1995.

In addition to the activities listed above, members of IOM acted as reviewers of numerous manuscripts submitted to international journals and proposals submitted to federal funding agencies.
SECTION VI

EDUCATIONAL OUTREACH

AND

PUBLIC SERVICE
VI. EDUCATIONAL OUTREACH AND PUBLIC SERVICE

1. Meteorite Museum

The Meteorite Museum is the most important focus of IOM's educational outreach. Several thousand people of all ages visit the Museum each year and many school parties visit the Museum to enhance scientific projects in Earth Sciences and Solar System studies. IOM personnel commonly volunteer to give guided tours of the Museum and laboratories to groups of visiting students. During the period of this report, groups that have been given tours include First Congregational Church, Lincoln Middle School, Kirtland AFB Elementary School, Washington Middle School and Mirman School, Los Angeles. Several members of IOM have also visited schools in the area to give talks on various aspects of planetary sciences. An activity handbook for middle school students visiting the museum is now available free of charge. Considerable interest was generated by displays of meteorites set up by IOM at the New Mexico Museum of Natural History Earth Exhibition, November 4, 1995, the Albuquerque Gem and Mineral Club show, March 2-3, 1996, and for Astronomy Day at the Coronado Center, April 27, 1996. In addition to the public education provided by the Museum, we are routinely consulted by members of the public to help identify suspect meteorites and to provide information on meteorites and associated phenomena. We have met and corresponded with numerous people from all over the world in providing this service.

2. Public Service

Adrian Brearley

- Presented talk to Albuquerque Astronomical Society, 3 February 1996.


- Devised meteorite display for Astronomy Day at the Coronado Mall, 27 April, 1996.

- Identified numerous suspect meteorites and provided information on meteorites for members of the public from both within and outside New Mexico.
VI. EDUCATIONAL OUTREACH AND PUBLIC SERVICE

Jim Connolly

- Acted as Judge for Northwestern Regional Science and Engineering Fair, Albuquerque, New Mexico, March 15, 1996

- UNM Elderhostel “Albuquerque-City in a Rift” January 15-18, 1996

- Gave numerous introductory talks on Geology to elementary and secondary school students attending YWCA Science/Environment Camp program at Pinyon Camp, Tijeras, New Mexico. September through November, 1995 and March through May, 1996

- UNM Elderhostel “Red Rocks, Canyons and Mesas - The Unique Colorado Plateau” March 18-21, 1996

Nicolaus Hanowski

- Gave tours of Meteorite Museum for visiting elementary, middle and high school students

- Assisted with meteorite display for Earth exhibit at Albuquerque Natural History Museum, November 1995


- Assisted with meteorite exhibit at Astronomy Day, Coronado Mall, April 27, 1996

Rhian Jones

- Co-ordinated and gave tours of Meteorite Museum for visiting elementary, middle, high school and UNM students

- Identified numerous suspect meteorites for members of the public

- Provided tour of Meteorite Museum for MEMS Summer Bridge program, UNM, July 20, 1995

- Set up meteorite display for Earth exhibit at Albuquerque Natural History Museum, November 1995

- Set up meteorite display at Albuquerque Gem and Mineral Club Show, March 2-3, 1996

- Acted as judge for NWNM Regional Science and Engineering Fair, March 15, 1996

- Gave talk about Meteorite Museum to Geology Teachers Symposium, April 19, 1996

- Set up meteorite exhibit at Astronomy Day, Coronado Mall, April 27, 1996
- Gave tour of Meteorite Museum to SIMSE teachers institute, June 11, 1996

Horton Newsom

- Presented workshop: Hands on the solar system, for New Mexico Science Teacher Association and Council of Teachers of Mathematics in Ruidoso, NM, October 13, 1995
- Presented impact cratering demonstration as part of the IOM presentation for Astronomy Day at Coronado Mall, April 27, 1996
- Presented one-week teacher training institute “The solar system for middle school students” funded by Systemic Initiative for Math and Science Education, June 10-14, 1996.
- Gave “Space Science” presentation to seven New Mexico middle schools and two elementary schools and also to the Southwest Regional Junior Science and Humanities Symposium.

Chip Shearer

- Presented lectures for several Albuquerque Public Schools

Mike Spilde

NASA Vows To Seek Out Mars Life
Agency Willing To Send Astronauts To Prove Theory

BY K.C. COLE
Los Angeles Times

Declaring Wednesday "the day we opened the door" to other worlds, NASA chief Dan Goldin promised to do whatever is necessary to confirm whether the microscopic worm-like structures found on a meteorite from Mars are signs of life beyond Earth.

That might include, he said, staffing more missions to Antarctica to pick up stray pieces of the red planet, sending astronauts to dig deep into the Mars surface, or developing better microscopes to investigate the samples already on hand.

After speaking to the leaders of space programs from Europe to Brazil, the U.S. space chief was clearly giddy. He offered an open invitation to scientists around the globe to study the evidence.

The overwhelming international reaction, he said, could be summed up in a single word: "Wow! ... We're now on the doorstep to the heavens," Goldin said. "What a time to be alive!"

President Clinton joined in the celebration Wednesday, saying, "If this discovery is confirmed, it will surely be one of the most stunning insights into our universe that science has ever uncovered. Its implications are so far-reaching and awe-inspiring as can be imagined."

The planetary scientists from Stanford University, Johnson Space Center and other institutions who analyzed the Martian sample presented their findings at NASA headquarters in Washington to an international audience Wednesday.

Carefully reconstructing the trail of evidence that leads them to believe fossil-like structures represent ancient forms of life, the researchers stressed that results would have to be confirmed by further study.

"We think they are microfossils from Mars," said Stanford's Richard Zare. "But this is an interpretation. It could be a dried-up mud crack." UCLA's William Schopf, an authority on the evolution of life who has found some of the oldest fossil bacteria on Earth, gave several reasons to be skeptical of the interpretation. Among them, he said, there was no evidence of internal structure so far. "If you look inside things to know for sure, he said. That will be no easy task; the largest of structures are 1/100th the diameter of a human hair, the smallest, 1/10,000th.

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Similar UNM Meteorite Study
Found No Evidence of Mars Life

Local researchers examined sulfur in the meteorite, not carbon, and were careful not to contradict the NASA study.

BY JOHN FLACK
Journal Staff Writer

The Martian meteorites in which NASA scientists say they found signs of life lack one of the key chemical signatures of biological activity, according to University of New Mexico scientists who have studied the same meteorites for the past two years.

While not directly contradicting the NASA scientists' work because of differences in the way the researchers studied the meteorites, the UNM group provides the first publicly available check on whether the NASA team is right, according to an independent expert familiar with the work.

The New Mexico researchers found that the chemical makeup of sulfur in the meteorite, a key indicator of life as we know it, doesn't match the unmistakable fingerprints left by biological activity.

The UNM scientists, in interviews Wednesday, were careful not to criticize the NASA study directly. (See similar on PAGE AB)
NASA Vows To Seek Out Mars Life

Johnson Space Center's David McKay, principal author of the research, stressed several times that the findings were tentative.

Still, researchers believe the structures have a biological origin, because the simplest idea that fits all the evidence.

"I've pointed many nights in the last..." McKay said. "It's easy to go home," he said, "but we're becoming excited about the potential life inside the rock a year ago."

The structures from Mars — looking more like one-celled bacteria than relatives of E.T. — came to Earth for a meteorite that had drifted in space for about 15 million years. It crashed into the blue field of Antarctica, about 100,000 years ago, when it was discovered in 1994.

Scientists think the potato-sized, 49-pound burlap wrapped rock from Mars when an asteroid slammed into the upper surface, sending bits of Mars into space.

Many of the structures themselves were examined more closely. While the others are much smaller — perhaps too young to carry traces of an ancient, warmer, warmer winter, Mars, Saqak thought that some of these might prove plausible suspects.

To find life on Mars now would require digging deep into the planet to find remnants of still watery worlds protected from the ultraviolet radiation of the sun. The only way to find out if such a world exists, McKay said, "is to go there."

And if such a mission requires sending astronauts to Mars, Goldin said, "We'll do it."

The fossil-like forms were discovered buried in the cracks of a rock that crystallized out of the mantle. Ancient Mars landscape soon after the solar system formed, when planets were too hot to have solid surfaces. Researchers believe that ancient times, water flowed freely on Mars and carbon dioxide from its atmosphere might have formed reactions in the water that created the ingredients for life.

When the researchers sliced open the rock in the sterile conditions of the laboratory, they found what looked like orangish blobs enclosed in a black and white scribbled covering, which they called "granular" rings.

As they discovered in smaller and larger magnification, those rocks began to see textured surfaces and tube-like structures with an unusual resemblance to bacteria on Earth. Saqak gave high marks to the researchers by the interpretation of the data and origin of the Mars rock and the chemical composition of the sample. But put less faith in the biological interpretation of their origin.

The structures were hundreds of times smaller than similar ancient bacteria found on Earth, said, and the organic compounds found at the site are also common in interstellar space, in diesel exhaust and in charred steak.

Those expected if living organisms had been present.

Chip Shoemaker, the UNM professor who headed the research team, admitted to being a little disappointed when the results came in, saying he would have liked to have found evidence for life.

The fact that they didn't may explain why the NASA team's work has not received international attention while the UNM group wasn't, Shoemaker said.

The NASA study is being published in Science, one of the most prestigious scientific journals in the world, while the less dramatic work by the UNM group is stalled to appear later this month in the smaller Geochimica et Cosmochimica Acta, a scientific journal devoted to geochemistry.

"Life does amazing things. It's capable of surviving in really strange ways, and its biomarkers are stark," Shoemaker said.

Those were looking for different chemical signatures, their findings don't directly contradict one another. In fact, the members of the UNM team praised the work done by the NASA scientists, saying they have made an important contribution.

"They have made observations that are interesting and require a lot of investigation," Shoemaker said.

The key now, Shoemaker said, to look for other biological markers to sort out the question of who is right.

The next step for the UNM researchers is to compare their findings with rocks from Earth to see if they can find evidence of any organisms that don't leave the characteristic sulfur fingerprint.

"Life does amazing things. It's capable of surviving in really strange ways, and its biomarkers are stark." — HARRY McSWAIN, METEORITE EXPERT
1. Significant Developments During the 1995-1996 Academic Year

Many changes and improvements in the Department of Economics occurred during the past year. Prominent were increased graduate support, collaboration with other departments, and upgrades in the experimental lab.

The department continues its efforts to increase graduate student support through an expansion of research funding and state funding. The implementation of a continual and aggressive search for new funding sources is beginning to show results. Funding from the Environmental Protection Agency, the U. S. Geological Survey, and the City of Albuquerque has increased our ability to support graduate students.

The department has laid the basis for collaboration with other departments at the university. A joint venture between faculty from Economics, Political Science and the Institute for Public Policy, and Anthropology was realized through funding from the Environmental Protection Agency. The department will continue to support collaborative efforts with other departments at the university. Our work with the Latin American Institute has allowed the Institute to again offer specialized economics courses for the Latin American Studies program. In addition, our collaboration has generated additional students in economics courses and a greater number of Latin American Studies students are pursuing concentrations in economics.

A Novell network has been installed in the experimental lab. This increases our research capabilities by allowing the use of various experimental software applications and the ability to design new software applications that meet the needs of our researchers. The experimental lab was significant in helping the department achieve the new research funding from the Environmental Protection Agency, the U. S. Geological Survey, and the City of Albuquerque. UNM is one of the few institutions in the nation that has both a sophisticated telephone survey facility and an experimental economics lab. Because of this we are better able to establish the validity of research results making us a more desirable institution for research with such agencies.

2. Significant Plans

The department will continue its commitment to improvement in teaching and research. This involves our search to fill one faculty position, generate new sponsored research, and
explore new uses for the experimental lab.

The new faculty search will generate an experienced member at the advanced assistant through senior associate professor level. The area targeted is applied economics with capabilities in analytical modeling and/or experimental economics. The position requires a demonstrated track record of external grant research. Such an economist will significantly contribute to both undergraduate and graduate programs and increase our research capabilities.

The department will continue to pursue new sponsored research. Additional methods of generating funding will be sought that involve our support of collaboration with other departments and new relationships with state and local government.

The department is considering the expansion of the experimental lab as a teaching tool. With the Novell network installed we are better able to continue examining the possibility of this use of the experimental lab.

The department will revise both the graduate and undergraduate curricula.

3. Appointments to Staff

During the 1995-96 academic year, we successfully completed a search for one new faculty member who joins us beginning in the fall 1996 semester.

Kate Krause joins the Department of Economics in August 1996 as an Assistant Professor specializing in Public Finance Economics with research interests in Law and Economics and Experimental Economics. She received her Ph.D. in 1996 from the University of Wisconsin and her J.D. in 1981 from Stanford University.

4. Separations from Staff

Don Tailby retired at the end of the Fall 1995 semester.

Alberto Dávila left the department at the end of the 1995-1996 academic year. He has joined the University of Texas - Pan American.

5. Publications

Work by the Department of Economics faculty appeared in 18 publications during the 1995 year. Eight of the department faculty published 12 journal articles and six book chapters.

6. Outside Professional Activities

Eight faculty members presented 17 papers at professional meetings.
7. Research Grants and Contracts Funded

The department received the following grants to fund faculty and graduate research during this academic year.

**New Mexico Legislative Finance Committee**
McKee, M. "CGE Model for the State of New Mexico: Year Three Program" $12,050 June 1996 to October 1996

**U.S. Environmental Protection Agency**
Brookshire, D. "Preference Formation and Elicitation in Valuing Non-Market Goods" (Berrens, R.) $120,249 (Ganderton, P.) January 1996 to December 1997 (McKee, M.) With IPP and Anthropology

**U.S. Geological Survey**
Brookshire, D. "Land-use Models and Non-Market Values for the Rio Puerco Basin" (McKee, M.) $49,998 (Berrens, R.) (Ganderton, P.) September 1995 to August 1997

The following grant is from internal sources.

**Research Allocations Committee, UNM**
Berrens, R. "Analysis of Risk and Equity Factors in the New Mexico Underground Storage Tank Clean-up Program" $3480 April 1996 to September 1996

Research Grants and Contracts Submitted

In addition to the grants funded above, the faculty submitted the following proposals for consideration.

**The Center for Regional Studies**
Bohara, A. "A Proposal to Initiate a Research Program on Sustainability and Environmental Equity: A Local and Regional Perspective" (Berrens, R.) $34,978 (Gawande, K.) September 1995 to September 1996

**W.E. Upjohn Institute for Employment Research**
Santos, R.  "Low Wages and Earnings Among Hispanics: Evidence from the National Longitudinal Surveys of Youth 1979-93"
$37,500
June 1996 to December 1997

Research Allocations Committee, UNM
Bohara, A.  "Environmental Equity in the Southwest"
$7320

8. Attachments

Bachelor of Arts Degrees Conferred
48 Bachelor of Arts degrees conferred

Bachelor of Science Degrees Conferred
2 Bachelor of Science degrees conferred

Master of Arts Degrees Conferred
Jennifer Leasure Creamer
Martha Ennis
Kelly O'Donnell

Doctoral Degrees Conferred
Reinhold Groepler (Bohara)  "The New Mexico Economy: Econometric Modeling Policy Analysis and Forecast Decomposition"
Awni Mufleh (Ganderton)  "Technical Inefficiency and Ownership in the Jordanian Industrial Sector"
José Pagán (Dávila)  "Immigration Reform, Asymmetric Information, and a National Identification System"
Christian Schmidt (Brookshire)  "Emission Trading Under the 1990 Clean Air Act Amendment: Experimental Investigations of Market Design Issues"

J. Raymond Stuart Award
Peter Lawton received this honor.

Distinguished Alumnus
Janet Peacock received this honor.
### Table 1 - UNM Department of Economics
#### Sponsored Research Money Generated

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<tr>
<td>1995-96</td>
<td>136,778</td>
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### Table 2 - UNM Department of Economics
#### Degrees Awarded

<table>
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<tr>
<th>Academic Year</th>
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<th>Masters Degrees</th>
<th>Ph.D. Degrees</th>
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<td>1995-96</td>
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The administrative structure of the English Department remained the same during the year, but several new directors were named. Gary Harrison became the new Director of Graduate Studies; Cheryl Fresch became Director of Undergraduate Studies; Patricia Clark Smith became Director of Creative Writing; Michael J. Hogan served as Director of Freshman English during the fall 1995 semester while Wanda Martin was on sabbatical.

There were some important changes in the status of personnel during the year: Patricia Clark Smith was promoted to Professor. Laurie Alberts resigned her assistant professorship for family reasons. Chris Offutt was our Visiting Writer for the spring semester and as a result of Laurie Alberts' resignation has remained for the 1996-1997 academic year as a visiting Assistant Professor. Gail Houston was hired as an Assistant Professor. Jerome Shea completed his transition from University College to take up full-time duties as an Associate Professor of English.

In December 1995, Michael Fischer, Chair of the Department, was named Interim Dean of the College of Arts and Sciences. After consultation with the Department, he named Robert Fleming Interim Chair, to serve until July 1997. The Department will conduct an election in the spring of 1997 to elect the next regular Chair.

The largest piece of business conducted during the year was the seven-year review of the department. During the fall of 1995 the entire department met for a full-day retreat to initiate planning for the self-study document. The Directors of the departmental programs worked closely with Michael Fischer to produce the self-study, and from February 27 through March 1, 1996, the Department hosted a distinguished panel of outside reviewers from the University of North Carolina at Chapel Hill, the University of California at Davis, the University of Minnesota, and Texas A & M University.

The report of the evaluating committee was very supportive but noted several problems. The committee found the faculty underpaid and overworked, noting that, in addition to a 3-3 or 3-2 teaching load, faculty do much one-on-one work with graduate students, and this work does not appear as a recorded component of the workload. The committee extended the same observation to the teaching assistants, noting that freshman classes were large in comparison to those at their institutions and the compensation lower. The committee was surprised to learn that at UNM the salary of a
faculty member on leave without pay or a faculty member moving into an extra-departmental administrative post did not revert to the department. One member of the committee was particularly concerned over the failure of the higher administration to respond to repeated requests for a computer classroom. This problem has been addressed since the committee report. Interim Dean Michael Fischer, Interim Chair Robert Fleming, and Director Neddy Vigil of the Language Learning Center conferred during the late spring and early summer about making a computer center in Ortega Hall available to English instructors and eventually creating a lab dedicated to English courses.

The committee was concerned about low morale in the Freshman English program, not only because of the low pay of teaching assistants (who do virtually all of the work at this level) and because of the class sizes, but because teaching assistants are asked to teach a 2-2 load while pursuing their studies. The committee suggested that a 2-1 load is more typical across the profession today. The Freshman English Committee will discuss the recommendations of the review committee over the next year although its options will be limited by the resources available.

The report praised the undergraduate program but warned that increasing demands to offer service courses—it singled out English 219 as an example—should not be allowed to divert funds and efforts from the needs of our majors and minors.

The graduate program was criticized for attempting to do too much in an era when new fields and critical approaches have multiplied. At UNM the English Department has attempted to remain current by adding new specialties either by hiring new faculty or by retraining current members of the Department. However, nothing has been dropped from the curriculum. On the faculty level, this has resulted in overworked professors who feel that they are stretched too thin; for graduate students, it has meant that reading lists and examination fields have expanded to the degree where students sometimes despair of achieving competence.

The Creative Writing faculty had anticipated one criticism of the review committee by initiating a screening procedure which went into effect during registration for the fall semester. Students may take beginning creative writing, English 221 and 222, with no prerequisite other than English 102. Thereafter, before taking creative writing courses at the 300, 400, or 500 level, students will have to be screened by presenting a portfolio of their creative work to the Director of Creative Writing for the review of the Creative Writing Committee. Alternatively, the student can apply to the instructor of the course, who will make the decision based on the same type of evidence.
The 1995-1996 year was productive for individual faculty members of the Department as well as for the unit as a whole. New publications abounded, and several faculty received important awards. Some specific highlights follow:

Laurie Alberts' third book, *The Price of Land in Shelby*, has been edited for publication and will appear this fall.

Rudolfo Anaya received an honorary Doctor of Literature degree at the 1996 spring commencement.

LynnDianne Beene has revised *The Riverside Handbook*, which has become a standard textbook for freshmen nationally.


David Dunaway and KUNM FM were presented with a Silver Reel Award by the National Federation of Community Broadcasters for the Joy Harjo episode of his *Writing the Southwest* series.


Barry Gaines was awarded a $1000 Jacob Burns Faculty Grant by Hillel and was named Head Scholar at the National Endowment for the Humanities Summer Institute on Teaching Shakespeare.

Minrose Gwin received a Research Semester Award from the College of Arts and Sciences.

Joy Harjo received a Bravo Award from the Albuquerque Arts Alliance for her achievements in literature. Her latest book, *The Spiral of Memory* has been published by the University of Michigan Press.

David Jones won a Bravo Award from the Albuquerque Arts Alliance for his direction of the Rodey Theatre production of *Marat/Sade*.

Laurie Kutchens, a visiting professor of creative writing, had her second book of poetry, *The Night Path*, accepted for publication.


Louis Owens' new novel, *Nightland*, has been published by Dutton Signet. Louis this year received an Award for Excellence from the UNM Alumni.

Gary Scharnhorst's edition of the letters of Bret Harte has been edited and will appear this fall. Gary lectured in Rome, Paderborn, Aachen, Dusseldorf, Heidelberg, and Saarbrucken during the summer.
Hugh Witemeyer's *Pound/Williams: Selected Letters of Ezra Pound and William Carlos Williams* has been published by New Directions.

1995-1996 Graduate Program. Voting members of the Graduate Committee for 1995-1996 were Professors Gary Harrison (Director), Monica Espinosa, Patrick Gallacher, Mary Power, Gary Scharnhorst, Carolyn Woodward, and graduate student Linda Joyce-Brown. Ex-officio members were Michael Hogan (fall semester), Wanda Martin (spring), and Patricia Clark Smith.

The program graduated eight PhD students and 22 MA students during the year. Fifteen new PhD students were admitted to the program, and two students who had been on leave were readmitted. Eighteen new MA students were admitted, eleven into the literature program and seven into the creative writing program.

A Home Page was designed by the new director, Gary Harrison, to help recruit superior students to the graduate program.

A number of minor policy revisions were instituted by the Graduate Committee over the year. A full report by Graduate Director Gary Harrison appears as an appendix.

1995-1996 Undergraduate Program. Voting members of the Undergraduate Studies Committee were Professors Cheryl Fresch (Director), James Thorson, Richard Johnson-Sheehan, Minrose Gwin, E. A. Mares, and Mary Bess Whidden.

The curriculum for the undergraduate program remained basically the same for the year. The program continued to enroll well, with all six of the English concentrations drawing healthy numbers of students. While 424 majors were identified for the fall 1995 semester, 354 enrolled for courses in the spring 1996 semester. Enrollment figures for students minoring in English were 205 in the fall and 114 in the spring.

The liberal arts concentration continues to attract the most students, 121 in the spring 1996 semester, but the creative writing concentration is also extremely popular, with 96 students enrolled during the spring semester. In the spring 1996 semester, 53 English majors were enrolled in the professional writing concentration, 28 in the pre-law concentration, and 18 in English-Philosophy.

Graduated at the end of the 1995-1996 academic year were 123 English majors and 35 English minors. Nine of the 123 majors were awarded honors, three of those *summa cum laude*. Work continued on the expansion and revision of the departmental Honors program.

During the 1995-1996 academic year, the Department of English applied for and received a charter to establish a chapter of Sigma Tau Delta, the international English honor society, at the
University of New Mexico. Thirty-nine undergraduate students were accepted for membership in the Alpha Epsilon Pi chapter during its first year. Nine of those students presented papers at the 1996 international convention of Sigma Tau Delta that was held in Albuquerque, March 7-9, and one of those papers was nominated as the outstanding critical paper to be presented at the convention. Officers and members have begun efforts to build up the chapter treasury in order to sponsor local activities and to help chapter members travel to the annual international convention, which in 1997 will be held in Savannah, Georgia.

1995-1996 Freshman English Program. (By Professor Wanda Martin) Members of the Freshman English Committee were Professors Michael Hogan (Director, fall), Wanda Martin (Director, spring), Pat Smith, Charles Paine, and Cheryl Fresch, and graduate students Megan O'Neill, Jan Wellington, Susan Cannata, Maureen Cooke, and Andy McClure.

As in the last several years, Freshman English offered about 100 sections of English 101 and 102, instructing approximately 2300 students in the arts of reading and writing for college. Judging by the limited evidence available, we came close to offering the right number of slots at acceptable times. In 1995-96, we began tracking student performance more closely. In Spring 96, grades in 101 broke down as follows: A, 17.5%; B, 35.6%; C, 27.7%; D & F, 8.9%; W, 10.1%. In 102 for that semester: A, 17.5%; B, 43.2%; C, 23.1%; D & F, 6.43%; W, 8.5%. Additionally, the Freshman English Committee has begun investigating methods that will allow us to assess the overall effectiveness of the program. We expect to research this further during 96-97 by seeking input from faculty around the university as to what skills and knowledge students need to bring to their disciplines and how well they are prepared at present.

Over the past year, we have revised the statements of course objectives to make them clearer and more concrete and to more effectively specify the differences between the two courses. We are modifying our curriculum to focus on inquiry, collaboration, reflection, and the writing process, and have replaced the traditional impromptu essay given during Final Exam week with a portfolio of revised work for final evaluation. All these innovations will help us help the students to become more sophisticated users, makers, and critics of texts of all kinds.

Freshman English is taught entirely by Graduate Teaching Assistants, 66 of them at present. Sixteen of these are pre-Master's; fifty pre-doctoral. This method of staffing has both positive and negative consequences. On the positive side, our TA's are fresh and creative, with a wealth of experience and ideas to bring to this important teaching. Every staff meeting and class session I share with them refreshes my enthusiasm for teaching writing. And this is useful professional training for our graduate students, most of whom will make most of their living for most of
their lives teaching at one level or another. On the down side, 66 half-time teachers, half of whom have no previous teaching experience, is a large staff for one person to supervise. If we are to offer thorough, consistent, effective instruction, we must increase the resources we devote to TA training and supervision. This year, two TA's have been given a one-course-per-semester assignment to assist in that area. It's a start. Further, as noted by the external review committee, TA compensation and workload are a serious and ongoing problem. This year, we pay pre-doctoral TA's $8900 plus 24 hours' tuition to teach four sections of two of our most fundamental courses. That this low level of compensation is not commensurate with the responsibility TA's carry is only half the problem; TA's are also graduate students, with graduate student workloads. They need to be paid enough to enable them to meet their living expenses without taking on the additional jobs many of them hold if they are to be both effective teachers and effective graduate students who can expect to find professional employment when they graduate.

Conclusion.

All directors will remain in place for the 1996-1997 academic year. The major new business of the Department will be to respond to the external review committee's report. Director Gary Harrison has already made plans to direct the Graduate Committee to re-examine the MA program with a view to changing the way we certify that our students have received a comprehensive graduate education. The committee will present its proposals to the Department as a whole this year. The undergraduate program will continue to work on a growing database of majors and minors so that we can track our students and graduates more efficiently. The Freshman English program will implement the new portfolio policy and the university-wide survey discussed in Wanda Martin's section of the report. Finally, each of the directors has been asked to work with Lynn Beene, co-ordinator, to design mechanisms for student outcomes assessment.
1995-96 Annual Report: Graduate Program in English

Overall Goals and Activities

Gary Hamson took over as Graduate Director from Peter White in June 1995, just a few months after Ovella Minssen replaced Ingrid Wentzel as the graduate office assistant. During the summer months, the Graduate Director rewrote and updated the information packets on the graduate program, revised the 94-page Graduate Student's guide to English, initiated the development of the English Department Home Page, began compiling data on UNM's peer institutions to be used in the English Department's Self-Study, and coordinated the June M.A. exams and the August Ph.D. exams.

The goals for Fall 1995 and Spring 1996 were to improve the overall communication between the English Department graduate office and the students, to continue Peter White's efforts to improve advising and mentoring of graduate students, and to conduct a systematic review of all the graduate program in its entirety in order to prepare for the graduate program review in Spring 1996.

One of the major projects for Fall 1995 was to prepare the graduate program sections of the Departmental Self-Study, in preparation for the external review. With the help of Margaret Shinn, Departmental Administrator, and Ovella Minssen, the Graduate Director studied the curriculum, examination procedures, and graduation requirements for our programs, compiled data on the history of the graduate program's admissions and enrollments, rewrote the goals of the graduate program and suggested some changes in the graduate program curriculum. These goals and suggestions, approved by the graduate committee, appear in the English Department Self Study, on which the Graduate Director and assistant focused much of their attention in Fall 1995 and January 1996.

As a follow up to the External Review, the interim chair, Robert Fleming, has tasked the Graduate Committee to review and take steps to implement some of these changes, which the External Review Committee supported, throughout Fall 1996 and Spring 1997. In a nutshell, these changes are to simplify the M.A. comprehensive exam system or to do away with it altogether, by putting in place a distributed course requirement. Moreover, we hope to find ways to improve Graduate Student compensation and to promote timely completion of both the M.A. and Ph.D. programs.

In an effort to produce a record of Graduate Program activities and policy decisions, what follows is a chronological overview of the activities of the Graduate Committee, a description of graduate student awards for 1995-96, admissions information, graduation and enrollment information, and a description of the activities of the English Graduate Student Association.

Graduate Committee:
The Graduate Committee this year voted on a number of minor policy changes (see listing below), approved the Fall, Spring and Summer M.A. and Ph.D. comprehensive examinations, and reviewed applications for Spring 1996 and Fall 1996 admissions. The voting members of the Graduate Committee from September 1995 through June 1996 were Professors Monica Espinosa, Patrick Gallacher, Mary Power, Gary Scharnhorst, Carolyn Woodward, and graduate student representative Linda Joyce-Brown (graduate student representative). Non-voting, ex-officio members were Michael Hogan (Fall 1995), Wanda Martin (Spring 1996) and Patricia Clark Smith (1995-96), all departmental officers. The chronological account of the activities of the Graduate Committee below is followed by a break out of important policy decisions.

In September 1995, the committee reviewed the new revisions to the Graduate Student's Guide to English and gave the green light to set up a departmental Home Page to allow prospective students to access information via the Internet. In addition, the committee reviewed the Foreign Language requirements for the M.A. and Ph.D., affirming that Ph.D. students who opt to present one language other than English to fulfill the requirement must enroll in two 300-level or higher literature or language courses (taught in the language).
In November, 1995, the Graduate Committee approved a Ph.D. reading list in Nature writing, and approved a motion to allow students to present Hector Torres's English 510, "Linguistics and Literature" for 3 hours toward the philology requirement. It also authorized Lynn Beene to submit a Form C to replace English 445 with English 545 "History of the English language," and to offer English 551, to replace English 441 "English Grammars" for graduate credit. In addition, the committee reviewed and approved the statement of graduate program goals drafted by the Graduate Director for the departmental self study. We also held an open meeting of the Graduate Committee to discuss our admissions policy for the Fall. Both graduate students and faculty attended this important exchange of ideas about whether or not we want to continue the present levels of Ph.D. and M.A. enrollment, the criteria for admissions, and the optimal ratio of graduate students to faculty. While we did not achieve full consensus, a majority indicated that we should admit as many students as qualified into our M.A. program while we should limit our Ph.D. enrollments to roughly ten to twelve students per year until job conditions significantly change for new Ph.D.s and our current high number of ABDs relative to overall Ph.D. enrollment drops. After this meeting the Graduate Committee met to review the five applications for Spring admission into the program.

In January 1996 the Graduate Committee approved the M.A. and Ph.D. exams for the February Ph.D. and M.A. comprehensive examination period. From February through March 1996 the committee reviewed 116 applications for graduate study at UNM. Also in February the Graduate Committee met with the External Review Committee to discuss the graduate program and answer their questions regarding our policies and perceptions of the program.

In March the committee approved the scheduling of the M.A. Comprehensive examinations over a three-week period and a motion to eliminate the Summer Semester M.A. exam, effective summer 1997. Exams will now be held in September and February of each academic year. It also approved a motion to schedule the Ph.D. exams at the same time as the M.A. exams, but to allow the Dissertation Committee chair to petition the Graduate Director to offer Ph.D. exams at any time convenient for the dissertation committee, with the provision that the Committee chair submit the exam to the Graduate Director for approval at least six weeks prior to the exam date.

In April the committee passed a moratorium on T.A. extensions and approved a motion allowing the Graduate Director to encourage the Department to establish a PTI position as an incentive for timely completion of the Ph.D. and to allow UNM to participate in the post-doctoral exchanges presently being set up between English departments across the country.

**Policy Decisions**
1. Confirmed that Ph.D. students who opt to present one language other than English to fulfill the requirement must enroll in two 300-level or higher literature or language courses (taught in the language)
2. Approved a Ph.D. reading list in Nature writing.
3. Hector Torres's English 510, "Linguistics and Literature" may be counted for 3 hours toward the philology requirement (approved for Fall 1995 only).
4. English 441, "English Grammars," will no longer carry graduate credit; the "English Grammars" course will now be offered as English 541.
5. English 445, "History of the English Language," should be replaced by English 545, "History of the English Language." Lynn Beene will submit form Cs.
6. M.A. Comprehensive examinations will be scheduled over a three-week period.
7. We will eliminate the Summer Semester M.A. exam, effective summer 1997. Exams will now be held in September and February of each academic year.
8. Ph.D. exams will be held at the same time as the M.A. exams, but the Dissertation Committee chair may petition the Graduate Director to offer Ph.D. exams at any time convenient for the dissertation committee, with the provision that the Committee chair submit the exam to the Graduate Director for approval at least six weeks prior to the exam date.
Graduate Student Awards:
During the 1995-96 academic year, English Department graduate students won a number of awards, fellowships and scholarships from the Department of English, the College of Arts and Sciences, and the Office of Graduate Studies. In addition, President Peck selected one of our graduate students to deliver the Spring 1996 graduate student commencement speech. The awards earned are listed below:

Departmental:
- Buchanan Arms Award for Outstanding Achievement in Graduate Studies: Liz Hunt
- New Mexico Folklore/Southwestern Literature Prize: Andrea Penner, for "The Moon is So Far Away—An Interview with Luci Tapahanso"
- Writing Fellowships Clay: Campbell and Gayle Krueger
- D.H. Lawrence Fiction Award: Holly Romero

Graduate Studies/College of Arts and Sciences:
- Dean's Dissertation Fellowship: Sherri Metzger
- Graduate Tuition Fellowships: Victoria Kittredge, Sophie Wadsworth
- Graduate Fellowship: Erika Aigner-Varoz

University
- Graduate student commencement speaker, Fall 1996: Jennie Dear

Research, Project and Travel (RPT) Grants:
The New Mexico state legislature cut RPT budge by 90% over the previous year's funding. English Department graduate students competed against those in other departments for about $40,000.00 of grants to support research and travel to conferences. Ten proposals were funded out of the sixteen sent in by our department, for a departmental total of $4,300.00. Projects funded were as follows:
- Earlene Hammock, to present a paper at the World Congress of the International Shakespeare Association
- Jennie Dear, to present paper at the American Society for Eighteenth-century Studies
- Megan O'Neil, to present paper at the Conference on College Communication and Composition
- Jan Wellington, to do research at Yale University
- SueAnn Schatz, to present a paper at the Conference on 18th-19th century British Women Writers
- Erika Aigner-Varoz, to present a paper at Conference on College Communication and Composition
- Carmela Lanza, to do research at Widener Library, Harvard University
- William Foreman, to do research at the Andrew Clark Library, UCLA, Los Angeles, CA
- Elizabeth Moorehead, to present a paper at Conference on College Communication and Composition

Graduate Admissions: The overall number of inquiries to our program has dropped for the second year in a row. From a high of 1,305 inquiries in 1993-94, for example, our inquiries dropped to 1,080 in 94-95, and to 981 in 95-96. Two hundred ninety three of these inquiries in 1995-96 were for our Ph.D. program, compared to 350 for our M.A. in Creative Writing, 298 for our M.A. in Literature, and 30 for our M.A. emphasizing Language and Rhetoric. This decrease in inquiries reflects a trend experienced nationwide by many universities except for those, such as U.C. Berkeley, Harvard, Stanford, Princeton, Duke, and the like, with the most highly rated programs in English.

The number of applicants to our graduate program has declined from 170 for 1994-95 and 168 for Fall 1995, to 111 for Fall 1996. Beginning with Summer semester 1995, the English
Department stopped enrolling graduate students for Summer semester. The figures below show admissions statistics for Spring 1995 and Fall 1996—the periods for which this year's graduate committee and graduate director are responsible.

### Spring 1995

<table>
<thead>
<tr>
<th>Number of applicants (9)</th>
<th>Number Admitted (6)</th>
<th>Number Accepted (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ph.D.: 1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2 (UNM M.A.s)</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>MALit: 6</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

### Fall 1996

<table>
<thead>
<tr>
<th>Number of applicants (118)</th>
<th>Number Admitted (61)</th>
<th>Number Accepted (29 as of 5-25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ph.D.: 45</td>
<td>21</td>
<td>11</td>
</tr>
<tr>
<td>2 (UNM M.A.s)</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2 (Readmits)</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>MALit: 28</td>
<td>18</td>
<td>5</td>
</tr>
<tr>
<td>3 (UNM BAs)</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>MACW: 38</td>
<td>16</td>
<td>7</td>
</tr>
</tbody>
</table>

### Recruitment of Graduate Students

The Graduate Director initiated the creation of a Home Page for the Department to enhance our recruiting efforts and to bring the Department of English onto the Internet. The Home Page went online in January 1996, thanks to the efforts of managing editor Patricia Sprott and work-study computer assistant Richard Dahringer. The Home Page is interactive, and we have begun to receive requests for information over the Web. In 1996-97, we anticipate making significant improvements and extensions to this Home Page, adding hot links to archives related to the study of English in general, and to Native American studies and creative writing, in particular. In addition, UNM students and faculty are designing their own home pages, which will be linked to the Departmental site.

The Graduate Director also redesigned and rewrote all of the informational packets that we send out to students inquiring about our programs, and we hope in the future to put these in the form of tri-fold brochures. The Graduate Director also participated in several advisement meetings, with the Research Opportunity Program in Summer 1995 and with the Departmental Advisement meeting for UNM English majors, set up by Professor Cheryl Fresch. Two of our incoming graduate students attended that meeting.

Despite the increased attention to promoting our graduate programs, the Department of English continues to be hampered in its efforts to recruit top graduate students because of the lack of fellowships, grants and teaching assistantships available for incoming graduate students. In the last two years we have become de facto a department that does not routinely offer any support for first-year M.A. students. This year we initially had only seven Teaching Assistantships to award incoming Ph.D. students; this number has grown to ten T.A.s as of May 25, and we now have eleven Ph.D.s who have accepted our offer of admission. Only one Ph.D. student agreed to come without a T.A. In addition, we had again this year a PepsiCo Foundation recruitment grant of $2,000.00, which we offered to three potential M.A. students who declined our offers of admission before a fourth finally accepted it. We lost students this year to University of California, Davis; San Francisco State University; University of Oregon; University of Colorado, Boulder; and University of Arizona. We did, however, have one Ph.D. student turn down a Teaching Assistantship at the University of Indiana to join our department.

The personal recruiting efforts of Professor Carolyn Woodward who wrote letters to a number of the top candidates seemed to be a factor in this last person's decision. It seems that further personal efforts such as Woodward's may help us compete with other schools in the future, and the Graduate Committee will consider a proposal in Fall 1996 that we assign a faculty sponsor to write a letter of encouragement to promising students in his or her field. In addition,
finding fellowship money and improving the TA compensation package for our students will also help us attract top graduate students in a declining pool. Such enhancements should be a top priority of the English Department, the College of Arts and Sciences, and the University in the near future.

Graduation and Degrees Granted
The Department of English graduated eight Doctors of Philosophy and twenty two Master's of Arts. Of those twenty two M.A.s, ten were enrolled in the M.A. Literature program, twelve in the M.A. Writing program. For the record, the graduates are as follows:

**Ph.D. Graduates**

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Benedetti, David</td>
<td>Blackstock, Alan</td>
<td>Dear, Jennie</td>
</tr>
<tr>
<td>Gillette, David</td>
<td></td>
<td>McFatter, Susan</td>
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</tbody>
</table>

**M.A. Graduates**

<table>
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<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Bigrigg, Carin</td>
<td>Baehr, Craig</td>
<td>Barber, Kim</td>
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<tr>
<td>Briggs, Jonathan</td>
<td>Esquibel, Matthew</td>
<td>Cooke, Maureen</td>
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<tr>
<td>Mancino, Anthony</td>
<td>Fleming, Kathleen</td>
<td>Gordon, Heather</td>
</tr>
<tr>
<td></td>
<td>Foltz, Anne</td>
<td>Hague, Kristen</td>
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<tr>
<td></td>
<td>Olson, Paul</td>
<td>Lewis, Melinda</td>
</tr>
<tr>
<td></td>
<td>Peterson, Melanie</td>
<td>Linehan, Sarah</td>
</tr>
<tr>
<td></td>
<td>&quot;Staats, Todd&quot;</td>
<td>Lopez, Esther</td>
</tr>
</tbody>
</table>

Enrollment
In the 1993 draft of the "Five-Year Plan" for the Department of English, Michael Fischer reported that graduate enrollment was 186 graduate students, including 51 Ph.D.s, 1 Language and Rhetoric Ph.D., 58 MALit students, 45 MACW students, 5 MA Professional writing, and 26 ABDs. Fischer called the 26 ABDs (50% of the total Ph.D. in English population) a "frightening number," because of the declining numbers of jobs available for Ph.D.s in English. As of Spring 1996, we have a graduate enrollment 164 students , broken down as follows: 54 Ph.D.s, 42 MALit students, 24 MACW students, and 6 MA Professional Writing students and 38 ABDs.

The number of ABDs this Spring is particularly disturbing, because in two years the ABD population has increased from 50% of all Ph.D.s to 70%. It is important to recognize that this increase reflects the continued erosion of the job market for Ph.D.s in English, and underlines the importance of the department to implement policies to encourage these students to complete their dissertations in a timely fashion and to continue with job-search workshops and employment advisement in order to help them find employment in non-traditional areas, such as community colleges, private high schools, as well as in business and technological careers.

Employment for Ph.D. Graduates

The Graduate Director held a series of bi-weekly workshops for job seekers in the months preceding the MLA meeting in Chicago, December 1995. Of the nine Ph.D.s in the job-advisement workshop this year, all but two obtained interviews at MLA. Of those seven,
however, only two received job offers—Jennie Dear and Mickee Marsee. Dear will begin a tenure-track Assistant professorship at Fort Lewis College; Marsee turned down her offers for personal reasons. In numerical terms, only 20% of our job seekers found a tenure-track job this year; the national average is 40%. Yet, when we add in UNM Ph.D.s in English who have already left Albuquerque, but who are still looking for jobs, the figure is worse. The Graduate Director is personally aware of 4 other UNM graduates who were seeking a teaching position; none of them even obtained interviews. If we factor them in to our figures, our average is 16%.

Given these dismal results of even some of our finest Ph.D. students, it is incumbent on the department to continue with job advisement workshops and to do all it can to participate in the Post-doctoral exchanges that some graduate programs in English are now setting up. Moreover, we must promote timely completion of the degree, by whatever means we can, and we should reconsider the advisability of maintaining the Ph.D. program at current levels. Unfortunately, we receive more Ph.D. applicants than we do M.A. applicants. Hence, if we want to maintain the current size of the graduate program, it will be difficult to restrict admission of Ph.D.s and make up the difference with M.A.s, especially since we lack the funding to encourage M.A. students to enter the program.

In Fall 1996 and Spring 1997, the Graduate Director intends to present these figures to the department again, especially as we move toward restructuring our M.A. program.

English Graduate Student Association (EGSA)
The EGSA helped the Graduate Director in a number of activities this year, including research, recruitment, orientation of new graduate students, setting up departmental colloquia, readings for writers series, and coordinating the Southwest Symposium, the two-day regional conference that we now host annually. The EGSA curriculum committee undertook a comparative survey of regional Departments of English, so that we could compare our curriculum with those of peer institutions. The results of this survey are included in the English Department Self Study. In addition, EGSA participated in the new student orientation in Fall and Spring, and hosted a reception and party for new graduate students at the beginning of Fall semester. Twice each semester, EGSA also hosted our departmental colloquia—including panels on Hypertext: Theory and Pedagogy, New Canonical Works in the Same Old Classroom, and Interdisciplinary Approaches to Teaching and Research. EGSA also assisted with the weekly readings for writers series, which this year included readings of poetry, fiction, and critical essays by graduate students in our department.

Finally, Jen Riley, this year’s Director of Southwest Symposium, put on a superb and well-attended symposium. The symposium drew students and faculty from as far as California, Indiana and Louisiana; with participants ranging from institutions such as Stanford University and the University of Colorado. Nina Auerbach, Professor of English at the University of Pennsylvania, was the plenary speaker. The Southwest Symposium has the potential to become a major regional conference, and it would be worth the Department’s efforts to seek better ways to support this graduate-student run effort.
Department of Foreign Languages and Literatures

July 1, 1995 - June 30, 1996

Walter Putnam, Chair
ANNUAL REPORT
July 1, 1995-June 30, 1996

The Department of Foreign Languages & Literatures completed its fourth year of existence as a separate unit created out of the former Department of Modern & Classical Languages. We generated over 7000 credit hours (excluding summer) in the eight languages that we teach (Chinese, Greek, Latin, French, German, Japanese, Italian, Russian); we also co-sponsored courses in Arabic, Persian and Sanskrit. Latin, Japanese and Italian were especially strong in terms of student enrollment this past year. The department offers a Ph.D. in French, M.A.'s in French, German and Comparative Literature and Cultural Studies and B.A.'s in six other fields. Courses were taught by ten faculty members, five part-time instructors and fifteen TA's spread across the different language programs.

On the administrative side, the faculty held elections in the spring to choose a successor to its first chair, Diana Robin, who saw the department through its formative years. Walter Putnam was appointed to begin a four-year term and much of the spring and summer was devoted to orientation and to the smooth transition between chairs. The department conducted two searches in French to replace Claude-Marie Senninger and Julian White who both retired in January 1995. We were pleased to be able to hire Pamela Cheek (Ph.D., Stanford University) and Lorraine Piroux (Ph.D., Northwestern University). Both hires begin in August 19, 1996 and add to the early-modern offerings in the French program as well as strengthening the cultural studies and Francophone aspects of the program. These two new colleagues will join Deborah Jenson (on maternity leave for the spring semester) and Walter Putnam (on reduced time due to chair's duties) in rebuilding a credible French program. Katrin Schroeter, who obtained her Ph.D. on May 27, 1996 from Brown University, will move from visiting status to regular tenure-track status (Code 1) as of the 1996-97 academic year. Two junior colleagues, Susanne Baackmann and Monica Cyrino, successfully passed their Code-3 review and Walter Putnam was promoted to the rank of Full Professor.

The Department Administrator, Pamela Becker-Koch, accepted another position on campus effective June 14, 1996). A search was conducted throughout the summer and the position was filled by Wilma Williams, former secretary of the German Summer School. She will join Lisa Stewart in handling the main operations of the department office. Pearl Wu, longtime instructor of Chinese, retired effective July 1, 1996 after building the Chinese language program into a vital part of the department and the university. She has been replaced by Jian Zhu who was offered the position after a search conducted in the spring. Finally, the department was saddened by the death of Suzanne Hanson, former instructor of French, who passed away on September 22, 1995.

Several faculty accomplishments should be noted: Lorna Brau, visiting Assistant Professor of Japanese, conducted research at the Tokyo National Research Institute of Cultural Properties where she also lectured on Rakugo; Monica Cyrino, Assistant Professor of Classics, served as President of the Rocky Mountain Modern Language Association; Natasha Kolchevska, Associate Professor of Russian, spent her sabbatical working on Russian women writers and attended an NEH Summer Seminar for College Teachers at Amherst College; Byron Lindsey, Associate Professor of Classics, received a Research Semester from the College of Arts & Sciences to
translate a novella by Vladimir Makanin; Peter Pabisch, Professor of German, conducted the on-campus organization of the 1996 session of the German Summer School while preparing for his fall sabbatical; Walter Putnam, Professor of French, attended a six-week NEH Summer Institute on French Cultural Studies at Northwestern University; Diana Robin, Professor of Classics, completed two books, one on Laura Cereta and the other Cassandra Fedele, both under contract at University of Chicago Press; Katrin Schroeter, Assistant Professor of German, successfully defended her Ph.D. dissertation in German Film Studies at Brown University as well as co-directing the 1996 session of the German Summer School in Taos; Warren Smith, Professor of Classics, delivered talks on Apuleius at both Oxford and the University of London.

Graduate students were also especially busy this year in organizing colloquia and presenting conference papers. The Graduate Student Association ran two colloquia with students from FLL and related departments; students on the graduate level also read papers in other departments around campus as well as in panels at national conferences. This relatively recent practice testifies to the increased professionalism among the graduate student body and demonstrates their increasingly sophisticated approach to their subject area.

The department has several areas in which to concentrate its efforts during the near future. We plan to devote more attention to the teaching of language as part of our mission; the issue of coordinating and supervising the lower-division courses taught largely by TA's will have to be addressed. It seems likely that we will make a request to convert the Japanese position into a regular tenure-track position based on high demand and future programmatic needs. The French faculty is preparing in conjunction with the Department of Spanish & Portuguese for the creation of a separate Ph.D. in French Studies out of the former Ph.D. in Romance Languages and is reviewing the undergraduate curriculum with a view to modernizing the current major and minor. We also plan to continue to foster graduate education through existing programs and especially in the context of the revised program in Comparative Literature & Cultural Studies. Within our own department and thanks to new faculty, we must continue to build a sense of unity across the lines of language divisions. Despite some very real challenges facing foreign languages in American universities, there is also a sense that the dynamism of our faculty and graduate students will make our department and the university attractive to motivated and talented students.
FACULTY PUBLICATIONS AND PROFESSIONAL ACTIVITIES

A. BOOKS


B. PREFERRED JOURNAL ARTICLES AND BOOK CHAPTERS


C. OUTSIDE PROFESSIONAL LECTURES AND PAPERS PRESENTED


Cheek, Pamela. “Sex and Excess: European Self-Representation in Late 18th-Century Travel Literature”. GEMCS, Dallas, Texas, October 8, 1995.


D. BOOK REVIEWS


1. SIGNIFICANT PLANS

1.1 FIVE-YEAR PLAN

During the Fall, 1993 semester, the department put together a *Five-Year Plan* that focuses the department's research and teaching orientation in two areas:

1. environmental analysis (physical geography and human/environment interaction);

2. geographic information technologies - GIT (GIS, GPS and remote sensing).

Both of these specialties serve important societal needs and build on existing strengths within the university. When fully implemented, the plan will afford the department the opportunity to increase collaborative research and to serve the campus community with its newly completed GIT lab. It will also enable the department to attract graduate students of first quality and to raise the department's overall standing in the university and profession.

The two subfields selected for emphasis are well suited not only for the enhancement of geographical research but for integration into the missions of many other units of the university and the state. The development of geographic information technologies matches well with the developments at the major scientific laboratories, and promises to attract major grants and funding for the department. The demand for GIT training is not limited to the Department of Geography; biologists, geologists, anthropologists, economists, and planners all use the technologies and are utilizing our teaching laboratory. There is also support from biologists and geologists for the attention the environmental focus will give to climatology and global change.
Both of these areas are begging for interdisciplinary research efforts, which should attract significant new research funding to the department and university.

1.2 STATUS OF FIVE-YEAR PLAN

The primary goal of the Department of the Geography, as set forth in the Five-Year Plan, is to refocus and strengthen its curricula so that it will be in a position to initiate a Ph.D. program in the future. In order to achieve this goal, the department will need to restructure its curriculum and degree programs, increase its FTE faculty to at least 9.5, and build an infrastructure that can support the programs.

The Five-Year Plan is being implemented, and the Department of Geography is dramatically different from the one that existed in 1993. The curriculum, which currently emphasizes breadth, is being focused on environmental analysis and GIT; the personality of the department is changing and will continue to change as existing faculty are replaced by new hires; the infrastructure to support a Ph.D. program is being developed; a colloquium series is being institutionalized; the mechanisms necessary to assure high quality teachings are being developed; and the faculty is beginning to actively pursue extramural funding.

2. STAFF APPOINTMENTS AND SEPARATIONS

2.1 FACULTY REPLACEMENTS AND NEW HIRES

The faculty was composed of 4.5 salaried members in the Fall, 1993. Three of the faculty members were professors and two were associate professors. During the 1993-94 AY the department searched for two additional faculty members and successfully hired one, Dr. Louis Scuderi, who joined the faculty in the Fall of 1994. Dr. Scuderi received his Ph.D. in 1984 from
the University of California, Los Angeles. His research and teaching interests are in climatology and climate change, geographic information systems, and remote sensing. Dr. Scuderi has designed, developed and obtained funding for our geographic information system/image processing laboratory. He is an excellent addition to the department and will undergo tenure and promotion review this year. Additional faculty joined the department in 1995. Dr. David Gutzler has a split appointment with Geography and Earth and Planetary Sciences. His background in the analysis of low-frequency atmospheric variability, large-scale ocean-atmospheric interactions, climate change, tropical meteorology, radar meteorology, and atmospheric predictability will enhance the missions of both departments. Also, Dr. Paul Matthews joined the department in the Fall, 1995, as department chair. Dr. Matthews has a background in water resources, natural resource policy, public lands, and mineral resources. In the fall of 1996 Dr. Theresa Mulhern joined the department. Dr. Mulhern is a biogeographer and specializes in remote sensing.

The department currently has 7 faculty members with one being half time and another being three quarters time. After this year Dr. Gutzler will be full time in Earth and Planetary Sciences. During this next year the department will be searching for an additional position with a specialization in GIS and environmental geography (water resources preference).

3. OTHER SIGNIFICANT DEVELOPMENTS

3.1 SPATIAL DATA ANALYSIS LABORATORY

The Spatial Data Analysis Laboratory was successfully funded under NSF DUE-9551046: "Instrumentation for an Undergraduate Spatial Data Analysis Laboratory." Equipment for the lab was purchased during the past year, and it was used for the first class in the spring semester. Demand for the courses which use the lab was high in the spring, so additional
sections were added this fall. Even with this increase, the demand far exceeds the space available.

The Spatial Data Analysis Laboratory (SDAL) is a state-of-the-art facility designed to provide undergraduate and graduate students with hands-on experience in Geographic Information Technologies (Geographic Information Systems, Image Processing, and Global Positioning Systems) and to support faculty research in these areas. Laboratory computer facilities are designed around twin SUN SparcStation 712 units networked to 10 SUN X-terminals. In addition, the SDAL has 5 Pentium based IBM clones which can be used as stand-alone machines or, through the use of X-terminal software, networked to the SUN workstations to provide additional workstation access. The SDAL has, in addition to its main computing units, peripheral devices that allow for rapid input and output of raw data, maps and imagery. These include tape-drives, CD-ROM units, a full size digitizing table, individual digitizing tablets, a scanner, black and white as well as color printers, and a full size A-E color plotter. Besides storage on individual machines, the SDAL has a RAID storage unit with 12 GB of storage (expandable to 60 GB). Like the RAID unit, all SDAL equipment was chosen so it could be easily and cheaply upgraded. The laboratory has access to GIS, Image Processing, and Statistics software products, including: ARC/INFO (GIS), MapInfo (GIS), S+ (statistical software link to ARC/INFO), and ER-Mapper (Image Processing).

Through pricing discounts, special educational purchase agreements, and cooperative deals, the $140,000 allocated for SDAL development has been used to purchase ~$250,000 in hardware and software.

3.2 EARTH DATA ANALYSIS CENTER (EDAC)

The EDAC is a division of UNM's Institute for Applied Research Services, engaged in remote sensing and geographic information systems (GIS) development. The EDAC serves as a
focal point for graduate and undergraduate student employment. In 1995-96, ten graduate and four undergraduate students were so employed. Nine graduate students used or are using the EDAC's equipment for their theses.

4. PUBLICATIONS AND PROFESSIONAL ACTIVITIES

4.1 PUBLICATIONS AND PRESENTATIONS


4.2 OUTSIDE PROFESSIONAL ACTIVITIES

Dr. Cullen currently holds the position of Associate Editor, The Social Science Journal, 1994-present. Other professional positions held by Dr. Cullen include: Coordinator, Applied Geography Conference, AlbuQuerque(1997); Judge for the student paper competition at the meeting of the Southwest Division, Association of American Geographers, 1990-1996; and Joint organizer and chair of a session on "Regional Economic Development," Applied Geography Conference, 1990-1996.

Dr. Gutzler serves on several committees of the American Meteorological Society including the Standing Committee on Interaction of the Ocean and the Atmosphere and the Program Committee for the Symposium on Air-Sea Interaction. He is also the International TOGA COARE Science Steering Group, Large-scale atmospheric waves and circulation working group representative.

Dr. Matthews served and continues to serve on several professional boards including: Advisory Board, Interamerican Dialog on Water Management; Vice chair, Policy Committee, Universities Council on Water Resources; Associate Editor, Water Resources Bulletin; Shared Use of Transboundary Water Resources Task Committee, American Society of Civil Engineers; and Water Regulatory Standards Committee, American Society of Civil Engineers.

Dr. Stan Morain's outside professional activities can be found in the EDAC Annual Report.

Dr. Louis Scuderi is currently reviewing articles that appear in the following journals: Arctic and Alpine Research (multiple papers); Quaternary Research; The Annals of the Association of American Geographers; and Radiocarbon. Dr. Scuderi is also a reviewer for NSF proposals in: Solar Terrestrial; Climate Dynamics; Geography and Regional Science; and Polar Programs. He has also presented papers at: 1995 Association of American Geographers Meeting: Chicago; and 1995 IUGG Meeting Boulder, Colorado.

Dr. Williams organized and operated the twelfth annual Southwest Institute. Hosted in 1996 by New Mexico the New Mexico Museum of Natural History, graduate and undergraduate credits in Geography were offered by this department. The combination lecture and field program over an eight-day schedule earned students a maximum of three hours of credit. The Land of the Navajo and The Canyon Country of the Colorado Plateau were the offerings for 1996. Ninety-six participants attended the programs, both of which were endorsed nationally by the National Science Teachers Association and the National Council for Social Studies Teachers. The interdisciplinary lecture series for each program was held at the Natural History Museum.
followed by a seven-day field course accompanied by field faculty representing five different disciplines. Associate Professor Williams organized and edited a 130-page collection of readings and reference material for the Navajo program and a 220-page classroom collection for the Canyon Country course. Associate Professor Williams also created 160- and 170- paged field guides for each program respectively.

4.3 OUTSIDE SPONSORED RESEARCH


Scuderi, L. A., Assessing the Climate Change on Corn And Wheat Production in the United States,” National Science Foundation, $19,251.

5. GOALS FOR 1995-1996

During the next year, the department will be hiring one new faculty member. The position is a geographer with a specialization GIS and Environmental Geography(Preference for water resources). This position is critical if the department is to develop the critical mass required for implementing a Ph.D. program. The department will work hard to develop a suitable applicant pool in order to find the best possible candidates to achieve this goal.

We will also begin revising our curriculum. This is looked on as a two-year process. Many courses can now be revised to reflect the recent faculty additions and the department ’s new areas of interest. The process cannot be completed, however, until the new faculty member has been hired.

The Spatial Data Analysis Laboratory was made operational this year allowing the department to offer courses in GIT. This has increased the department ’s visibility on campus and the demand for courses has been substantial. As a result, the department will seek additional funds this year to expand the lab facility. In addition, the new lab will provide an excellent
location for conducting GIT short courses. We have recently been made a "Center of Excellence" for GPS one of the GIT technologies and will begin offering short courses in that technology. Making the lab run efficiently is a time-consuming task, and the department will soon need a technician to help in its management. Possible funding sources for this position will be explored during the next year.

In order to be in a position to offer a Ph.D. program in the future, the department needs to increase its research productivity. One goal is to increase the number of outside grants submitted by department members. Another is to increase the number of referred publications.

The department will also review existing policies, including those related to tenure and promotions, to ensure they reflect the current aspirations of the faculty.

The department will also try and increase the number of graduate and undergraduate students in the program. Most undergraduates become majors after taking a course in geography. For that reason, the department will strive to offer the highest quality undergraduate courses possible. The department will also continue to develop its colloquium series.

As a department that is growing and changing, many of the goals listed are long-term. However, during this next year progress will be made.
I. Significant Developments

During the 1995-1996 academic year, the Department of History continued its efforts to strengthen both the undergraduate and graduate programs by implementing many of the recommendations made at the time of the outside unit review in 1994. In the fall semester, the department sought to gain a clearer picture of its long-term teaching plans so as to make sure that student demand for courses would be met and that the main areas of the department's program were properly covered. The chairman asked the several sections of the department to submit a list of their projected course offerings for the next three years. This enabled the department planning committee to see if there were gaps in the program or areas that needed greater attention.

We also gave special attention to improving the undergraduate program. The department had long felt that history majors needed to have greater opportunity to take small, seminar-type classes. But general popularity of history courses has mandated large lecture sections, making it difficult to achieve this goal. In the fall, we decided to expand the number of discussion-oriented classes available to undergraduates by providing, on a more regular basis, field seminars under the course number 495. These seminars could be substituted for the required History 309 course (Historiography). At least one, and possibly two of these seminars will be offered each semester by the six sections of the department (U.S., U.S. West, Europe, Asia, Latin America, Women and Gender) on a rotating basis.

The department pushed ahead in its experiment with discussion sections in selected lower-division survey courses. During the fall of 1995, we instituted a pilot project, under the direction of Professor Timothy Moy, using his section of History 162 (The United States since 1877). In place of the third weekly lecture, students met once a week, in groups of approximately twenty-five, to examine course readings and other material in depth, guided by a graduate teaching assistant. The results have been very encouraging. Dr. Moy and the three GTAs report that the discussion format worked well, allowing for much more active student participation and encouraging them to adopt greater responsibility for reading assignments. Moy and his team felt that the performance of the classes augmented by discussion groups was superior to that in previous versions of the same course conducted without the sections. The undergraduates seemed to agree with this assessment, because when asked if they found discussion groups more beneficial that a third lecture, they overwhelmingly
reported that they did. The department hopes to continue the pilot project and expand the use of discussion sections to other introductory surveys on a discretionary basis.

Graduate admissions also was a focus of department attention last year. In keeping with the recommendations of the unit reviewers, we sought to trim enrollments (or at least keep them steady) despite considerable demand. In the last several years we have initiated a two-stage screening process for would-be graduate students. First, the members of the section in which the candidates propose to do their major work examine the records and other relevant materials submitted by the prospective students. Then the papers of those whom the sections determine can be best served by our program and have the greatest chance of success are sent on to the department's Graduate Entrance Committee for further consideration. Our aim here is not only to try to bring in the most qualified applicants, but also to make sure that the resources of both the University and our department suit the needs of the candidates. So far, we have been quite satisfied with the results of this selection process.

Another major development in the History Department was the search for a replacement for Professor Gerald D. Nash, who retired in the spring of 1995 after many years of distinguished service. Given Professor Nash's importance both to his field of American and U.S. Western history and to our department, this was not an easy task. The search committee, chaired by Professor Howard Rabinowitz and composed of Professors Richard Etulain, Daniel Feller, Virginia Scharff and doctoral candidate Kathleen Chamberlain, worked diligently and developed a fine list of candidates. In the end, the department chose David Farber of Barnard College, Columbia University. Professor Farber is a leading expert on the U.S. during the decade of the 1960s and is the author of two studies of this period. He is currently engaged in writing a biography of Alfred Sloan, the long-time chairman of General Motors. Professor Farber will be joining us in January, 1997, and we are excited to have him here.

II. Notable Achievements of History Faculty, Students and Staff

The year 1995-1996 was a productive one for the History Department. We graduated eighty BAs, ten MAs and three PhDs. Faculty members published twelve books, seventy-three articles and presented twelve conference papers. Fifteen faculty chaired conference panels. A number of our faculty received awards: Linda Hall won a Fulbright Fellowship for the summer of 1995; Richard Etulain was chosen to receive the A&S Dean's Research Semester Award; Paul Hutton's article, "Showdown at the Hollywood Corral: Wyatt Earp and the Movies," won the Western Heritage Award from the National Cowboy Hall of Fame for the best article of 1995; Howard Rabinowitz received the Myers Center Award for the Study of Human Rights in North America for his collection of essays, Race, Ethnicity and Urbanization, published by the University of Missouri Press.
Our graduate students also received numerous distinctions. Elaine Carey was awarded a Fulbright Fellowship; Abbe Karmen won the Dean's Dissertation Year Fellowship; Kathleen Chamberlain and Andrew Kirk both received L. Dudley Phillips Fellowships; Nancy Jill Howard was awarded the John F. Kennedy Memorial Award; and Sandra MacMahon was granted the Frederick G. Bohme Memorial Prize.

A number of faculty acquired outside support for their research activities. Margaret Connell-Szasz received $7,300 from the Spencer Foundation to assist her in the completion of a book project entitled "Tribal Missionary and Federal Schooling for American Indians (1780s-1920s);" Elizabeth Jameson received two grants, one for $960 from the Minnesota Historical Society and another for $1,500 from the Herbert Hoover Presidential Library, to fund research for a book with the tentative title: "Conceiving Western History from the Perspective of Gender and Race." Robert Kern was given a grant of $6,000 from the New Mexico Endowment for the Humanities for the period from August 1995 to October 1996 to support a historical exhibition "Shouts from the Wall: Posters, Photos and Memories of the Spanish Civil War." John Kessell and Richard Hendricks received three outside grants in support of the Vargas project: the first, from the National Endowment for the Humanities, was for $75,000 and covers the period from 1 July 1995 to 30 June 1998; the remaining two, from the National Historical Publications and Records Commission, were for $42,998 and $45,148 covering the periods March 1995 to February 1996 and March 1996 to February 1997 respectively. David Maciel was the recipient of a grant of $3,500 from the New Mexico Office of Cultural Affairs for the fall of 1995 to make possible the Second Borderlands Film Festival, and Virginia Scharff was awarded $1,500 from the New Mexico Endowment for the Humanities in 1995 for a work on western women.

III. Separations, Appointments, and Promotions

Professor Gerald Nash's resignation from the History Department became effective on July 1, 1995. In September, Professor John Kessell announced his intention to retire effective July 1, 1996, and in the spring Professor Enrique Semo stated that he would retire as of January 1, 1997. This summer, David Maciel informed us that on January 1, 1997 he would resign from the Department and assume the position of Professor and Chairman of the Department of Chicano Studies at California State University at Dominguez Hills. In addition to these faculty separations, Liz Abeyta, our graduate secretary, terminated her employment with the History Department in August of 1995.

Professor David Farber was selected to replace Gerald Nash. He will join the faculty as of January 1, 1997. Helen Furgeson was appointed graduate secretary in December 1995. Paul A. Hutton was promoted to the rank of Professor at the end of the spring semester, 1996.
During the year the following individuals were appointed as part-time faculty:

Bart Barbour, Visiting Lecturer, History of New Mexico.  
Fritz Cocron, Visiting Lecturer, Western Civilization, Fall 1995/Spring 1996.  
John Forman, Visiting Lecturer, Western Civilization, Fall 1995.  
Malia Formes, Visiting Lecturer, European History, Fall 1995/Spring 1996.  
Joseph Sweeney, Visiting Lecturer, Western Civilization, Fall 1995.  
Heidi Tinsman, Visiting Lecturer, Latin American History, Spring, 1996.

IV. Plans and Recommendations

Staffing will be a major focus of the History Department for at least the next three to four years. At the moment, we are facing the prospect of numerous vacancies due to retirements and other separations. This situation will challenge the department and, at the same time, provide us with new opportunities to redefine and strengthen our program. In the coming year we expect to search for and fill the position vacated by John Kessell. We will seek to make a junior-level appointment of a scholar who will have the responsibility for teaching the history of the Spanish Borderlands and New Mexico. In the spring, the department will also have to deal with the vacancies created by the departures of Professors Serno and Maciel. Their decisions to leave UNM will cause a temporary strain on the Latin American section, but with three professors (Linda Hall, Robert Himmerich y Valencia and Judy Bieber) in place, the basics of the program are not threatened. In the second semester of the coming academic year, the department expects of make a thorough review of staffing needs to determine in what areas hiring should take place. The lack of a British historian, caused by Professor Roebuck’s transfer to administrative duties, will be addressed at this time. In 1994, the outside reviewers pointed to this problem as one which should be given high priority. The present situation may be favorable for some kind of solution to this long-standing issue.

V. A Personal Note

On the first of August 1995, I took over as chairman of the Department of History. My predecessor, Jonathan Porter, left me a department which was in excellent shape and superbly managed. In stepping down he did everything to make it easy for me to assume the tasks associated with this position. My colleagues were, as always, models of courtesy, cooperation and decorum. Finally, the office staff -- Helen Furgeson, Loretta Hayoz, and Cindy Tyson -- ably led by the Department
Administrator, Yolanda Martinez, were highly efficient and wonderfully supportive. No report on the activities of the Department of History would be complete without giving recognition to their exemplary and indispensable service.

[Signature]

Richard G. Robbins, Jr.

Aug 30, 1996
1. Significant developments during 1995-96

1995 Linguistic Institute
The 1995 Linguistic Institute was held on the UNM campus June 26-August 4, 1995, and "clean-up" activities continued well through the Fall semester. This institute, which was directed by Professor Joan Bybee and sponsored by the Linguistic Society of America, was enormously successful and enhanced the reputation of this Department and UNM around the world. The final report of the 1995 Linguistic Institute was appended to our 1994-95 annual report.

Department Chair
Garland Bills was appointed to a four-year term as chair effective August 1, 1995, replacing Jean Newman, who completed a term of four and a half years as chair.

SLI Teaching Lab
The College of Arts and Sciences allocated $39,151 to the Department for purchase of the equipment necessary to establish the Signed Language Interpreting (SLI) Laboratory in the Language Learning Center in Ortega Hall. This facility will be a sophisticated interactive video-audio laboratory for teaching and learning in the SLI training program.
Unfortunately, however, no construction funding has been made available for the booths and related work that could make this lab a reality. It is hoped that capital improvement funds will be provided during 1996-97 to permit completion of this facility that will provide the visual support so crucial to SLI instruction.

2. Significant plans and recommendations for the near future

Unit Review
The Department's Unit Review in September 1996 will play a key role in the elaboration of plans for the future, but preparations for that review have helped to clarify our vision of the future. The Department faculty held an all-day retreat at Elaine's Bed and Breakfast in Cedar Crest on May 4, 1996, to focus on preparations for the Unit Review. A principal product of this retreat was the adoption of the following new mission statement for the Department:

The UNM Department of Linguistics has two primary concerns: (1) teaching and research on language structure and use, and (2) service to society on language-related issues.

Our approach to linguistic theory takes language structure as interacting with language use. Thus our cognitive-functional perspective includes the study of typologies, language change, discourse, interaction, societal dimensions of language behavior, language processing and acquisition. We are particularly
involved in the study of regional languages (especially Native American languages and Southwest Spanish) and signed languages (especially American Sign Language). This theoretical understanding of language provides the foundation for effectively addressing language-related social concerns.

The Department's second commitment is to foster and participate in the application of linguistics to social concerns. This includes, but is not limited to, promoting within the university community and the community at-large minority language maintenance and the empowerment of those minority communities. Thus the department not only studies and teaches about the structure and use of regional languages, it also encourages the direct involvement of faculty and students as advocates and participants in outreach to the linguistic communities they serve.

In line with our mission and goals, we offer and support the Signed Language Interpreting program and the Navajo (Diné) language program.

Faculty
Discussions in preparation for the Unit Review also resulted in the specification of priority needs in faculty development. The perceived highest priorities are a full-time tenure track position in core linguistics (syntax or phonology) and a similar position in Native American linguistics.

Staff
An increase of .50 FTE in departmental staffing is sorely needed. The Department staff is comprised of a full-time department administrator and a half-time secretarial position. The Department's front desk is staffed by the secretary in the mornings but must be covered by a work-study student or be unstaffed in the afternoon. The effectiveness of the department administrator is undermined by the need to provide basic reception coverage. In addition, the half-time position is inadequate to handle the student files and correspondence that is expected of this position. Upgrading the current half-time position to a full-time Grade 6 position is needed.

Space
The Department's limited office space continues to be one of the principal obstacles to effective functioning of the Department. And the addition of a new faculty member for 1996-97 makes matters worse. Juggling office space over the summer of 1996 has resulted in an accommodation with the limitations that leave the following major inadequacies: (1) Professor Phyllis Wilcox, coordinator of the Signed Language Interpreting program, has no private office but instead shares a larger office with the program's interpreter/secretary and the program's files and equipment; in the absence of an SLI lab (see above), this office also serves as space in which students view program videotapes. (2) Roseann Willink, lecturer in Navajo, has to share an office with our very active emeritus professor, Robert Young. (3) Jill Morford, the newly hired professor in psycholinguistics, has no laboratory in which to carry out the experimental research that is essential to her scholarly development. (4) Four teaching assistants and two part-time instructors have to share a single office. (5) Four additional graduate assistants are housed in the offices of the professors with whom they work. (6) The Department's seminar room continues to serve also as the graduate students' computer room, as the repository for the extensive departmental library, and as storage for departmental equipment and materials.
It is imperative that some solution be found to the Department's horribly cramped housing situation. The Department’s potential for developing excellence in teaching and research is severely hampered by the inadequate office space at our disposal.

3. Appointments to staff

The SLI program interpreter/assistant position was increased from .75 to 1.0 FTE effective 1 July 1995.

During the fall and spring of 1995-96, two national searches were conducted resulting in the appointment two additional faculty members effective Fall 1996:

**Jill Morford** (Ph.D., University of Chicago) was hired at assistant professor rank to fill the psycholinguistics position created by the resignation of Jean Newman. Morford joins UNM after a three-year post-doctoral stint at McGill University.

**Leslie Greer** (M.A., University of Rochester) was hired at lecturer rank for a new position in the Signed Language Interpreting program. Greer is Deaf and a near-native speaker of American Sign Language. Prior to coming to UNM, she was an instructor at the University of Rochester.

Holding part-time teaching positions in the Department during the 1995-96 academic year were Tony Begay (Navajo), Dr. Kathleen Houlihan (Linguistics), Jeanne Page (SLI), Jo Santiago (SLI), Maxy Schultz (SLI).

The following persons were given visiting scholar appointments in the Department of Linguistics during the 1995-96 academic year: Eileen Blau (University of Puerto Rico, Mayagüez), for research on the history of Spanish-English bilingualism in New Mexico; Anna Varghane Borbely (Hungarian Academy of Sciences and Eotvos Lorand University), for research on minority language maintenance and shift; Manuel Pérez I Saldanya (Universitat de València), for research on grammatical processes in the Spanish language; and Pamela Saunders (University of California, San Francisco), for research on language and aging.

4. Separations from staff

Professor Jean Newman took a leave of absence for Fall 1995 and resigned from the University at the end of that semester in order to accept a faculty position in the University of Waikato in Hamilton, New Zealand.

Barbara Curran, who served as program coordinator for the 1995 Linguistic Institute for one year following six years as the department's office manager, retired from the University on September 30, 1995.

One of the Department's associated faculty, Otto Santa Ana of the Department of Anthropology, resigned just before the start of the Fall 1995 semester to take a position at the University of California at Los Angeles.

5. Faculty activities

Outside sponsored research

According to the Office of Research Administration, the Department of Linguistics was
awarded $246,245 in contracts and grants during fiscal year 1995. Our records indicate that the following grants were administered through the Department of Linguistics during the period covered by this annual report:

Joan Bybee, "Conference on new methods in comparative aphasiology", funded by the National Institutes of Health, $30,000, 1 January 1995 to 31 December 1995.

Joan Bybee, Lise Menn (University of Colorado, Boulder), Dan Slobin (University of California, Berkeley), and Ruth Berman (Tel Aviv University), "Workshop on the interaction of morphosyntax and lexicon in the acquisition of narrative discourse", funded by the National Science Foundation, $37,279, 1 March 1995 to 31 January 1996.

Joan Bybee, Janet Patterson (Communicative Disorders), Laurence Leonard (Purdue University), and Lise Menn (University of Colorado, Boulder), "Conference on specific language impairment and Williams' Syndrome", funded by the National Science Foundation, $21,247, 1 January 1995 to 30 November 1995.

Phyllis Wilcox, "RSA Region IV interpreter training project", funded by the University of Arkansas, $2,500, 1 October 1995 to 30 September 1996.

Phyllis Wilcox, Joan Bybee, and Sherman Wilcox "Linguistics training for signed language interpreters", funded by the National Science Foundation, $124,532, 15 August 1994 to 31 January 1997.

Sherman Wilcox, "Language and gesture workshop", funded by Gallaudet University, $15,000.

Roseann Willink, "Listening to rugs: Navajo weaving in the context of oral tradition", funded by Alleghany College (project directed by Paul Zolbrod with total funding of $105,000 from the National Endowment for the Humanities), $35,027.35, 1 September 1994 to 1 March 1996. Willink served as assistant project director for this survey of textiles housed at the Museum of American Indian Arts and Culture and the Wheelwright Museum in Santa Fe and for interviews of active weavers across the Navajo Reservation.

Publications
A complete accounting of faculty publications is provided in the annual supplements to the biographical record, and there is no need to duplicate such information here.

Awards and honors
Joan Bybee was one of three professors selected for appointment as Regents’ Professor in recognition of her high level of achievement as a scholar and teacher. The appointment carries an annual financial award for the 1996-99 period and continuation of the title during her UNM tenure.

Eduardo Hernández Chávez was selected to serve as a mentor for undergraduate student José Perea in the Research Opportunity Program during Summer 1996. Perea assisted Hernández in library research on the use of Spanish and English in Spanish-language newspapers of New Mexico during the first half of this century.

Other activities
Sherman Wilcox was named editor of a new international journal, *Evolution of Communication*, to be published by John Benjamins Publishing Company of The Netherlands. The
The first issue of this highly multidisciplinary journal is expected in early 1997. Wilcox also continued as editor of the *Journal of Interpretation*.

Eduardo Hernández Chávez continued as interim editor of the *Southwest Journal of Linguistics*.

Garland Bills continued as executive director of the Linguistic Association of the Southwest (LASSO).

### 6. Student activities

#### Degrees awarded

The following degrees offered through the Department of Linguistics were awarded to the listed students during the report period:

- **B.S. in Signed Language Interpreting**: Regan Elizabeth Hall, Madaline Frances Hillsberg, Lori Maria Long, Susan Lynn Markward (all Spring 1996).
- **M.A. in Linguistics**: Sally Weller (Fall 1995), Alice Baker (Spring 1996), Soo-Shin Lee (Summer 1996); also Charlotte Christ (Spring 1995, omitted from last year's report).

#### LGSO

The Linguistics Graduate Student Organization (LGSO) continued to actively represent master's and doctoral candidates in Linguistics as well as doctoral candidates in Educational Linguistics. Officers for 1995-96 were Dagmar Jung (president), Terry Janzen (vice president), Soo-Shin Lee (treasurer, GSA representative), Paromita Chakraborti and Joanne Scheibman (representatives to Department faculty meetings), and Amy Hazelrigg (representative to Educational Linguistics faculty meetings). The faculty advisor to LGSO was Melissa Axelrod.

The LGSO published the fourth annual volume of the *University of New Mexico Working Papers in Linguistics* and distributed this collection of research papers by UNM students and faculty to programs, libraries, and individuals across the U.S. and abroad. This volume contains the following papers by students in the Linguistics, Educational Linguistics, and Spanish Linguistics graduate programs:

- **Alissa Newman**, "Algunas variables lingüísticas y sociolingüísticas que influyen en la variación de *pa(ra)* en el discurso"
- **Dagmar Jung**, "Involvement and interaction in political speech: Jesse Jackson's turn"
- **Joanne Scheibman**, "Two-at-a-time: The intimacy of simultaneous speech in sister talk"
- **Paromita Chakraborti**, "The role of language users' attitudes in uni-modal and multi-modal language standardization: The case of English and Tamil"
- **Jacqueline Trademan**, "Typology and grammaticization in second language acquisition"
- **Paula Bramante**, "The inner life of a word: Thoughts on lexical determinants of voice in ESL writing"
- **Dori E. Schwartz**, "Aspiración de */ʃ/ y /h/ en el español de Nuevo México y el sur de Colorado"
- **Alice G. Baker**, "Categorizing categories: A comparison of similarity based and explanation based theories"
Teresa M. Meehan, "Piaget, Vygotsky, and the semiotic link"

Awards and honors
Awarded regular departmental assistantships for 1995-96 were Alice Baker (.25 GA Spring), Nathan Bush (.25 GA Spring), Paromita Chakraborti (.25 TA Fall), Terry Janzen (.25 GA), Dagmar Jung (.50 TA Fall), Dawn Nordquist (.50 TA), Barbara O'Dea (.25 TA Spring), and Joanne Scheibman (.50 TA).

Special assistantships were awarded to Cecilia Flood (.25 TA) and Holly Wilson (.25 TA Spring).

Graduate tuition fellowships for 1995-96 were awarded to Alice Baker and Sally-Weller.

Dawn Nordquist (Linguistics M.A. candidate) received one of UNM's 1995-96 Award for Outstanding Teaching Assistant.

The Spring 1996 "Signed Language Interpreting Program Research and Publication Award" of $100 was presented to Michael Canale, Yoshiko Chino, Madaleine Hillsberg, and Tonda Smit (see below).

Ysaura Bernal-Enriquez (Educational Linguistics Ph.D. candidate) was awarded a 1995-96 Arturo G. Ortega Fellowship by the Hispanic Cultural Foundation for research on "Socio-historical causes of loss of Spanish in New Mexico and southern Colorado."

Terence Janzen (Linguistics Ph.D. candidate) was in the second year of a three-year Doctoral Fellowship awarded by the Social Sciences and Humanities Research Council of Canada.

Dagmar Jung (Linguistics Ph.D. candidate) received a 1995-96 Office of Graduate Studies RPT Award of $500 for research on "Aspect in Jicarilla Apache". She was also awarded a 1996 Phillips Fund for Native American Research grant of $1,000 by the American Philosophical Society for research on "Word order in Jicarilla Apache".

Presentations and Publications
Four undergraduate students in the SLI program—Michael Canale, Yoshiko Chino, Madaleine Hillsberg, and Tonda Smit—published an article titled "Being a qualified interpreter means knowing when you're not qualified" in the June 1996 issue of the Views publication of the Registry of Interpreters for the Deaf.

Joanne Scheibman, Linguistics doctoral candidate, presented a paper on "I dunno but...: A discourse account of the phonological reduction of don't in casual conversation" at the annual meeting of the Linguistic Association of the Southwest in Las Cruces in October.

Terence Janzen, Linguistics doctoral candidate, presented a talk on "Marking time and the grammaticalization of FINISH in ASL" and conducted a workshop on "Syntactic and semantic problems in ASL/English interpretation" for the New Mexico Registry of Interpreters for the Deaf in Albuquerque in March.


Employment
Dagmar Jung, who is currently preparing her doctoral dissertation in Linguistics, held a visiting instructor appointment at Swarthmore College during the Spring semester. She received a regular lecturer appointment in linguistics at the University of Cologne in Germany to begin in Fall 1996.

6. Other professional activities
The Department's colloquium series during 1995-96 included the following speakers (activities during the 1995 Linguistic Institute are not listed here):
Manuel Pérez i Saldanya (Universitat de València, Spain), “El modo subjuntivo del español” (December 8).
Jill Morford ((McGill University), “Recharacterizing the critical period for language acquisition: Evidence from linguistic isolates” (March 8).
Gary Sanderson (California State University, Northridge), “The sore thumb theory” (March 28).
William Marslen-Wilson (Birkbeck College, University of London), “Perceptual experience, lexical access, and cognitive architecture” (April 3).
Anna Varghane Borbely (Eotvos Lorand University, Hungary), “Some aspects of language shift: The case of Romanians living in Hungary” (April 17).
Pamela Saunders (University of California, San Francisco), “Humor as a communication strategy in the discourse of Alzheimer’s patients” (April 24).
The talks by Gómez de Garcia, Morford, and Pederson were presented during their interviews as candidates for the position in psycholinguistics.
On April 30, the Signed Language Interpreting program sponsored a special showing in Woodward Hall of the film “I love you, but …”, a romantic comedy filmed almost entirely in American Sign Language. This very successful showing as part of the SLI’s 1996 Vision Day attracted a large crowd from the University and the community.
The mathematical sciences play a central role in providing the mathematical tools needed by students in engineering, natural and physical sciences, and the humanities and social sciences. The Department of Mathematics and Statistics, in fulfilling its broadly defined missions in research and education, continues to develop a strong and internationally recognized graduate program. While the number of tenure stream faculty has dropped from 40 to 33 in the last five years, there remains a dedication to the teaching mission at all levels of instruction. Faculty also have been highly successful in obtaining external grant support which amounted to nearly $1 million last year.

Enrollments in our courses dropped by approximately 1.5% last year. In AY 1994/95 the number of students enrolled in mathematics and statistics courses was 10,895, while in AY 1995/96 the number was 10,738. Nearly 83% of these students were enrolled in our lower division courses. There were also slight decreases in enrollments in our calculus courses. The total enrollment in Math 162 dropped to 633 students in AY 1995-96 from a total of 651 the previous year. This decrease of approximately 2.8% is most likely due to decreasing enrollments in the School of Engineering, though other explanations undoubtedly exist. For example, the job
market in Bernalillo county is the best it has been in over several decades.

1. Significant Developments during AY 1995/96

(a) The graduate, and undergraduate programs, of the department were reviewed by a team of nationally recognized scholars. Their major recommendation was that the number of tenure stream faculty should be restored to the level of 40 faculty that existed in AY 1990/91.

(b) The total graduate student enrollment was 312, which was approximately the level in AY 1994/95. The department supported 40 TA's, each of whom received a stipend of $9,200 for 9 months of service.

(c) The number of bachelors degrees awarded in AY 1995/96 was 13, while 19 master's degrees and 2 doctoral degrees were awarded.

(d) The number of faculty with external grant support was 19.

(e) A Scientific and Engineering Computation Certificate Program has been developed by Professors Hagstrom and Sulsky, in collaboration with Professor Marc Ingber of Mechanical Engineering. It is an interdisciplinary graduate program. This Scientific and Engineering Computation (SEC) certificate program, recently approved by the Faculty Senate, is aimed at promoting advanced research in high performance computing.

(f) The Annual Awards Banquet was held in April. The purpose of this event is to recognize the teaching and research accomplishments of our faculty and students.
(g) The winners of the New Mexico High School Mathematics Contest were recognized at a luncheon in April

(h) Computing - Web Pages for faculty and graduate students are now accessible.

2. Significant Plans and Recommendations

(a) New office space, to replace the space in the Math Annex, has been obtained in Hokona Hall.

(b) The Air Force Maui High Performance Computing initiative, led by Frank Gilfeather, Brian Smith (Computer Science) and John Sobolewski (CIRT) has expanded UNM's role in developing research projects utilizing the Maui faculty. This project continues to provide funding for graduate research assistants and postdoctoral appointments. The hire of additional faculty with interests in scientific computing is a goal.

(c) Our graduate programs remained stable in AY 1995/96. Graduate enrollments have increased in recent years with most of the growth occurring in the statistics program. The Graduate Committee is concerned with a number of issues, including the recruitment and retention of students from underrepresented groups. Advisement and examination procedures will continue to be studied. Beginning in AY 1994/95, applicants were required to take the general GRE.

(d) The undergraduate committee will continue to study issues which include:
• Evaluation of instruction (possible alternatives to ICES)
• Evaluation of calculus reform measures
• Recruitment and retention of math majors
• Articulation of courses among New Mexico schools
• Revising and updating course syllabi
• Text book selection

(e) A major priority is the hiring of new faculty to maintain existing strength in our research areas. The table below gives some data on the number of faculty, TA's and part-time instructors for the past eleven years. While the number of faculty has decreased somewhat, the number of TA's has nearly doubled in this period. The number of part-time instructors has remained fairly stable. The interpretation of the data is unclear, but the main arguments for additional faculty are maintaining research strength and maintaining the ability to meet our instructional missions in graduate and undergraduate education.

<table>
<thead>
<tr>
<th></th>
<th>Faculty</th>
<th>T.A.'s</th>
<th>Part time</th>
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</thead>
<tbody>
<tr>
<td>1985/86</td>
<td>43</td>
<td>23</td>
<td>20</td>
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<tr>
<td>1986/87</td>
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<td>43</td>
<td>40</td>
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<tr>
<td>1991/92</td>
<td>43</td>
<td>40</td>
<td>16</td>
</tr>
<tr>
<td>Year</td>
<td>Assistant Prof.</td>
<td>Associate Prof.</td>
<td>Professor</td>
</tr>
<tr>
<td>--------</td>
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</tr>
<tr>
<td>1992/93</td>
<td>41</td>
<td>42</td>
<td>21</td>
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<tr>
<td>1993/94</td>
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<td>42</td>
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<tr>
<td>1994/95</td>
<td>40</td>
<td>42</td>
<td>22</td>
</tr>
<tr>
<td>1995/96</td>
<td>36</td>
<td>40</td>
<td>21</td>
</tr>
</tbody>
</table>

(f) We plan to offer courses so that it will be possible for students to satisfy major and minor requirements by taking courses in the evening or weekends. The plan operates on a 3 year repeating cycle of offerings.

(g) The department will support creative innovation in undergraduate and graduate education. A great deal of attention is now being focused on improving programs of teaching in our public schools. There is a strong national commitment to realize the benefits of new technologies and we must become willing to participate in this trend.

3. Appointments to Staff

In AY 1995/96 we had one visiting faculty, Kamil Rusek, from Jagellonian University, Cracow in Poland.

4. Separation from Staff

Professor R. James Milgram and Associate Professor Yisong Yang both resigned, effective the end of fall semester 1995. We had three retirements in the academic year. Professor Clifford Qualls retired in August 1995, Professor Richard Metzler in December 1995 and Professor Tom Kyner in July, 1996.
5. Faculty Publications

Aceves, Alejandro B.


Bedrick, Edward J.


Boyer, Charles P.

Buchner, Michael A.

Buium, Alexandru
Coauthor: F.Voloch.

Efroymovich, Sam

Ellison, James A.
"Collective Dynamics of Duffing Oscillators: Model for Dipole Ripple" in "Nonlinear

**Epperson, Jay B.**


**Gibson, Archie G.**


**Hagstrom, Thomas M.**


**Koltchinskii, Vladimir**

"Envelope moment conditions and Donsker classes," *Theory of Probability and


Kucharz, Wojciech


Lorenz, Jens


Loring, Terry A.

"Normal elements of C*-algebras of real rank zero without finite spectrum

Qualls, Clifford R.


Steinberg, Stanly L.


Stone, Alexander P.

Sulsky, Deborah L.


Wofsy, Carla

Zimmer, William J.


6. Outside Professional Activities

Aceves, Alejandro

He participated in the International Conference on Industrial and Applied Mathematics in Hamburg, Germany in July and thereafter spent four weeks in Cork, Ireland as a lecturer in a workshop at University College.

He participated in the joint American Mathematics Society and the Sociedad Matematica Mexicana meeting, held in Guanajuato, Mexico, November 29th through December 2nd.

He participated in a workshop on Material Science and Nonlinear Optics at the Institute of Mathematics and its Applications, University of Minnesota, March 4th through March 8th.

He participated in the workshop "Mathematical Methods in Nonlinear Optics"
Buium, Alexandru

He gave the paper "Derivations of Integer Numbers" at the New Mexico Geometry and Topology Seminar, held at UNM on October 27th and 28th.

He visited the University of Arizona on November 16th and 17th and gave two talks. They were "Derivatives of integer numbers" and "Bounds for torsion points on curves".

He visited the City College of New York, January 4th through 7th and gave four talks on the subject "Derivatives of integer numbers".

He participated in the AMS meeting in New York, April 13th and 14th and gave the talk "An arithmetic analogue of Differential Algebra".

Boyer, Charles

He attended the joint American Mathematical Society and Sociedad Matematica Mexicana meeting in Guanajuato, Mexico, November 29th through December 2nd and organized the session on Differential Geometry.

He attended the AMS meeting in New York in April and gave a paper, "Towards a classification of 3-Sasakian Manifolds".

He participated in the Physics, Geometry and Homotopy conference at the Fields Institute in Toronto, April 18-22nd, where he gave the paper, "Stability Theorems for spaces of rational curves".

Cameron, Laura

In July, she attended two conferences in the area of preparation for Pre-Service Elementary Teaching. She also presented a paper, "Pattern Blocks and
Addition, Subtraction, Multiplication, and division of Fractions" at the Math Solutions II conference.

In October, she attended the New Mexico Council for Teachers of Mathematics conference in Ruidoso, where she gave a talk entitled, "Mathematics contest courses for pre-service elementary school teachers".

Together with Nancy Gonzales, she visited San Felipe Pueblo on October 9th and 16th to conduct afternoon sessions on mathematics enrichment activities.

She visited Montezuma Elementary school in early November and taught geometry to a class of fifth graders.

She attended the Joint Mathematics meeting in Orlando, Florida, January 10th through 13th, participating in sessions on the Prompt Program, funded by the National Science Foundation.

She participated in the New Mexico Association for Two Year Colleges state meeting in Farmington, where she conducted a workshop.

Ellison James

He worked during the months of July and August at the Deutsches Elektronen-Synchrotron Laboratory for High Energy Physics (DESY) in Hamburg, Germany.

He was in Montreux, Switzerland, October 15th through 21st and presented a plenary talk entitled, "Stochastic methods in Beam Dynamics" at an international workshop on beam dynamics issues for the Large Hadron Collider to be built at CERN.
Epperson, Jay

He visited Michigan State University from October 17th to 22nd to give a colloquium and conduct joint research with Professor Michael Frazier.

He visited Taiwan in December and January, giving talks at the National Taiwan University and Soochow University on the subject "New Estimates for Hermite and Laguerre expansions".

Galicki, Krzysztof

He participated in the joint meeting in Guanajuato, Mexico, November 29th through December 2nd, hosted by the Sociedad Matematica Mexicana, in conjunction with the American Mathematical Society.

He attended the AMS meeting in New York, April 13th and 14th and gave a paper entitled, "An Arithmetic analogue of Differential Algebra".

Gonzales, Nancy

In September, she gave a class for forty 6th grade children from San Felipe Pueblo, in which they did an experiment, collected data, and analyzed the results. Through the experiment, the children learned some concepts of probability and statistics. The sixth graders from San Felipe Pueblo returned to campus in December for a further class on computer graphics.

Together with Laura Cameron, she visited San Felipe Pueblo on October 9th and 16th to conduct sessions of mathematics enrichment activities.

Hagstrom, Thomas

He visited the National Institute for Computational Mechanics and Propulsion in Cleveland, Ohio, an institute associated with NASA Lewis.
Lorenz, Jens

He attended the Numerical Dynamical Systems conference at Georgia Tech, December 14-16, 1995 and gave a talk entitled "Lyapunov-Type Numbers and Torus Breakdown."

He visited the University of Bielefeld in Germany at the end of May and gave a talk, "All-time existence of PDE's". He also gave a talk "Breakdown of Invariant Tori" at a meeting on Invariant Manifolds in Brakel, Germany.

Loring, Terry

He visited the Mathematics Institute at Oberwolfach in Germany, April 8-12th to participate in a conference on C*-algebra. He gave a paper entitled, "Applications of amalgamated products to approximation in C*-algebras."

Metzler, Richard

He received the Distinguished Teacher Award at the southwest meeting of the Mathematics Association in Flagstaff in April.

Onneweer, Cornelis

He participated in the conference at Guanajuato, Mexico, November 29th through December 2nd, hosted by the Sociedad Matematica Mexicana, in conjunction with the American Mathematics Society.

Steinberg, Stanly

He visited the Research Institute for Symbolic Computing in Hagenberg, Austria for a week in October.

He was in Lima, Peru, from November 18th through December 3rd to work with Professor Pedro Espinosa at the University.
Sulsky, Deborah

She attended the Annual Meeting of the Division of Fluid Mechanics of the American Physical Society, held in mid November at Irvine, where she presented a paper, "Three-dimension Simulation of Suspension Flow", co-authored by Dr. Jerry Brackbill of Los Alamos National Laboratory.

She spent February 8th and 9th in Washington D.C. serving on the National Science Foundation panel to review proposals in Applied Mathematics and Computational Fluid Mechanics.

She gave a talk entitled "A Particle-in-Cell Method for Large Deformation Solid Mechanics" at the UNM Mechanical Engineering Research Seminar on February 27th.

Wofsy, Carla

She visited the University of Utah in February as part of their special year in Mathematical Biology, where she gave a talk entitled "Cell Signaling in the Immune System: insights from Mathematical Modelling experiments.

She attended a meeting at the National Science Foundation, March 14th and 15th, in order to prepare a report with a working group on the advances, "grand challenges" and funding at the interface of mathematics and biology.

7. Outside Sponsored Research

See table on the following page
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<tr>
<th>Name</th>
<th>Funding Agency</th>
<th>Purpose</th>
<th>Amount</th>
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<tr>
<td>Alejandro Aceves</td>
<td>Air Force</td>
<td>Mathematical Modeling of Novel Optical Fiber Devices</td>
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<td>Alejandro Aceves</td>
<td>Department of Energy</td>
<td>Regular and Chaotic Dynamics Arising in Nonlinear Optics</td>
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<td>Edward Bedrick, Ron Christensen</td>
<td>National Science Foundation</td>
<td>Evaluating Independence in Linear and Generalized Linear Models</td>
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<td>Alexandru Bulum</td>
<td>National Science Foundation</td>
<td>Quaternionic Quotients, Einstein Manifolds and Mathematical Physics</td>
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<td>Thomas Hagstrom</td>
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<td>Computational Analysis of Wave Propagation in the Presence of Multiple Scales</td>
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<td>National Science Foundation</td>
<td>Scientific Computing Research Developments for the Mathematical Sciences</td>
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<td>Parni Huzurbazar</td>
<td>National Science Foundation</td>
<td>Flowgraph and Saddlepoint Methods for Statistics</td>
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<td>Vladimir Koltchinskii</td>
<td>Sandia National Laboratories</td>
<td>Empirical Processes Tools in Multivariate Data Analysis</td>
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<td>Vassilios Kovavis</td>
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<td>Computation and Analysis of Invariable Manifolds and their Bifurcations</td>
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<td>Mathematical Sciences: Numerical Analysis and Computation of Invariant Manifolds</td>
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<td>Jens Lorenz</td>
<td>Department of Energy</td>
<td>Numerical and Asymptotic Studies of Complex Flow Dynamics</td>
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<td>Terry Loring, Frank Gilfeather</td>
<td>National Science Foundation</td>
<td>Mathematical Sciences: Operator Algebras</td>
<td>$107,391</td>
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<td>Terry Loring</td>
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<td>Stable Relations and their Loc in Operator Algebra Variables</td>
<td>$44,900</td>
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<td>Ben Mann, Charles Boyer, Kris Galicki</td>
<td>National Science Foundation</td>
<td>Quaternionic Geometry, Einstein Manifolds and Topology of Moduli Spaces</td>
<td>$180,000</td>
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<td>Richard Metzler</td>
<td>NM Commission on Higher Ed.</td>
<td>Teachers Helping Teachers</td>
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<td>Annual State Conference of Math and Science Teachers</td>
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<td>Veteran's Administration</td>
<td>Statistical Research at Veterans Administration Medical Center</td>
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<td>Programming of Finite Difference Schemes</td>
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<td>Symbolic Computing and Dimensionally Reduced Models of Fluid Flow</td>
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<td>National Science Foundation</td>
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<td>Alexander Stone</td>
<td>Air Force Office of Scientific Research</td>
<td>Minimization for Transient Em Pulses</td>
<td>$25,000</td>
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<td>Deborah Sulsky</td>
<td>Alcoa Foundation</td>
<td>Unrestricted Research</td>
<td>$15,000</td>
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<td>William Zimmer</td>
<td>Air Force/ Phillips Lab</td>
<td>Development of a Procedure to Validate the Perfect Methodology</td>
<td>$185,684</td>
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1. Significant developments during academic year 1995-6

The department continued its program of exchanges with the Instituto de Investigaciones Filosóficas at UNAM in Mexico City. In the fall, Professor Fred Schueler visited the Institute, participating in seminars and presenting his work on ethics and philosophy of mind. In the spring, Professor Guillermo Hurtado of the Institute visited the department, presenting two papers on "Predication and Propositional Functions in Frege and Russell." The department continues to seek funds for these exchanges (which have been mostly supported from its limited Barrett endowment), and this spring proposed line-item funding to enable us to continue them.

Faculty members in the department continued to publish and present the results of their research. Russell Goodman's Pragmatism: A Contemporary Reader was published by Routledge in the fall, and in the spring his "Reconstructing American Philosophy: Emerson and Dewey" appeared in Frontiers in American Philosophy, Vol. II, ed. Robert W. Burch and Herman J. Saatkamp, Jr. (Texas A & M Press). He also presented a paper, "Emerson's Mystical Empiricism," to the International Conference to celebrate the Bicentenary of St. Patrick's College, Maynooth, Ireland in July, and a paper on "Emerson and Kant" to the Society for the Advancement of American Philosophy meetings in Toronto. Fred Schueler delivered a paper on, "Why 'Oughts' are Not Facts," to a conference on the work of
Lewis Carroll in Glasgow, Scotland. The paper was subsequently published in Mind, for October, 1995. Howard Tuttle's second book in two years, The Crowd is Untruth: The Existential Critique of Mass Culture in the Thought of Kierkegaard, Nietzsche, Heidegger, and Ortega y Gasset, was published by Peter Lang. John Bussanich contributed entries on "Plotinus" and "Neoplatonism" to the HarperCollins Dictionary of Religion, and presented a paper on "Divine Omniscience in Plotinus and Proclus" to the International Conference to celebrate the Bicentenary of St. Patrick's College, Maynooth, Ireland. Amy Schmitter published "Picturing Power: Representation and Las Meninas" in The Journal of Aesthetics and Art Criticism for vol. 54, no. 3. She also had papers accepted for presentation on the main program at the American Philosophical Association, Western and Pacific Division meetings: one entitled "The Passionate Intellect: On the Non-opposition of Intellect and Emotion in Descartes," the other "Representation, Power and the Body in French Academic Art Theory." She also spoke on "Baier's Contribution to Philosophy" at a conference on the work of Annette Baier at the University of Pittsburgh in November. Fred Sturm published "American Indians: Time in Outlook and Language" in the Encyclopedia of Time (Garland, 1995), and Radhakrishnan's Philosophy of Art" in New Essays in the Philosophy of Sarvepalli Radhakrishnan (Indian Book Centre, Delhi). Fred Schueler was selected as a member of the Program Committee for the American Philosophical Association, Pacific Division, and Russell Goodman was selected as an adviser on American Philosophy to the program committee of the American Philosophical Association, Eastern Division.

In the spring semester, the department welcomed Professor Richard Wollheim of the University of California, Berkeley and Davis, as a Visiting Professor. Professor Wollheim was for many years Grote Professor of the
Philosophy of Mind and Logic in the University of London, and has taught at Harvard, Columbia, Yale, Minnesota, Cambridge, and Berkeley. A Fellow of the British Academy and of the American Academy of Arts and Sciences, he is the author of *Painting as an Art*, *Freud, The Mind and Its Depths, The Thread of Life,* and *Art and its Objects.* Professor Wollheim gave the Andrew Mellon Lectures in the Fine Arts at the National Gallery of Art in Washington in 1984. Here at UNM he presented a series of six very well attended public lectures "On the Meaning of Pictures" (on Picasso, Manet, Ingres, representation, and psychoanalysis), and conducted a seminar based on the lectures. The department received support for Wollheim's visit from the College of Arts and Sciences and the Department of Art and Art History.

The department welcomed new Assistant Professor Aladdin Yaqub (Ph. D., Wisconsin), who directed a reorganization of our logic program. Professor Yaqub initiated a training seminar for TA instructors of our course in logic and critical thinking (Phil. 156), and worked with the department in reorganizing our offerings in advanced logic and philosophy of science.

The department also conducted a successful search to replace Abraham Anderson. The process required screening over 500 applications, interviewing 11 candidates at the American Philosophical Association meetings in New York, and choosing between two strong finalists. In the end, the department chose Sergio Tenenbaum, whose Ph. D. is from Pittsburgh, ranked second among all graduate philosophy programs in the U. S. Professor Tenenbaum was educated in Brazil and Israel as well as at Pitt, and works both in ethical theory and in the history of philosophy. He will add to our offerings in Kant and Hegel, and in courses in theoretical and applied ethics.
Using its Gwendolyn Barrett funds and with the assistance of the College of Arts and Sciences, the department awarded Undergraduate Tuition Scholarships to Miguel Trujillo and Bryan Kolaczkowski. The department also continued its Dissertation Fellowship, awarded for 1996-7 to Bryan Benham and Stephen Leach. Jerry Sherman, our first Barrett Dissertation Fellow, was awarded his Ph. D. in May.

The department was awarded a seventh Teaching Assistant line for 1995-6, in response to the severe shortage of graduate assistance noted by our external reviewers in the spring of 1995. The department requested authorization for a special line for an outstanding junior faculty member identified in a prior search.

The department sponsored a substantial series of talks, in addition to the series on painting by Professor Wollheim. They included:

- September 8, Reuben Hersh, UNM, Mathematics, "Descartes vs. Descartes"
- September 15, Fred Schueler, UNM, Philosophy, "Why 'Oughts' are not Facts"
- September 22, Barbara Hannan, UNM, Philosophy, "Wittgenstein and Russell: Two Versions of Logical Atomism"
- September 29, Dugald Owen, Fort Lewis College, "Minimalism in Epistemology"
- October 6, Amy Schmitter, UNM, Philosophy, "The Passionate Intellect: On the Non-opposition of Intellect and Emotion in Descartes"
- October 20, Russell Goodman, UNM, Philosophy, "Emerson's Mystical Empiricism"
- October 27, Abraham Anderson, UNM, Philosophy, "Descartes on the Existence of Material Things"
- November 3, George Luger and Carl Stern, UNM, Computer Science, "Abduction and Abstraction"
- November 17, Rebecca Kukla, University of Oregon, "Nature, Artifice, and
Performance in the Writings of Jean-Jacques Rousseau
December 4, Naomi Scheman, University of Minnesota, "Closets, Ventriloquism and the Pull Towards Objectivity"

December 8, Jerry Sherman, UNM, Philosophy, "Epistemological Pessimism in Nietzsche"

January 3, Adam Morton, University of Bristol, "Folk Psychology is Ethics"

January 26, Scott Bukatman, UNM, Media Arts, "The Ultimate Trip: Special Effects and the Visual Culture of Modernity"

February 2, Sigurdur Kristensson, Cornell University, "Autonomy and Reason: Beyond Conative Hierarchy"

February 5, Richard Wollheim, University of California, Berkeley & Davis, "Three Mistakes About Desire"

February 9, Sergio Tenenbaum, Kansas State University, "The Rule of the Greater Good"

February 26, Richard Wollheim, "Desire and Emotion"

March 8, Jennifer Nagel, University of Pittsburgh, "How Things Might Be Intelligible"

March 18, Stephen Davies, University of Auckland, New Zealand, "Interpreting Contextualities"

March 29, David Craven, Art and Art History, UNM, "The Latin American Origins of Alternative Modernism"

April 5, Hassan Melehy, Foreign Languages, UNM, "Performing Thoughts: Corneille & Descartes"

April 18, 19, Guillermo Hurtado, Universidad Nacional Autonoma de Mexico, "Predication and Propositional Functions in Frege & Russell"
April 22, Jacob Hale, California State University, Northridge, "Transgendered Strategies for Refusing Gender"
April 29, Robert Schopp, University of Nebraska Law School, "Jury Nullification"
Arindam Chakrabarti, University of Hawaii, University of Delhi, India, "False Pleasures in Indian Philosophy and Plato"

Finally, a new departmental chair—Fred Schueler—was selected by a vote of the department and with the concurrence of the dean.

2. Plans and recommendations for the future.
The department will be hosting the annual meetings of the Society for the Advancement of American Philosophy in March, 1997, and is planning a series of lectures for 1996-7. We will be conducting a search to replace Howard Tuttle in 1996-7. We are still extremely short of teaching, staff, and TAs, and hope that if the College of Arts and Sciences finds itself in a position to expand, we will receive additional resources.

3. Appointments to Staff
Sergio Tenenbaum, Ph. D., University of Pittsburgh, Assistant Professor, Kansas State University. Effective August, 1996.

4. Separations from Staff
Abraham Anderson (denied tenure). Effective May, 1996
Howard Tuttle (retired). Effective May, 1996.

5. Outside Sponsored Research
None.
THE REPORT OF
THE DEPARTMENT OF
PHYSICS AND ASTRONOMY

July 1, 1995 - June 30, 1996

David M Wolfe, Chairman
"Physics is a profession of and for idealists. We are reasonably paid; we are given instruments, laboratories, complicated and expensive machines, and we are asked not to make money with these tools, like most people, but rather to spend money. Furthermore we are supposed to do what we find most interesting, and we account for what we spend to the money givers - the federal authorities and, in the last analysis, the taxpayer. We believe deeply that the pursuit of science by the physicist is important and should be supported by the public. We are participating in a most exhilarating enterprise right at the center of our culture. What we do is essential in shaping our physical and mental environment. ... We are all working for a common and well-defined aim: to get more insight into the workings of nature. This is a constructive endeavor, where we build upon the achievements of the past; we improve but never destroy the ideas of our predecessors."

adapted from V.F. Weisskopf
The Privilege of Being a Physicist

There is no better way to introduce this report than by using the same idealistic introduction provided by Victor Weisskopf. It is still, and always, valid.

"When women ask me where to go to graduate school, I say University of New Mexico."
Judy Franz, Chief Executive Officer, American Physical Society and Chair of Commission for the Study of Women in Physics which evaluated our Department.

The Department continues to advance, continues to grow, continues to strive for excellence in its research and teaching.

A. Significant Achievements during the Academic Year 1995-1996 (Research)

The Department continues to make good progress. The funded research has grown and continues to do so in large amounts. Sometimes we must wait to see the full effect of this additional funding but it is there and it is coming. Last year, the Department developed a long-range plan. We have considered en masse a five year
program for the direction we wish the Department to take. This has involved a great 
deal of introspection, discussion, soul searching and a difficult, but obviously 
necessary, balancing of interests. This year we have built on that plan and have come a 
long way toward its realization, considerably longer, in fact, than we had originally 
anticipated.

Institute for Astrophysics

The Department of Physics and Astronomy, through its IfA, has been formally 
awarded a grant of $15,800,000 by the Air Force Office of Scientific Research. This 
money is to be used for the development of an astronomy-oriented science center. The 
project, originally known as Cosmic ¡Explorat, has changed its name to Lodestar. The 
new name is better suited to our plan to serve as a “guiding light” for science education 
as well as to avoid confusion with the ¡Explorat Museum of the City of Albuquerque.

The first task mandated by the Air Force is an Environmental Assessment of the 
potential site for Enchanted Skies Park. This task continues at several mesa site west of 
Albuquerque.

The Socorro site has no environmental restrictions placed upon it and is 
beginning to function. They are also developing a plan to use this project as the center 
of a Master of Science Teaching degree. We are looking to this as a model program for 
UNM through the College of Arts and Sciences.

Lodestar has become involved in political difficulties that are not of its own 
making. Following the City’s approval of the plan to join Lodestar and the ¡Explorat! 
Museum as contained in the original proposal, the City has decided to merge the
¡Explora! Museum with the Albuquerque Children's Museum. This latter institution has a different charter and different mission than that of the federally-mandated Astronomy-oriented Science Center. The conflict between these two fundamental missions has led to disagreements and to a possible rupture between the two institutions. Fortunately for us, the Lodestar Project has engendered great community interest and support throughout New Mexico and, in particular, with the Museum of Natural History. The Board of this latter institution is now considering merging with Lodestar to construct the above mentioned Astronomy-oriented Science Center. This will be an excellent solution to a difficult problem. This situation has yet to be resolved, but must be done so soon because of the deadline for funding and the large amount of work to be done.

The Five Year Plan called for the hiring of a new astronomer to help with the large research and teaching loads carried by the IfA. In particular, the Lodestar project has a real deadline imposed by the AFOSR funding and additional help is desperately needed. We have been most fortunate in adding Richard Rand, formerly of the University of Maryland, to our faculty. This followed a long national search and we believe that we have made a wise choice. He is a dedicated researcher with a good track record and shows promise of being a fine teacher as well.

The Lodestar project is of the utmost priority within our Department. This has been unanimously recognized and understood within our planning meetings. The result is that a new position in Astrophysics was given the highest priority in the future hiring plans of the Department. The work, the money, and now the proper people are
here. We are grateful to the Dean and the Provost for recognizing this.

**Condensed Matter Physics:**

This is an area of major concentration for our department and one of the areas where we can foresee considerable growth. The enormous stress placed on Condensed Matter Physics at both Sandia and Los Alamos Laboratories makes possible a large number of collaborations. Because the Department recognized the importance of this field for our growth that we have joined together to request that the second new position we need to fill be in the field of theoretical condensed matter physics.

We have advertised this position and have been very fortunate in attracting Brad Johnson for this post. Because of the mid-year funding cuts imposed by Governor Johnson we nearly lost him. In the end, it was the cooperation of Dean Fischer and our colleagues at Sandia National Laboratories who made possible the hire this year. The Sandia group made a one-time contribution of 25% of Johnson’s salary, thus enabling us to get this superior young man. He comes to us with a fine record of research in an area of particular interest to Sandia and other local organizations. He also has extensive teaching experience at Western Washington University.

We are extremely happy to note that Dr. Rob Duncan, a truly renowned low-temperature physicist, has agreed to join the UNM faculty as Associate Professor. Dr. Duncan continues with his NASA grant for the DYNAMX Project. This work will result in a Space Shuttle mission scheduled for February 21, 2001. The experiment will measure the properties of superfluid liquid helium under micro-gravity conditions. This is so important a mission to NASA and the Jet Propulsion Laboratory that it is the
only surviving experiment in its field. It is worth noting that Duncan brings the
DYNAMX Contract with him to UNM, with an IDC return to UNM of nearly $2,000,000
during the next five years. This is a tremendous return, both intellectually and financially.

Finally, it is worth noting that Susan Atlas continues her association with us and
with ARC and has added course and seminars directed specifically at material science
and high-level computing.

Center for Advanced Studies:

The Center has come under the direction of Professor V.M. Kenkre, now that
Carlton Caves is on sabbatical leave at the University of California, Santa Barbara. This
has helped incorporate the Condensed Matter Theory people even more strongly into
the CAS. This joint and overlapping interest has provided new intellectual fervor
throughout the Department. This has led to new interests, workshops, and more
international participation in the CAS.

Murray Gell-Mann continues to teach on Complexity Theory. He has been here
quite a bit and has collaborated with Carlton Caves on several projects. The students
are very pleased, as well, to have a scientist of his caliber among us. He has been
described in a recent issue of the New York Review of Books as “the smartest man in
the world”. Talking to him makes one believe that this is true. He’s a genuine joy to
have among us.

This coming year we will have the pleasure of having Prof. K. Wódkiewicz with
us. This is the “every other year” time during which he is at UNM. He continues to
teach and to work among us in his usual diligent fashion.
I want to emphasize that the contribution the University makes to the support of people such as Wodkiewicz and Lowe makes a HUGE difference to the outside world. The money, a non-trivial amount, pays great dividends to us in many aspects - respect that UNM is willing to do it, considerable leveraged money from governmental funding agencies, new program possibilities, etc. I hope that this is understood by the upper administration, that they know we are grateful, and they realize how what dividends these investments make.

It is also very pleasing to report that Prof. Prasad, a charter member of the CAS, has begun exactly the type of collaborative work we hope for in our Department. He is combining his expertise in optics with problems in astronomy. His work on focusing within fibers and the ability to use this technique for phase compensation in interferometry is a new and impressive breakthrough. This impressive work has attracted international attention.

**New Mexico Center for High-Energy Physics:**

Prof. John Matthews remains as Director of this effort. The Center now comprises all of the groups working with accelerator-based physics. This includes the groups of Professor Dieterle, as well as the Bassalleck/Wolfe group.

The Particle Physics Seminar, initiated by this Center, continues to function as one of the most vigorous of our many seminar series. Overhead return and direct contributions are used to fund this endeavor. This weekly meeting brings speakers
from many other institutions, including LANL, Fermilab and many universities. Several of our own faculty have delivered these seminars as well.

The discovery of the top quark is one of the great physics events of the recent past. The most important part of the Collider Detector Facility (CDF) at Fermilab for this discovery is the silicon vertex detector. The UNM group has been a major contributor to this detector and thus a major player in the discovery. The work of Professors Gold and Seidel is particularly notable. Finally, this group is continuing by designing the SVX II detector for the facility upgrade presently planned. The work continues apace and it is worth noting that extra funding has been obtained by Seidel.

Both Assistant Professors Gold and Seidel will be eligible for promotion and tenure during the 1996/97 academic year. It is the hope and desire of the Chairman to see that these capable young people are properly rewarded with both promotion and tenure.

The high-energy group is certainly not the only one in this area. The work of Prof. Dieterle is involved with the recent announcement of a possible mass for the neutrino. This result, if corroborated, will be of extreme importance for both particle physics and cosmology. It is a breathtaking possibility in this field. He has continued his LANL work with a French-Italian-Russian-US collaboration, CHOOZ.

The work of Profs. Bassalleck and Wolfe has also led to significant new results in the field of heavy-ion physics and work on the elusive H-particle. Major results have been published. The latest proposal, calling for significant new funding to support the work at Brookhaven, has received uniformly excellent reviews from DOE peer
reviewers. There is every expectation of increased funding, making possible new and exciting projects in this field.

Optical Sciences:

Professors Diels and Rudolph have succeeded in garnering a unique honor. They are the first group at UNM to be awarded a grant from the Keck Foundation. The money, $300,000 over two years, is being used to establish the Keck Microscopy Laboratory. This unique facility uses femtosecond laser pulses in truly unique ways. We will be able to see "stop-action" pictures of chemical and physical processes, enlarge objects within living tissue, enlarge objects hidden from view by opaque material, and accomplish many other truly wondrous tasks. This is one of the most exciting projects in the Department. Rudolph is eligible for promotion to Full Professor this year, an honor he richly deserves.

It has been a pleasure to have Prof. Sheik-Bahae join our Department. The inventor of the important Z-scan technique in short-pulse laser physics, he has been a major contributor to this field for many years. We have been most fortunate in hiring him at UNM. He has been extremely active since his arrival and has succeeded in establishing himself as a fine young investigator in his chosen field and has, in fact, won an NSF Career Development Grant which will provide for his research for several years.

Finally, it is with pride that note we that Professor Prasad, also being put forward for promotion to Professor this year, has been the Chairman of the Optical Sciences Graduate Program. In this position, he has succeeded in getting our program
accepted into the WICHE regional program. This means that students from any of the WICHE Universities may register for and use courses in optics from UNM. This is something that the other prestigious WICHE member, the University of Arizona’s Optical Sciences Program, has not succeeded in doing. We are proud of him and the program.

Other Significant Activities

Nothing in the above description is meant to detract in any way from other significant research done in the department. The atomic physics work of Prof. Bryant, for example, continues to lead the world in his area. He has created the entire area of high-energy atomic physics and continues to dominate it. His work has attracted international attention. He continues to be one of the most creative researchers.

Prof. Chandler’s excellent work in Nuclear Theory continues now that he has returned from his sabbatical year in Australia. He has been making good use of the work done there.

Prof. Finley continues his role as one of the doyens of General Relativity.

There are, of course, many other stories “out there” but space does not permit including everyone.

Problems:

One of the major impacts of the high-quality work being done in the department is the pressure on space. I believe everyone in the world has heard our complaints by now. We are grateful for the relief provided our desperately needed North Wing.
While this will take away some of the immediate pressure, it does not present a long-term solution. It is noted, in particular, that the Department has no new lab space at all. There is no room for expansion of our experimental facilities. Physics, an experimentally based science, cannot long survive in this manner.

Staff:

The University’s decision to open a retirement-inducement program for staff has led to the departure of three senior level people from the Department. This has created considerable hardship, leaving us badly understaffed and overworked. The Department has been working very hard to replace these valuable people and has managed to induce Marla Wonn and Eleanor Maes to fill two crucial positions. This is extremely important and allows us to function at a new, and even better, level. We have not, however, filled all of the positions, in part because of our discovery that the Department was responsible for funding the retirement incentives. This has put an enormous new burden on our thin resources, but we have begun to recognize and plan for a productive future.
## DEPARTMENT OF PHYSICS AND ASTRONOMY
### Schedule of Classes and Seminars

### Fall 1995

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Pro. Max Dresden, Stanford University
Are There Meaningful Similarities Between Turbulence and Superconductivity

10/18/95 Abhijit Sengupta, Stanford University
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Quantum Billiards and Quantum Chaos
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03/26/96 Chris Morris, LANL
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03/27/96 David H. Dunlap, UNM
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Atomic Transport in Optical Lattices: Part I: The Physical System

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04/08/96 Samantha Lapin, President, POD Associates, INc.
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04/10/96 Ivan Deutsch, UNM
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I. SIGNIFICANT DEVELOPMENTS

A. UNDERGRADUATE PROGRAM

The department graduated 140 majors. The annual commencement ceremony was hosted in the Grand Ballroom of the Student Union Building. Over 500 students and parents attended. The Honorable Pamela B. Minzner, New Mexico Supreme Court Justice gave the commencement address.

An undergraduate computer lab was established to aid in instruction of statistical analysis classes.

B. GRADUATE PROGRAM

The department awarded five (5) MA degrees and one (1) PhD degree this year. The number of graduate students, counting 1996 incoming students, is 38.

The department and Sandia National Laboratories continued its program for graduate and advanced undergraduate students to work part-time at Sandia. Five students in the externship program are involved in projects of mutual interest, principally in the areas of international conflict and international security.

The department developed and distributed a new poster and brochure, and set up a Web site, describing the graduate program in Political Science.

C. INSTITUTE FOR PUBLIC POLICY

The Institute undertook a range of new projects over the past year, including studies of the effects of Indian casino gambling in New Mexico, policy options for water management to reduce pressures on endangered species, and studies of public views of core values that influence electoral decisions. Many of these research projects were included in the Institute’s Quarterly Profile statewide surveys. The 32nd survey in the Quarterly series is now being collected.

The Institute also completed several large nationwide surveys on public views concerning national security and an array of environmental issues. The national security project was published by Sandia National Laboratories, entitled Evolving Perceptions of Security. These results will provide the basis for a book on public opinion and national security. Another survey project has focused on environmental policies and controversies surrounding the return to the United States of spent nuclear fuel rods owned by the US, but used in foreign research reactors. Over the past few months, IPP research has been presented at a number of conferences across the US, Sweden, Egypt, Israel, Greece, and Finland. The IPP is now working to establish long-range research projects with think tanks in Egypt, Israel, Jordan, and the Palestinian autonomous regions. After meetings this summer, researchers from the IPP developed a proposal for coordinated crossnational perceptions of and attitudes toward peace evolving in the Middle East and the US.

The IPP’s Survey Research Center, with its staff of over 50 employees, is now in full operation. Using the SRC’s computer-assisted telephone interviewing system, a variety of IPP grants and contracts will keep the Center busy for the next year. In addition to the telephone surveys, the SRC will be conducting both in-person and mail surveys.
D. SPEAKERS
The department continued its colloquium speaker series with talks given by the following faculty, graduate students, and visiting speakers:
Darryl Dieter, Graduate Student; Amelia Rouse, Graduate Student; Ken Roberts, Assistant Professor; David Galloway, Visiting Speaker; Mark Peterson, Graduate Student; J.J. VanWyk, Visiting Speaker; Deborah McFarlane, Professor

The Department of Political Science/Sandia Seminar Series in International Relations continued with the following speakers:
Bruce Russett, Chair/Dept. Of Political Science, Yale University; David Spiro, Department of Political Science, University of Arizona, Tucson

E. INTERNSHIPS
In addition to the Sandia opportunities, twelve undergraduate students were placed in internships with the New Mexico State Legislature working under the close supervision of Professor David Soherr-Hadwiger.

F. CURRICULUM DEVELOPMENT
The following courses were taught for the first time in Spring 1996:
PS300.001 - T/Media and Politics
PS300.002 - T/Democratic Theory
PS300 003 - T/Justice
PS521.001 - Research Seminar/Comparative Government/Politics

G. SCHOLARSHIPS
One graduate fellowship and five Undergraduate scholarships were awarded this year.

II. SIGNIFICANT PLANS
A. RECRUITMENT
The department will initiate the recruitment of two new faculty members in the areas of American Politics and Public Policy/International Relations.

The department will continue its efforts to increase the pool of applicants to the graduate program.

III. APPOINTMENTS TO FACULTY/STAFF
Lonna Atkeson, Assistant Professor, effective August 15, 1995

Susan Gallagher, Staff Assistant, effective January 3, 1996

IV. SEPARATIONS FROM FACULTY/STAFF
Kenneth Coleman, Professor, effective May 11, 1996

Peter Lupsha, Professor, effective May 11, 1996

Loyola Chastain, Department Administrator, effective August 14, 1995

Robin Tropper, Staff Assistant, effective August 31, 1995
V. PUBLICATIONS

Atkeson, Lonna


Garcia, Chris

"Anglo and Mexican American Support for Core American Values" in the American Journal of Political Science.


Gleason, Greg

Hansen, Wendy


Jenkins-Smith, Hank C.

Lupsha, Peter

Report: The Impact of NAFTA on Border Drug Trafficking for the Center for Hemispheric Trade, University of Texas, Austin, October 1995.

Peceny, Mark
Remmer, Karen
"Theoretical Perspectives on Democratization", *Comparative Politics* (October 1995): pp.103-122.

Roberts, Kenneth

"From the Barricades to the Ballot Box: Redemocratization and Political Realignment in the Chilean Left", *Politics and Society* 23,4 December 1995, pp 495-519.


Stanley, William

VI. NOTEWORTHY OUTSIDE PROFESSIONAL ACTIVITIES OF FACULTY

Chris Garcia served as editor for a special issue of the *Hispanic Journal of Behavioral Sciences* on "Ethnicity and Politics". He also served as an on-set election analyst for KOAT-TV, a Master of Ceremonies for the UNM Commencement, and as a member of the ETS committee that is creating the new writing portion of the Graduate Record Exam.

Greg Gleason gave a lecture at the US State Department's Foreign Service Institute to help prepare new foreign service officers who will be taking diplomatic assignments in the former USSR.

Wendy Hansen presented a paper at the Seventh World Congress of the Econometric Society, Tokyo, Japan, August 1995. (The World Congress meets only once every five years.)

Fred Harris participated in a May conference on "Ethics in Politics" in Krakow, Poland at the Jagiellonian University, giving two panel presentations: "Ethical Dilemmas of Politicians: Constituency versus Conscience" and "Loyalty towards Party versus Loyalty towards the State: Party Discipline versus the Public Good".

Hank Jenkins-Smith served on the editorial board of the American Journal of Political Science.

Karen Remmer was program chair for the comparative politics panels at the 1996 annual meeting of the American Political Science Association. She also served on the editorial board of the American Political Science Review.

VII. OUTSIDE-SPONSORED RESEARCH

Hank Jenkins-Smith; Sandia National Laboratories- $40,000; Purpose: Quarterly Monitoring Public Opinion Surveys, 7/18/95

Hank Jenkins-Smith; Sandia National Laboratories- $35,000; Purpose: Rapid Response Public Opinion Surveys; 7/18/95

Hank Jenkins-Smith; Sandia National Laboratories- $50,000; Purpose: National Security Survey-1995; 9/21/95
Hank Jenkins-Smith; Sandia National Laboratories- $21,600; Purpose: Rehabilitation Needs of New Mexicans with Disabilities: FollowUp Survey; 7/25/95

Hank Jenkins-Smith; Los Alamos National Laboratories- $173,387; Purpose: Public Opinion Survey Research; 1/10/96

Hank Jenkins-Smith; American Association of Retired Persons- $25,000; Purpose: State Telemarketing Laws Research Study; 1/19/96

Hank Jenkins-Smith; Kettering Foundation- $5,920; Purpose: Study on Deliberation at the National Issues Convention; 2/13/96

Hank Jenkins-Smith; Sandia National Laboratories- $28,000; Purpose: Quarterly Monitoring Surveys; 4/29/96

Hank Jenkins-Smith; Sandia National Laboratories- $30,000; Purpose: Rapid Response Public Opinion Surveys; 3/13/96

Hank Jenkins-Smith; Department of Agriculture- $8,900; Purpose: Zuni Watershed Protection and Rehabilitation Study; 5/6/96

Hank Jenkins-Smith; Sandia National Laboratories- $120,000; Purpose: Public Perceptions of the Risks of Transporting Radioactive Materials and Acceptance of DOE Transportation Policies; 6/20/96

Mark Peceny; Sandia National Laboratories- $16,994; Purpose: Join Sandia/UNM Political Science Series on "Quantitative Approaches to International Relations and Democratic Peace"; 11/2/95

Karen Remmer; National Science Foundation- $45,000; Purpose: The Sustainability of Democracy: The Experience of Latin America, 1945-1994; 7/5/95

Carol Silva; University of Wisconsin-Madison- $59,642; Purpose: Impartial Oversight and Strategic Guidance for Privatization and Market Reform Programs in Central Asia; 12/20/95

David Soherr-Hadwiger; Hatton E. Sumners Foundation- $14,500; Purpose: Early Voting in Texas and New Mexico; 1/8/96
ANNUAL REPORT
1995 - 1996

DEPARTMENT OF PSYCHOLOGY

Michael J. Dougher, Ph.D.
Professor and Chair

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The Department of Psychology shares with other academic departments at the University its raison d'être: the discovery and dissemination of knowledge. It shares with other science departments a commitment to empirical research. The distinguishing feature of this purpose for a psychology department is that the knowledge being sought concerns the individual organism, and most typically the behavior of the individual person.

Because of its particular historical development, composition and geographical location, the UNM Department of Psychology embraces a number of goals which serve to give the program a distinctive flavor. These are reflected in the mission of the Department which is to:

- Create a supportive environment in which the faculty and students associated with the department are encouraged to achieve their maximum potential as scholars.

- Promote a scientific approach to psychology, emphasizing both experimental and correlational methodologies as historic traditions.

- Encourage respect for and openness to a variety of theoretical, philosophical, and empirical approaches, with the view that the study of psychology is enriched by the interaction of multiple perspectives.

- Value active research programs within the Department and in collaboration with colleagues outside the Department.

- Maintain excellence in clinical and experimental psychology and foster the growth of neuroscience approaches to the study of learning, memory, and cognition.

- Encourage and support effective teaching, both in communicating psychology to undergraduates as an area of major study and a critical part of a liberal arts education, and in training graduate students at a professional level.

- Train graduate students in the application of general experimental psychology in clinical and other professional settings.
- Ensure that graduate students in all areas are well trained in methodology and ethics for their effective functioning as researchers and professionals.
- Enable students to understand the development and operation of psychology in the context of diversity within the larger culture, and its application in the culture of the Southwest in particular.
- Be actively involved in service to the University, the community, the state, and the profession.
- Evaluate, in an ongoing fashion, our performance as a department with respect to our mission, and revise this Statement of Mission to accommodate changing situations.

Adopted: October, 1995
I. Department Information and Achievements

A. Departmental Administration and Structure.

Michael Dougher served the second year of his four-year term as Chair of the Department, and the Department continued with the administrative structure adopted in 1995. An organizational chart of this structure is presented on the following page.

With respect to the Department’s major administrative committee, the Planning and Policy Committee, there were two personnel changes. John Gluck replaced Dick Harris as Area Head for the Developmental/Personality/Social (DPS) area, and Paul Amrhein replaced Peder Johnson as Area Head for the Cognitive/Learning area. Otherwise, Harold Delaney and Ron Yeo continued in their roles as Associate Chairs for Undergraduate and Graduate Training, respectively. Jane Smith continued in her role as Director of Clinical Training, and Rob Sutherland continued to serve as the Area Head for the Behavioral Neuroscience area.

The Committee considered many important issues this year, not the least of which was the academic focus of the Department and the area in which we would seek to hire. After considerable discussion and deliberation, the Department reaffirmed its commitment to a focus in cognitive neuroscience and decided to hire in that area.

The major task faced by the Department this year was to undergo its external graduate review. This required a major effort from many in the Department to complete a self-study
document, participate in a two-day site visit, and compose a response to the Review Committee's report. Happily, the Committee's report affirmed our view that we are a strong Department and endorsed our decision to focus our resources in the area of cognitive neuroscience. The Committee also confirmed that the Department carries a disproportionately large share of the College's teaching burden, that we need to add faculty lines, that we have a number of truly outstanding faculty, and that with some increased resources the Department can become excellent. The Committee's report has served both as a source of gratification and a catalyst for further self-analysis in our continuous attempt to improve.

As in past years, the governance of the Department relied heavily on a number of faculty who served effectively on other Departmental committees. A listing of the committee memberships for the 1995-1996 academic year is given in Appendix A. Particularly noteworthy was the very important and time-consuming work of the Graduate Admissions Committee chaired by Steve Gangestad. This committee was faced with the task of selecting the very best applicants from a pool of almost 300 applications. Partly in response to suggestions from the External Review Committee, the Department decided to redouble its efforts to recruit outstanding experimental students and to reduce substantially the number of students admitted to the clinical program. Over the past several years we have admitted a disproportionately large number of clinical students relative to experimental students. The effects of this has been to place a huge training burden on our clinical faculty and to weaken our experimental areas. This year the faculty decided to admit roughly twelve new students, but to restrict the number of clinical students to four. Our efforts paid off. We were, in fact, able to recruit an impressive class of students and we achieved the proportion of clinical and experimental students that we wanted.
Outstanding graduate students are the lifeblood of any good research department, and the Admissions Committee is to be commended for its excellent work.

The procedures developed last year by the Teaching Enhancement Committee were employed this year in an attempt to enhance the teaching effectiveness of our faculty and to recognize outstanding teaching. All of our junior faculty were observed in the classroom, and constructive comments for improving their skills were offered. These efforts appeared to have a positive impact, at least as measured by the teaching ratings these instructors received.

On the basis of solicited responses from recent graduates of our graduate program, John Gluck won this year's Outstanding Graduate Teaching Award. It should also be noted that Ron Yeo won the University's Outstanding Teacher of the Year Award and Gordon Hodge won a University award for Innovative Use of Multi-Media in the classroom.

The Department again benefitted this year from the Quad-L Trust, which was endowed through the UNM Foundation by University Professor Emeritus Frank Logan. The Quad-L Library supported by this Trust not only facilitated the study of the psychology of learning, but also constituted a meeting place for students' defenses of their graduate degrees. This year the Quad-L Trust supported the visit of Larry Squire, Professor of Psychology and Psychiatry at the University of California at San Diego, who delivered the 9th annual Quad-L lecture. Rob Sutherland, who serves as faculty advisor to the Quad-L, coordinated the selection process for the Quad-L Lecture and arranged for Dr. Squire's visit.

The endowed trust established by the New Mexico Psychological Association and the Department to honor the memory of Professor Sidney Rosenblum sponsored the seventh annual Sidney Rosenblum Award. This year's scholarship support went to Dina Hill and Susanna Chang.
A third endowed trust at the UNM Foundation was established by the parents of Barbara Goldman Garland Award in her memory. The fifth annual Barbara Goldman Garland Award, which is awarded to a Psychology graduate student who is interested in working clinically with teenaged children, was presented to Jennifer Eldridge.

The department hosted a commencement convocation for its graduating students for the seventh consecutive year. The commencement address, delivered by Professor Mark McDaniel, was entitled "Bending Twigs and Affecting Eternity". This continued a tradition begun in 1989 of the commencement address being given by a senior faculty member in the department. Previous addresses have been delivered by Frank Logan, Bill Gordon, Sam Roll, John Gluck, Henry Ellis, Bill Miller, and Kristina Ciesielski. Arrangements for the convocation were handled by Administrative Assistant Candace Blashak. Because of the very large number of graduates and the interest on the part of their families and friends, this has become a major departmental effort involving several hundred people and entailing expenses to the Department of over $3,000.

B. Undergraduate Education.

Stated succinctly, the undergraduate education productivity of the Department’s faculty and staff is enormous and unsurpassed. As of Spring 1996, the Department had 553 majors, which is 13.3% of the total number of students majoring in Arts & Sciences Departments. This number places us second only to Biology (793) in terms of total number of majors. The Department offers a wide variety of courses, ranging from introductory psychology to human neuropsychology. Students are exposed not only to some of the best lecturers at the University, but also to advanced laboratory courses requiring creative experimental design development and "hands-on" contact with human and animal subjects.
Although the overall popularity of Psychology courses has remained very high and, in fact, has increased slightly over the last decade (total undergraduate enrollment in our classes is now roughly 10,000 students per year), our Department’s enrollment patterns have shifted rather dramatically in recent years. Whereas in 1986-87 our freshman-level introductory psychology offerings accounted for the majority of our total undergraduate enrollment, these courses now account for only about 20% of our total head count. While our overall undergraduate enrollment has grown by just 6%, this is the net effect of a 36% decline in freshman enrollments being more than offset by an increase of over 50% in our 200-level and above enrollment in the past seven years. Similarly, our graduating majors have more than doubled over this period. The fact that our FTE faculty is only 20 indicates the Department’s critical need for additional faculty. Appendix B presents summary statistics for the Department for the 1995-1996 academic year along with the same statistics for the preceding four years. Actual enrollment counts per course for each 1995-1996 semester are presented in Appendix C.

Despite the large number of courses offered by the Department, we were able to cut back somewhat on the number of part-time and graduate student instructors in our undergraduate program. To a large extent this was due to the willingness of the faculty to teach more basic undergraduate courses and to cut back on the number of low enrollment seminars and specialty courses we offer. Part-time instructors hired during the 1995-1996 year are listed in Appendix D. During the past year we had 52 courses (excluding labs) taught by non-regular faculty. The majority of these (32) were taught by our graduate students. Although this is a reduction in the number of courses taught by non-regular faculty, the percentage of courses taught by non-regular faculty (roughly 50%) is still too high. In an effort to decrease this percentage, we are continuing
with our efforts to get more full-time faculty into our undergraduate courses, to maximize the enrollments in courses taught by full-time faculty, and to reduce the frequency with which we offer low-enrollment and specialty courses in an effort to increase the percentage of full-time faculty in our courses.

These efforts alone, however, will not address all of the issues with our undergraduate program. The Planning and Policy Committee has identified other issues concerning the breadth and depth of our curriculum, and has asked the Undergraduate Curriculum Committee to draft a plan to enhance our undergraduate curriculum to better meet the needs of our students.

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 1995-1996 honors students along with the titles of their research theses, the names of their faculty supervisors, and the level of honors awarded to them by the department.

C. Graduate Education.

The department this year experienced its fourth year with its modified core curriculum which was approved in 1991-1992. Basically, the faculty had decided to reduce the number of courses required of first-year graduate students and expand opportunities for research. The plan seems to be having the desired effect, in that graduate students are proposing and defending their master's theses more promptly than in the past.

During this 1995-1996 academic year, the Department awarded 10 Ph.D. degrees. The names of these degree recipients, along with the titles of their dissertations and the names of their
faculty advisors can be found in Appendix F. This brings the total of Ph.D. degrees awarded by the Department to 236.

In addition to Ph.D. degrees, the Department awarded 13 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.

Our graduate students continued to distinguish themselves in their research and teaching. Space permits mention of only selected award recipients. One student, Jonathan Reed, was selected during the 1995-96 year to receive the department's highest graduate student award in recognition of his outstanding research. He delivered the 1995 Benjamin Franklin Haught lecture on April 12, 1996. In terms of teaching, Seth Friedman received campus-wide recognition as recipient of the "UNM Outstanding Teaching Assistant Award". Rich Ogle and Michael Palmer received Departmental awards for Outstanding Teaching Associate and Outstanding Teaching Assistant, respectively.

Two years ago we made the decision to try to financially support all of our students who request aid and are in satisfactory progress toward their degrees. Happily, we were able to do that again this year. What this entails, however, is that we adjust the number of admissions to our graduate program in line with the financial support available to us. Largely due to the amount of extramural support in the Department, we were still able to admit twelve graduate students out of an applicant pool of 263 to our Ph.D. program for Fall 1996 (see Appendix H for a listing of these students and their advisors). It is still the case, however, that our GA/TA stipends are lower than those of our peer institutions, and this hampers our efforts to recruit the very best graduate
students. Although we were awarded an additional GA/TA line this year, the number of stipends we are able to offer is still too low and results in a heavier work load per student than is desirable. We are in dire need of at least three more GA/TA positions.

The Department continues to receive nearly one-third of all graduate applicants to the College and to have an acceptance rate which is markedly 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.

D. Faculty

At the beginning of the academic year the Department had 25 voting faculty (20 FTE), including Bill Gordon who is now serving as Provost, Eligio Padilla, who served as the Director of the Southwest Hispanic Research Institute, and Britt Ruebush, who is Director of the Child Guidance Center. Bill Miller was again supported by Research Scientist Award from NIMH. Lynette Cofer (Fall and Spring), Holly Waldron (Fall) and Dick Harris (Spring) were on sabbatical leave during the 1995-96 year. We did not seek to hire any additional faculty, and there were no tenure or promotion cases during the year. Kathy Stansbury received a favorable Code-3 review.

Appendix B shows that the size of our Department has remained constant over the past five years despite our continuing need for more faculty. Given the high student demand for our courses, the heavy workload of the faculty, and the need to maintain excellence in research and scholarly productivity, it is imperative that we be able to hire two full-time graduate faculty as soon as possible. We are somewhat concerned with our increasing reliance on part-time and
graduate student instructors to simply carry out our basic curriculum. A department can only achieve teaching excellence by establishing a first-rate, full-time research faculty.

**Professional Appointments.**

In addition to the part-time faculty who served the department this year (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 1995-1996 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. Special thanks go to the Colloquium Committee, Rob Sutherland and Mark McDaniel, for the efforts in arranging for an outstanding colloquium series.

The research activities of the faculty are summarized in Appendix B. It is particularly noteworthy that our extramural support, approached $2 million ($1,959,407) again this year. Nearly $2 million in extramural funding for four years running is certainly an outstanding accomplishment. No detailed commentary regarding faculty research will be presented here since these data have been given in detail in each faculty member's Annual Biographical Supplement. It should be pointed out, however, that our faculty continue to excel in their research activities and to be productive in terms of publishing and presenting their work at professional meetings. A listing of the faculty and their research interests is presented in Appendix I.
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 and while the Dean has made several recent efforts to enhance the salary of our faculty, much more remains to be done in order to insure the stability of the current faculty.

There should be no doubt that the highest priority for the Department is to see faculty salaries increased in the immediate future to the level of regional norms and in the near future to the level of national norms. Only by doing this 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. The report shows that the Clinic provided over 1300 hours of therapy and intakes, and involved approximately 50 graduate students in the provision of those services.

In addition, for the sixth consecutive year, the Clinic was able to operate within its allocated budget. This is a tribute to the able and caring leadership of Dan Matthews and the support of his excellent staff.

F. Staff.

The Department of Psychology continues to benefit from an extremely competent support staff. This staff numbered 13 during the 1995-1996 academic year. So as to better 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. It should be mentioned that this staff is not rigidly bound by these formal descriptions, and willingly share and take on new responsibilities in an effort to serve the needs of the Department.

The Department was fortunate this year to hire Nancy Chavez as an Editorial Assistant. Nancy's competence and good humor are a welcome addition to the Department. Robyn Santillanes continued as Department Administrator III, and Candace Blashak continued as the Chair's Administrative Assistant and as office manager. Lois Kennedy continued as our student advisor, Terri Nicholson continued as Staff Assistant, and Dee Ann Quintana completed her fourth year as Project Coordinator for Grants. Dee Ann was very ably assisted by Delilah Yao and Brenda Carreon. These individuals form what must surely be one of the most efficient and able 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 seventh year as Clinic Staff Director this spring. Dan continues to be effectively assisted in his duties by Wanda Sharts, the Clinic Staff Assistant.

Our research support staff again included Patrick Sharp, Shop Supervisor; Ector Estrada and Gilbert Borunda, Laboratory Animal Technicians; DeLaine King, Laboratory Animal Technician II; and our Veterinarian Michael Richard, DVM. The outstanding efforts of these individuals clearly facilitated a wide range of research activities in our department. Quite unfortunately, Dr. Richard decided to leave his position in the Department, and we will begin to
search for his replacement. Dr. Richard will be greatly missed.

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.

G. Space.

As has been highlighted in the Department’s Annual Report for the past ten years, our department is not well accommodated by its current space allocation. We need a new building. Currently, we have insufficient staff space in order to function optimally and are unable to house all of our faculty in faculty offices. Furthermore, during the past few years we have had to continue to convert graduate student offices into faculty research space. Even at this, we do not have sufficient, suitable research space in the building to accommodate the high level of faculty research activity that has been attained in recent years. Although our need for additional faculty is well documented and while our extramural funding and research output is rising dramatically, the size of our current building places severe limitations on our ability to grow and to reach our full potential as a department.

The Department’s request for a new building is now acknowledged on the University’s Capital Projects list. However, there is little indication that funds will become available to initiate this project in the foreseeable future.

The Department continues to need financial support in order to initiate a furniture replacement program that would replace 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 20 years ago and it has become increasingly worn and has fallen into disrepair. Clearly there is a need for the systematic replacement of this original furniture in
II. Future Plans and Comment.

The names and faces in the Department have changed over the years, but what has remained constant is the Department’s commitment to excellence and its outstanding faculty. The recent additions to our faculty make me confident that this tradition of excellence will continue. But we need to move forward, and for that to happen we will need the contributions of all of our faculty and the support of the university administration. At the departmental level, we need to work together to capitalize on our existing strengths and to make wise decisions about the directions we should take as we strive to be even better. At the administrative level, we need a tangible commitment to enhance the quality of what is clearly among the very best departments on campus. Quite simply, we need the resources to hire an outstanding senior scientist in addition to the faculty replacements for which we are already in line. The administration has been vocal in its desire to enhance the academic reputation of the university. One easy way to do that is to invest wisely in its existing areas of strength. By any measure this Department is an area of strength.

During this past year, the Department dealt with some potentially very factious and difficult issues. The external review presented us with an objective, outside assessment of our strengths and weaknesses. Their assessment and recommendations led us to take a hard look at ourselves and to grapple with the complex and thorny issues that inevitably emerge when a group of intelligent, independent and concerned faculty come together to reach some common agreement about future directions. This is especially the case when the Department seeks to better itself in a time of very limited resources. There were, to be sure, some deep disagreements. But, to a large extent, they were argued with intellectual honesty, and, with very few exceptions,
parochial and personal interests were put aside in pursuit of the common good. What more can be asked of a faculty? Although a good deal of work remains to be done, some of the most difficult decisions have been made, and I think we are on a good course.

I very much appreciate the commitment of all the faculty and staff who were willing to devote their time and talent on behalf of the Department. There are always those who go way beyond the call of duty and deserve special thanks. They are: Harold Delaney, Jane Smith, Rob Sutherland, and Ron Yeo. I also want to thank Dick Harris who, perhaps more than anyone else, exemplifies an unselfish commitment to the general good over personal interest. Thanks to all those who served so well on critical Department committees, especially the members of the Planning and Policy Committee and the Admissions Committee. The staff have just been excellent. I really do doubt whether there is a better group of staff on campus. Thanks also to the Interim Dean of Arts and Sciences, Michael Fischer. He has taken over a very difficult job at a very difficult time, and he has done very well. The Department has certainly benefited from his efforts. Finally, I am especially grateful for the advice and support of my colleagues and friends in this Department.
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### APPENDIX B
.-Part 1-

**DEPARTMENT OF PSYCHOLOGY SUMMARY STATISTICS**

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19
APPENDIX B, Part 1 (continued)

Research Activities

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*Extramural funds budgeted for expenditure during a single AY.
### APPENDIX B

- **Part 2 -**

**DEPARTMENT OF PSYCHOLOGY CURRENT OUTSIDE-SPONSORED RESEARCH AMOUNTS FUNDED FOR THE CURRENT GRANT YEAR 1995 - 1996**

**William Miller** - Principal Investigator

- **Modeling & Modifying Motivation for Change, NIDA;** $257,375 - 8/95-6/96 (Co-PI, Paul Amrhein)

- **NIH Research Scientist Award, NIAAA;** $85,782 - 8/95-7/96

- **Alcohol/Drug Faculty Development Program, NIAAA;** $59,381 - 9/95-6/96 (Drs. Waldron, Smith, Arroyo & Padilla)

- **Alcohol & Drug Abuse Prevention and Treatment Evaluation, NIAAA, Predoctoral National Research Service Award (NRSA);** $98,086 - 7/95-6/96

- **Strategies for Matching Clients to Treatments, NIAAA,** $106,816 - 9/95-8/96

- **Unilateral Family Intervention for Drug Problems, NIDA;** $258,161 - 7/95-6/96

**Craig Noonan** - Principal Investigator

- **Group Motivational Interviewing Prior to Treatment, NIAAA,** $11,998 - 4/95-3/97

**Tim Goldsmith** - Principal Investigator


**Holly B. Waldron** - Principal Investigator

- **Families of Alcohol Abusing Adolescents, NIAAA;** $126,505 - 8/95-7/96

- **Drug Abuse Treatments for Adolescents, NIDA;** $253,842 - 8/95-7/96
APPENDIX B, Part 2 (continued)

Rob Sutherland - Principal Investigator

Canine Model of Dementia, University of California; $14,356 - 10/95-6/96

Hippocampal Plasticity Induced by Kindling, University of Western Ontario; $42,276 - 9/92-8/96

Mark McDaniel - Principal Investigator

A Componential Analysis of Prospective Memory & Aging, NIA, Furman University; $49,520 - 4/94-3/95

Harold Delaney - Principal Investigator

The Alcohol Self-Control Program, NIAAA; $15,409 - 10/95-9/96

Michael J. Dougher - Principal Investigator

Assessment & Evaluation of Court Clinic Cases, Second Judicial District Court; $52,000 - 8/94-7/95

Jack Blanchard - Principal Investigator

Anhedonia & Emotion in Schizophrenia, NIMH; $125,639 - 7/95-8/96
### SUMMER 1995

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27
# APPENDIX D

## PART-TIME FACULTY HIRED DURING AY 1995 - 1996

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<tr>
<th>NAME</th>
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<td>Stephen Chiulli, Ph.D.</td>
<td>Psychology 650-011</td>
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<td>Henry Ellis, Ph.D.</td>
<td>Psychology 650-010</td>
<td>Seminar in Cognition and Emotion</td>
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<tr>
<td>Jaclyn Gerstein, Ph.D.</td>
<td>Psychology 337-001</td>
<td>Family Psychology</td>
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<td>Psychology 338L-002</td>
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<td>Michael Hillard, Ph.D.</td>
<td>Psychology 232-002</td>
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<td>Robin Smith Jacobvitz, Ph.D.</td>
<td>Psychology 321-001</td>
<td>Introduction to Child Research</td>
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<tr>
<td>Jeffrey Lewine, Ph.D.</td>
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<td>Arlene Saitzyk, Ph.D.</td>
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<td>Almaron Wilder, Ph.D.</td>
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<td>Social Psychology</td>
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<td>Psychology 414-001</td>
<td>Human Factors</td>
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<td>Stephen Chiulli, Ph.D.</td>
<td>Psychology 650-007</td>
<td>Clinical Practicum in Rehabilitation (with Kathleen Padilla and Debra Saslawsky)</td>
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<td>Jaclyn Gerstein, Ph.D.</td>
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<td>Adjustment and Interpersonal Relationships</td>
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<td>Karen Griffee, Ph.D.</td>
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<td>Robin Smith Jacobvitz, Ph.D.</td>
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<td>Kathleen Padilla, Ph.D.</td>
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<td>Almaron Wilder, Ph.D.</td>
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# APPENDIX E

## SENIOR HONORS THESSES

**DEPARTMENT OF PSYCHOLOGY**

**AY 1995 - 1996**

<table>
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<tr>
<th>STUDENT</th>
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<th>FACULTY SPONSOR</th>
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<tr>
<td>Cooperman, Randi B.</td>
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<td>Kristina T. Ciesielski, Ph.D.</td>
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<td>Signore, Cheryl E.a</td>
<td><em>Effect of Mood and Need for Cognition on Conformity using a Paper-and-Pencil Measure</em></td>
<td>Steven Gangestad, Ph.D.</td>
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<td>Yaksich, Katia P.b</td>
<td><em>Morphology of the Corpus Callosum and the Frontal Lobe Deficits in Children Surviving Acute Lymphoblastic Leukemia</em></td>
<td>Kristina T. Ciesielski, Ph.D.</td>
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<tr>
<td>Kent, Emily**</td>
<td><em>Parental Divorce, Family Conflict, and College Students' Alcohol and Drug Involvement</em></td>
<td>Paul Amrhein, Ph.D. Tracy Simpson, M.S.</td>
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<td>Martsh, Therese b</td>
<td><em>Gender Differences in the Relationship of Drinking to Personality Characteristics</em></td>
<td>William Miller, Ph.D.</td>
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<td>Abeita, Lynn A. b</td>
<td><em>Cortisol and Emotion Regulation: Physiological and Behavioral Correlates of a Compliance Task</em></td>
<td>Kathy Stansbury, Ph.D.</td>
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<td>Castro, Marygrace A. b</td>
<td><em>The Degree of Empathy as a Correlate of Self-Actualization and Cultural Background</em></td>
<td>Samuel Roll, Ph.D.</td>
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<td>McCarthy, Michael J. a</td>
<td><em>Co-Administration of Long-Term Potentiation Antagonists CGP-39551 and Naloxone</em></td>
<td>Robert J. Sutherland, Ph.D.</td>
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APPENDIX E (continued)

Kriedt, Chris L.**

Hyperbaric Oxygen Treatment Effects on the Cerebrovascular System, Cognition, and Motor Function Following Traumatic Brain Injury in Rat

Robert J. Sutherland, Ph.D.

*aSumma Cum Laude

*bMagna Cum Laude

*Recipient of Best Honors Thesis Award

**Recipient of the Outstanding Honors Student Award
### APPENDIX F

**DOCTORAL DEGREES AWARDED**

**DEPARTMENT OF PSYCHOLOGY**  
**AY 1995 - 96**

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<td>Erik Augustson</td>
<td>The Transfer of Respondent Eliciting Functions Via Complex Stimulus Equivalence Classes</td>
<td>Michael Dougher, Ph.D.</td>
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<td>Andrew S. Becker</td>
<td>Facilitating Cues Encourage Incubation Effects In Problem Solving</td>
<td>Henry Ellis, Ph.D.</td>
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<td>Janet L. Brody</td>
<td>Experiences of Subjects in Psychological Experiments</td>
<td>John Gluck, Ph.D.</td>
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<td>David E. Greenway</td>
<td>The Relationship Between Stimulus Equivalence and Functional Equivalence Classes Related Via Elements Of Compound Stimuli</td>
<td>Michael Dougher, Ph.D.</td>
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<td>James W. Grice</td>
<td>The Relative Performance Of Regression And Loading Weights In Estimating Factor Scores</td>
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<td>Monica Leccese</td>
<td>A Hermeneutic Exploration Of Family Interaction: Behavioral Phenomenology As An Alternative To Quantitative Methods</td>
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<td>Jonathan M. Reed</td>
<td>An Empirical Examination Of Four Theoretical Characteristics Of Implicit Learning</td>
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<td>Ronald A. Salazar</td>
<td>Medial Prefrontal Cortex Or Nucleus Basalis Magnocellularis Lesions And Configural Association Learning</td>
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<td>Jillene G. Seiver</td>
<td>Long-Term Retention of Incidentally And Intentionally Learned Materials</td>
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<td>David Willman</td>
<td>The Evolution Of Expertise: A Structural Analysis Of Knowledge Acquisition And Learning Values Regarding Good Moments In Psychotherapy</td>
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# APPENDIX G

**MASTERS OF SCIENCE DEGREES AWARDED**

**DEPARTMENT OF PSYCHOLOGY**

**AY 1995 - 1996**

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<td>Stephen Alley</td>
<td>Comprehension Processes And Persuasion: Objective Versus Biased Message Processing</td>
<td>Gina Agostinelli, Ph.D.</td>
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<td>Nichole Andrews</td>
<td>The Effects Of Parental Divorce On Emotional And Physical Intimacy In College Dating Relationships</td>
<td>Harold Delaney, Ph.D.</td>
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<td>Saralinda DeVault</td>
<td>The Effects Of Defensiveness, Conflict, And Depression On Adolescents' Family Beliefs</td>
<td>Holly Waldron, Ph.D.</td>
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<td>Seth Friedman</td>
<td>Behavioral And Biochemical Time-Course Effects Methamphetamine-Induced Neurotoxicity</td>
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<td>Vanessa Lopez</td>
<td>The Coping Behaviors Of Hispanic And Non-Hispanic White Female Relatives Of Male Substance Abusers</td>
<td>William Miller, Ph.D.</td>
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<td>Margaret Morris</td>
<td>Self-Schemata Of Restrained Eaters: A Structural Analysis</td>
<td>Samuel Roll, Ph.D.</td>
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<td>Ella Nye</td>
<td>Enhancing Alcohol Problem Recognition: Self Regulation And Perception Of Norms</td>
<td>Jane Smith, Ph.D.</td>
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<td>Susan Ruebush</td>
<td>Differential Mock Sentencing Of Lesbian And Heterosexual Criminal Defendants</td>
<td>Samuel Roll, Ph.D.</td>
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<td>Delores D. Stroud</td>
<td>Familial Support For Child And Adult In Cases Of Childhood Sexual Abuse</td>
<td>Steven Gangestad, Ph.D.</td>
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<td>Robert Thoma</td>
<td>Developmental Instability, Handedness And Brain Lateralization: MEG And MRI Correlates</td>
<td>Steven Gangestad, Ph.D.</td>
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<td>Lorraine Torres-Sena</td>
<td>The Relationship Of Acculturation And Restrained Eating Among Hispanics</td>
<td>Judith Arroyo, Ph.D.</td>
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<td>Haining Wei</td>
<td>Representation, Evaluation, And Retention Of Skill</td>
<td>Tim Goldsmith, Ph.D.</td>
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<td>Kamilla Willoughby</td>
<td>Progression Of Alcohol-Related Behaviors In A Navaho Sample</td>
<td>William Miller, Ph.D.</td>
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## APPENDIX H

**GRADUATE STUDENTS ACCEPTED FOR AY 1996-97**

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<td>Alita Cousins</td>
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<td>Jacqueline Griego</td>
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**APPENDIX H (continued)**

**RETRAINING**

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<td>Brenda Wolfe</td>
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APPENDIX I

THE FACULTY
DEPARTMENT OF PSYCHOLOGY
UNIVERSITY OF NEW MEXICO

AMRHEIN, PAUL C.
Cognitive psychology: psycholinguistics; picture-word processing; aging, cognition and motor control. Current language research concerns the representation and function of pragmatic, semantic and syntactic information in discourse. Ongoing picture-word processing research concerns the development of 'hybrid' models that account for cognitive processes involved in episodic and semantic memory-production tasks (i.e., drawing, writing, speaking) in monolinguals and bilinguals. Current aging research concerns age- and dementia-based changes in cognitive processes that pertain to the preparation and execution of movements, and picture-word processing.

ARROYO, JUDITH A.
Assistant Professor. Ph.D. University of California, Los Angeles, 1989.
Clinical psychology. Primary interests are in alcoholism and ethnic identity. Current research involves measurement of ethnic identification; developing an orthogonal model of adaptation to Mexican and non-Hispanic white cultures; and the mental health implications of ethnic identity for alcohol and substance use.

BLANCHARD, JACK J.
Assistant Professor of Psychology and Psychiatry. Ph.D. State University of New York at Stony Brook, 1991.
Clinical Psychology. Research interests are in adult psychopathology with an emphasis on schizophrenia. Current NIMH funded research is directed at determining the role of emotion in schizophrenia and how emotion is related to the social and neurocognitive dysfunction characteristic of this disorder. The potential neuropsychological mechanisms underlying emotional and social disturbances in schizophrenia are also being examined in collaborative projects employing Magnetoencephalography (MEG) and Magnetic Resonance Imaging (MRI). Finally, research is being conducted to examine etiological models of comorbid substance abuse in schizophrenia and bipolar disorder.
APPENDIX I (continued)

CIESIELSKI, KRISTINA T.
Associate Professor. Ph.D. Polish Science Academy (Nencki Institute of Experimental Biology), 1978.
Cognitive/clinical neuropsychology; brain event-related potentials; brain imaging; developmental brain disorders. Experimental research is aimed at elucidating development of brain mechanisms of cognitive processes in normal and abnormal populations and currently focuses on attentional and memory systems in autism, schizophrenia, obsessive compulsive disorder, and dyslexia in survivors of childhood leukemia and in cases with frontal brain lesions. My approach is based on information-processing models and neuropsychological models of cognition, and integrates neurobehavioral, electrophysiological, neuroimaging and modelling techniques. A major goal is to describe the normal and pathological development of the frontal brain subsystems in humans and to differentiate disorders according to cognitive, neurophysiological and neuroanatomical symptoms.

COFER, LYNETTE FRIEDRICH
Professor. Ph.D. Cornell University, 1965.
Developmental psychology, human circadian rhythmicity as a mediator of personality development and cognitive performance, social development and gender differences, mediation of television effects, analyses of theoretical and empirical approaches to applied developmental research and family public policy. Current research interests include human circadian rhythmicity and parent-child relations and school performance, media portrayals of youth and families, processing of TV news content and environmental issues.

DELANEY, HAROLD D.
Professor and Associate Chair for Undergraduate Education. Ph.D. University of North Carolina, 1975.
Methodology, quantitative. Current research is in statistical methods, particularly those that are useful in investigations involving individual difference variables. Issues in experimental design and philosophy of science are also of interest. Interests in substantive areas include the psychology of religion, and individual differences in values and in cognition.

DOUGHER, MICHAEL J.
Professor and Department Chair. Ph.D. University of Illinois at Chicago, 1980.
Experimental and clinical behavior analysis. Primary research focuses on the experimental analysis of complex human behavior including stimulus equivalence and rule-governed behavior. Other interests include contextualistic methods of psychotherapy and psychotherapy research, and integrative psychotherapies.
APPENDIX I (continued)

EGLY, ROBERT
Assistant Professor. Ph.D. Arizona State University, 1990.
Cognitive neuroscience. My research focus is on understanding the cognitive processes and neural systems of visual attention and perception. A major component of my research program is the use of neurological patients (e.g., stroke, tumor, trauma) to identify the brain structures that control attending and perceiving in normal cognition, and to examine how various neuropathologies affect attending and perceiving.

FEENEY, DENNIS M.
Professor (and Professor of Physiology). Ph.D. University of California, Los Angeles, 1968.
Behavioral neuroscience, brain injury, recovery of function and epilepsy. In my laboratory we are conducting interdisciplinary studies of experimental brain injury in animals using a variety of methods, including electrophysiology, liquid chromatography, pharmacology, histological and behavioral measurements. Our goal is to understand and enhance behavioral recovery after brain damage in humans, and determine what commonly prescribed drugs may slow behavioral recovery.

GANGESTAD, STEVEN W.
Associate Professor. Ph.D. University of Minnesota, 1986.
Evolutionary psychology; social/personality psychology. General interests concern the ways in which humans' current psychological design is a product of evolutionary selection. Current research generally concerns this issue in regard to phenomena that occur within close relationships such as sexual relationships, friendships, and familial relationships. Other research concerns the developmental expressions of adaptations. Additional interests include individual differences, behavior genetics, psychometric theory, and philosophy of science.

GOLDSMITH, TIMOTHY E.
Assistant Professor. Ph.D. New Mexico State University, 1984.
Applied cognitive psychology, human factors, computer modeling. The general theme of my research centers on assessing and representing knowledge and skill. Some specific areas of my current work include: network models of structural knowledge, methods of eliciting and representing human expertise, and computational models of real-time decision making.
APPENDIX I (continued)

GLUCK, JOHN P.
Clinical psychology, general experimental psychology. Interests include value changes during psychotherapy and the effects of early experience on development. In addition, I am very interested in the general area of bioethics, particularly professional clinical conduct and the ethics of human and animal research.

HAALAND, KATHLEEN Y.
Associate Professor. Ph.D. University of Rochester, 1972.
Clinical and experimental neuropsychology. Motor deficits are a common outcome of brain damage (e.g., stroke, Parkinson’s disease, Huntington’s disease). My research program focuses upon understanding the different cognitive processes (e.g., motor programming; encoding, storage and retrieval of motor programs; scheduling movements) which produce complex motor deficits after damage to cortical and subcortical areas of the brain. We have emphasized the dominance of the left hemisphere for controlling movements in both hands. We study the changes in motor processes in (1) stroke patients with focal damage to different parts of the left hemisphere, basal, ganglia and cerebellum, using structural imaging to relate area of brain damage and behavior; (2) Parkinson’s disease; and (3) Alzheimer’s disease. In our laboratory strong emphasis is placed on the integration of cognitive and neuropsychological approaches.

HARRIS, RICHARD
Professor. Ph.D. Stanford University, 1968.
Experimental social psychology, game theory, equity theory. Primarily interested in relatively formal (mathematical and computer simulation) models of social psychological phenomena, with emphasis so far on post-decision dissonance reduction, experimental games, and equity theory. A secondary interest is in the development of multivariate statistical techniques.

HODGE, GORDON K.
Presidential Teaching Fellow and Associate Professor. Ph.D. University of California, Los Angeles, 1977.
Psychopharmacology, behavioral neuroscience, and teaching technologies. Current research is directed toward developing multimedia technologies for teaching in general and for the teaching of psychology in particular. This includes development and authoring of CD-ROM disks for use by both faculty in the classroom and students studying independently, as well as publishing on the World Wide Web.
APPENDIX I (continued)

LEWINE, JEFFREY D.
Assistant Professor (and Assistant Professor of Radiology). Director, Magnetic Source Imaging and Neuroscience Divisions, The New Mexico Institute of Neuroimaging. Ph.D., University of Rochester, 1989.
Cognitive neuroscience and neuroimaging. Research focuses on elucidating the neurobiological substrates of higher cognitive processing in normal and clinical populations. Cognitive neuroscience areas of interest include: (1) memory, (2) attention, (3) language, (4) face processing & higher visual functions, and (5) hemispheric specialization and interhemispheric integration. A wide range of methods are employed to examine these areas, including: (1) behavioral and neuropsychological testing, (2) magnetoencephalography [MEG], (3) electroencephalography [EEG], (4) structural and functional magnetic resonance imaging [MRI & fMRI], (5) transcranial magnetic stimulation [TMS], and (6) single photon computed emission computed tomography [SPECT]. Clinical populations being evaluated include individuals with a history of: (1) brain tumors, (2) stroke, (3) mild head trauma, (4) epilepsy, (5) schizophrenia, (6) autism, (7) post-traumatic stress disorder, (8) dementia, (9) bipolar-disorder, (10) dyslexia, (11) attention deficit disorder, and (12) substance abuse.

MC DANIEL, MARK A.
Cognitive. Major research interests center on how encoding and retrieval processes influence learning and memory. Current projects are focused on 1) text processing and memory; 2) organizational processes in memory; 3) investigating prospective memory processes younger and older adults and neuropsychological underpinnings; 4) understanding how people learn functional relations between stimulus and response variables; and 5) investigating causal concept learning in multivariate environments.

MILLER, WILLIAM R.
Professor (and Professor of Psychiatry) and UNM Center on Alcoholism, Substance Abuse, and Addictions. Ph.D. University of Oregon, 1976.
Treatment, prevention, and assessment of addictive behaviors; program evaluation research; cognitive-behavior motivation, and self-regulation; psychology and spirituality.
APPENDIX I (continued)

PADILLA, ELIGIO R.
Associate Professor (and Associate Professor of Psychiatry). Ph.D. University of
Clinical, cross-cultural and community. Current work focuses on higher
educational policy and practice and the validity of traditional instruments for the
assessment of intelligence among minority populations.

ROLL, SAMUEL
Professor (and Professor of Psychiatry). Ph.D., ABPP, ABFP.
Pennsylvania State University, 1968.
Clinical psychology, developmental psychology, forensic psychology. Using a
psychoanalytic framework as a base, I am exploring cultural influences on the
development of personality and cognition. This involves work in the area of
dreams, early memories, cognitive assessment, personality assessment and
psychotherapy. My research involves Anglo, Chicano, American Indian and South
American subjects.

RUEBUSH, BRITTON
(Primary appointment is outside the psychology department).
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.
Associate Professor and Director of Clinical Training Program. Ph.D. State
Clinical psychology. Research interests: psychophysiological assessment,
assessment and treatment of eating disorders (bulimia, obesity and anorexia),
alcoholic homeless individuals, dual diagnosis (substance abuse and chronic mental
illness) and implosive (flooding) therapy.
APPENDIX I (continued)

STANSBURY, KATHY
Assistant Professor. Ph.D. University of California, Los Angeles, 1990.
Developmental psychology and behavioral neuroscience; emotional and
neurohormonal development. My work focuses on developmental competencies,
and individual differences in social, emotional, and neurohormonal domains in
preschool age children. More specifically, how do children learn to regulate their
emotional states and what impact does this process have on later developing skills?
In creating and testing a model of these developmental processes, I have made use
of several different paradigms, such as children’s entry into new peer and social
situations, and commonly occurring frustration situations, and studied a variety of
systems that may be contributing to or involved in the caregiver relationships,
temperamental differences, psychophysiological factors (primarily hypothalamic-
pituitary-adrenocortical hormones), behavioral-risk contexts, and differences in
linguistic skills. I am also interested in prenatal influences on brain development
and later behavior, depression and neurohormones in mothers and children, and
developmental choneuroimmunology, as well as in basic theoretical questions in
the area of emotion in humans.

SUTHERLAND, ROBERT J.
Professor of Psychology and Psychiatry. Ph.D. Dalhousie University, 1980.
Cognitive and behavioral neuroscience, neuropsychology, learning and memory.
Primarily interested in exploring the relationship between brain and mind,
expecially the anatomical and functional organization of memory and related
cognitive processes. The research includes combinations of behavioral analyses,
electrophysiological recording, neurotoxins, and neuropharmacological techniques.
Other goals are to understand in detail the function of the hippocampal formation,
the nature of amnesic symptoms in Alzheimer’s disease, Korsakoff’s syndrome,
epilepsy, cerebral trauma, and other disorders. We also explore factors related to
cognitive recovery after brain damage.

WALDRON, HOLLY B.
Clinical psychology. Research interests focus on family interaction patterns, child
and adolescent psychopathology and treatment, and family therapy process and
outcome. Specific research topics include juvenile delinquency and adolescent
substance abuse.
YEO, RONALD A.
Associate Professor and Associate Chair for Graduate Education. Ph.D.
University of Texas, Austin, 1983.
Clinical and experimental neuropsychology. Research interests include individual differences in brain organization, neuroimaging, neuropsychological research methodology, genetic and environmental factors influencing brain development, and the biological bases of affective disorders and schizophrenia.
### APPENDIX J

**PERSONS HOLDING PROFESSIONAL TITLES IN PSYCHOLOGY**  
1995 - 1996

<table>
<thead>
<tr>
<th>Name and Address</th>
<th>Phone</th>
<th>Professional Title</th>
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</thead>
</table>
| **Julia C. Barker, M.A.**  
4600-A Montgomery NE, Suite 102  
Albuquerque, NM 87109 | 883-0100 | Clinical Associate |
| **Patricia Boham, Ph.D.**  
1502 Harvard Court NE  
Albuquerque, NM 87106 | 848-5122 | Clinical Associate |
| **Charles Cofer, Ph.D.**  
3600 Vista Grande NW  
Albuquerque, NM 87120 | | Professor (PT) |
| **Phillip W. Day, D.V. M.**  
Director, Animal Resource Facility  
University of New Mexico  
School of Medicine  
Basic Medical Science Building, G32  
Albuquerque, NM 87131 | 277-3936 | Assistant Professor (PT) |
| **Peter DiVasto, Ph.D.**  
Family Practice/Psychiatry 307  
Albuquerque, NM 87107-4811 | 277-4257 | Clinical Associate |
| **Susan Eissele, Ph.D.**  
4300 Carlisle NE, Suite 1  
Albuquerque, NM 87107-4811 | | Clinical Associate |
| **Charles H. Elliott**  
403 Dartmouth SE  
Albuquerque, NM 87106 | 843-2190 | Clinical Associate |
| **Roger Enfield, Ph.D.**  
4300 Carlisle NE, Suite 1  
Albuquerque, NM 87107-4811 | 884-2302 | Clinical Associate |
<table>
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<tr>
<th>Name and Address</th>
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</table>
| Clara Farah, Ph.D.  
715 Grande NE  
Albuquerque, NM 87102 | 881-8666  | Clinical Associate                                    |
| Al Fedoravicius, Ph.D.  
Behavioral Medicine  
Veterans Administration Medical Center  
2100 Ridgecrest Drive SE  
Albuquerque, NM 87108 | 265-1771 ext. 2425 | Adjunct Assistant Professor |
| William E. Foote, Ph.D.  
4308 Carlisle NE, Suite 208  
Albuquerque, NM 87107-4849 | 255-9494  | Clinical Assistant Professor |
| Therese Goetz  
1925 Juan Tabo NE, Suite B  
Albuquerque, NM 87112 |              | Associate |
| Kathleen Haaland, Ph.D.  
Psychology Services  
Veterans Administration Medical Center  
2100 Ridgecrest Drive SE  
Albuquerque, NM 87108 | 265-1711 ext. 2440 | Associate Professor  
(Secondary, nonprobationary appointment) |
| Nancy Handmaker, Ph.D.  
P. O. Box 1013  
Corrales, NM 87048 |              | Research Assistant Professor |
| Deborah Harrington, Ph.D.  
Veterans Administration Medical Center  
2100 Ridgecrest Drive SE  
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| Mary Harris, Ph.D.  
Education Foundations  
University of New Mexico  
Albuquerque, NM 87131 | 277-2925 | Professor  
(Secondary appointment) |
### Name and Address

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<tr>
<td>Reid Hester, Ph.D.</td>
<td>884-3002</td>
<td>Clinical Associate</td>
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<td>4300 San Mateo NE</td>
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<td>Bobby Holstead, Ph.D.</td>
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<td>Ben Klein, Ph.D.</td>
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<tr>
<td>Psychology Program Director</td>
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<td>St. Joseph Rehabilitation Center</td>
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<tr>
<td>Frances Koenig, Ph.D.</td>
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<td>Clinical Associate</td>
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<td>P. W. Kodituwakku, Ph.D.</td>
<td>272-1981</td>
<td>Clinical Associate (PT)</td>
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<tr>
<td>Marcia Landau, Ph.D.</td>
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<td>300 San Mateo Blvd. NE, Suite 805</td>
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<tr>
<td>Milton Lasoski, Ph.D.</td>
<td>266-3070</td>
<td>Clinical Associate</td>
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<td>1817 Morningside Drive NE</td>
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<tr>
<td>A. Lane Leckman, M.D.</td>
<td>841-1031</td>
<td>Clinical Associate</td>
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<tr>
<td>11000 Candelaria NE, Suite 110 West</td>
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<td>Albuquerque, NM 87112</td>
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<tr>
<td>Jeffrey Lewine, Ph.D.</td>
<td>256-5744</td>
<td>Research Assistant</td>
</tr>
<tr>
<td>Magnetic Source Imaging Facility, Bldg. 49 VA Medical Center 2100 Ridgecrest Drive SE Albuquerque, NM 87108</td>
<td></td>
<td>Professor (PT)</td>
</tr>
<tr>
<td>George Luger, Ph.D.</td>
<td>277-3204</td>
<td>Professor (Secondary appointment)</td>
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<tr>
<td>Department of Computer Science University of New Mexico Albuquerque, NM 87111</td>
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<tr>
<td>Edward Maclin, Ph.D.</td>
<td>268-7043</td>
<td>Research Assistant</td>
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<tr>
<td>727 Morningside Drive NE Albuquerque, NM 87110</td>
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<td>Professor (PT)</td>
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<tr>
<td>Ron McGowan, Ph.D.</td>
<td>842-1995</td>
<td>Associate</td>
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<tr>
<td>801 Encino Place NE Albuquerque, NM 87102</td>
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<tr>
<td>Charlene McIver, Ph.D.</td>
<td>265-8800</td>
<td>Clinical Associate</td>
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<tr>
<td>4600-A Montgomery NE, 102 Albuquerque, NM 87109</td>
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<tr>
<td>Theresa Moyers, Ph.D.</td>
<td>265-1711</td>
<td>Adjunct Clinical Assistant</td>
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<tr>
<td>Psychology Service VA Medical Center 2100 Ridgecrest Drive SE Albuquerque, NM 87108</td>
<td></td>
<td>Professor</td>
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<tr>
<td>Ruth Shore Mondlick, Ph.D.</td>
<td>881-0618</td>
<td>Clinical Associate</td>
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<tr>
<td>1605-C2 Carlisle Blvd. NE Albuquerque, NM 87110</td>
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<tr>
<td>Jean Newman, Ph.D.</td>
<td>277-7414</td>
<td>Associate Professor</td>
</tr>
<tr>
<td>Associate Professor of Linguistics Humanities 526 University of New Mexico Albuquerque, NM 87131</td>
<td></td>
<td>(Secondary appointment)</td>
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### APPENDIX J (continued)

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<th>Name and Address</th>
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<tr>
<td>Stephen R. Perls, D.Ed.</td>
<td>256-0500</td>
<td>Associate Professor (Secondary appointment)</td>
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<td>Department of Psychiatry</td>
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<td>Bruce Porch, Ph.D.</td>
<td>277-4753</td>
<td>Associate Professor (Secondary appointment)</td>
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<td>Communicative Disorders</td>
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<tr>
<td>Richard Reed, Ph.D.</td>
<td>881-6665</td>
<td>Clinical Associate</td>
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<td>7520 Montgomery NE</td>
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<td>Albuquerque, NM 87109</td>
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<tr>
<td>Michael Richard, D.V.M.</td>
<td>277-5009</td>
<td>Adjunct Assistant</td>
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<tr>
<td>Department of Psychology</td>
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<tr>
<td>Steve Rokicki, Ph.D.</td>
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<td>Associate</td>
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<td>P. O. Box 345</td>
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<td>Corrales, NM 87048</td>
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<tr>
<td>Karen Ruebush, Ph. D.</td>
<td>268-5240</td>
<td>Clinical Associate</td>
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<td>1513 Harvard Drive NE</td>
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<tr>
<td>Elizabeth Roll, Ph.D.</td>
<td>266-2631</td>
<td>Clinical Associate</td>
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<td>120 Vassar Drive SE</td>
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<tr>
<td>Doris Sahd, Ph.D.</td>
<td>298-7551</td>
<td>Clinical Associate</td>
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<td>9408 Aztec NE</td>
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<tr>
<td>Will Scofield, Ph.D.</td>
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<td>Clinical Associate</td>
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<tr>
<td>Rene Silleroy, Ph.D.</td>
<td>292-3776</td>
<td>Clinical Associate</td>
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<tr>
<td>8100 Constitution Place NE</td>
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<td>Edward W. Snyder, Ph.D.</td>
<td>265-1711</td>
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<td>Psychology Service</td>
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<td>Veterans Administration Medical Center</td>
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<tr>
<td>Frank Spring, Ph.D.</td>
<td>243-3751</td>
<td>Clinical Associate</td>
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<tr>
<td>708 Marquette Avenue NW</td>
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<tr>
<td>Tim Strongin, Ph.D.</td>
<td>298-1477</td>
<td>Clinical Assistant Professor</td>
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<tr>
<td>Jerry Sue Thompson, Ph.D.</td>
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<td>1301 Manzano NE</td>
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<tr>
<td>Maryann Thompson, Ph.D.</td>
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<tr>
<td>Scott Tonigan, Ph.D.</td>
<td>768-0266</td>
<td>Research Assistant Professor</td>
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<tr>
<td>Albert V. Vogel, M.D.</td>
<td>277-4763</td>
<td>Associate Professor (Secondary appointment)</td>
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<tr>
<td>Department of Psychiatry</td>
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<tr>
<td>Carolina Yahne, Ph.D.</td>
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<td>Clinical Associate</td>
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<tr>
<td>791 Encino Place NE, B-10</td>
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<td>Albuquerque, NM 87102</td>
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### APPENDIX K

#### DEPARTMENT OF PSYCHOLOGY COLLOQUIA

**AY 1995 - 1996**

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<th>COLLOQUIUM PRESENTED BY</th>
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<tr>
<td>Dr. Doreen Kimura</td>
<td>&quot;Biological Factors Influencing Sex Differences in Cognition.&quot;</td>
</tr>
<tr>
<td>Professor of Psychology</td>
<td>July 13, 1995</td>
</tr>
<tr>
<td>The University of Western Ontario</td>
<td></td>
</tr>
<tr>
<td>Dr. J. Michael Wyss</td>
<td>&quot;Age-Related Structural Plasticity in Mature Neurons, Relation to Learning and Memory.&quot;</td>
</tr>
<tr>
<td>Professor of Cell Biology</td>
<td>August 8, 1995</td>
</tr>
<tr>
<td>The University of Alabama at Birmingham</td>
<td></td>
</tr>
<tr>
<td>Dr. Larry Ryan Squire</td>
<td><em>Ninth Annual Quad-L Lecture</em></td>
</tr>
<tr>
<td>Professor of Psychiatry and Neurosciences</td>
<td>&quot;Memory Systems of the Brain.&quot;</td>
</tr>
<tr>
<td>University of California School of Medicine and Veterans Affairs Medical Center, San Diego</td>
<td>October 20, 1995</td>
</tr>
<tr>
<td>Dr. Peter Urcuioli</td>
<td>&quot;Acquired Equivalences and Mediated Generalization.&quot;</td>
</tr>
<tr>
<td>Professor of Psychology</td>
<td>December 1, 1995</td>
</tr>
<tr>
<td>Purdue University</td>
<td></td>
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<tr>
<td>Dr. Michael Peters</td>
<td>&quot;Brain Size, Race, and Intelligence: Fact, Fiction, and Some Broader Issues in Evolutionary Psychology&quot;</td>
</tr>
<tr>
<td>Professor of Psychology</td>
<td>December 8, 1995</td>
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<tr>
<td>University of Guelph</td>
<td>&quot;Acuity, Resolution, and Perception: A Fly's Point of View.&quot;</td>
</tr>
<tr>
<td>Dr. Michael Wilcox</td>
<td>January 24, 1996</td>
</tr>
<tr>
<td>Research Associate</td>
<td></td>
</tr>
<tr>
<td>University of New Mexico</td>
<td></td>
</tr>
<tr>
<td>Dr. Cynthia May</td>
<td>&quot;Timing is Everything: Circadian Arousal and Inhibiting Control Over Thought and Action.&quot;</td>
</tr>
<tr>
<td>Professor of Psychology</td>
<td>April 5, 1996</td>
</tr>
<tr>
<td>University of Arizona</td>
<td></td>
</tr>
<tr>
<td>Dr. Jonathan Reed</td>
<td><em>Benjamin Franklin Haught Memorial Research Lecture</em></td>
</tr>
<tr>
<td>Professor of Psychiatry</td>
<td>&quot;Characterizing Implicit Learning.&quot;</td>
</tr>
<tr>
<td>The University of California, San Diego</td>
<td>April 12, 1996</td>
</tr>
</tbody>
</table>
APPENDIX K (continued)

Dr. Morris Moscovitch
Professor of Psychology
University of Toronto

Dr. David Rumelhart
Professor of Psychology
Stanford University

Dr. Eric Halgren
Professor of Psychology and Psychiatry
UCLA School of Medicine
and INSERM Rennes, France

“What Makes Faces Special? Studies on People Who Have a Domain-Specific Recognition Impairment.”
April 25, 1996

“The Role of Connectionist Modelling in Cognitive Neuroscience.”
May 9, 1996

“Cognitive Neurophysiology of the Human Hippocampus.”
May 24, 1996
APPENDIX L

ANNUAL REPORT

DEPARTMENT OF PSYCHOLOGY CLINIC

AY 1995-1996

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 approximately 1336 student-clinicians' therapy hours plus intakes and assessment are the equivalent of a reasonable work load for a clinic with three full-time staff. Here, however, these services are provided by 54 clinicians (with different responsibilities, depending on their place in the program). All of them 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, competent education preparation, and dedicated faculty and outside supervisors, the Clinic is a place where both of its missions can be carried out without contradiction.
SERVICES

Individual adult therapy remains the primary service of the Clinic, with a client population that is varied in terms of age, ethnicity, employment status, education and presenting problems. Generally the severity of referral issues is from mild to moderate. There is a frequent misperception that we serve primarily a University population; in fact, our referrals come from other agencies and practitioners, the Court, and self-referrals, providing a cross-section of the community. Because of a sliding fee scale ($10 to $60 per hour), we do have a selection factor toward low-income individuals, but even this is not universal. Increasingly in recent years, the Clinic has had more involvement in family, child, and couples therapy. This has been due to the influences of Jane Smith and Holly Waldron, who have increased the number of students who are knowledgeable in family dynamics and treatment; of Britton Fuebush as more students have been involved in classwork and practica at the Albuquerque Family and Child Guidance Center; and of Dan Matthews with his background in child and family practice particularly in the area of divorce. The closing of outpatient therapy services by New Mexico Hospital Mental Health Center in 1990 produced an apparently permanent waiting list of referrals, changing our intake procedures and, to some extent, affecting our services. Since we cannot serve all those desiring therapy with us (and it is not our specific mission to do so) we have tried to maintain our previous commitment to long-term therapy as a valuable service and training modality. Larger numbers can be served with group treatment, and group experience is likewise valuable to our student-clinicians. This year, group therapy was provided by Luci Hackbert and Michael Dougher under Dr. Dougher’s supervision.

The contract with the Metropolitan Court Probation Department for dispositional
assessments was carried out this year by Rick Perkins with assistance from Anner Eliot, Bob
Thoma and others under Dan Matthews' supervision. Six of our student-clinicians, Ann Waldorf,
Rick Perkins, Tracy Simpson, Anner Eliot, Lorraine Torres, and Bob Thoma have completed the
sixth year in the assessment and group or individual treatment of couples who have been involved
in domestic violence incidents. A project of the Family Court Clinic, this effort has been under
the primary supervision of Lou Kodituwakku, Ph.D., a UNM psychology department graduate.
In the coming year, Tom Dominguez will return to this project and Ella Nye will begin, replacing
Ann and Anner who have begun their internships.

PERSONNEL

The staff of the Clinic consists of Dan Matthews, Director (since fall 1988); Wanda
Sharts, Office Manager (who moved from the Department in June 1991); and Rick Perkins,
evaluator for the Metropolitan Court Probation Division. Ella Nye will replace Rick beginning in
the fall semester.

Wanda's reorganization of the Clinic continue to provide a steady foundation for our work
here. She has provided not only an increase in the efficient operation of the Clinic, but also a
calm and quieting presence that facilitates all our efforts in a sometimes stressful work
environment.

I (Dan Matthews) am close to completing my eighth year as Clinic Director. I continue to
enjoy the Interviewing and Case Formulation practica for first year students, and group as well as
individual supervision of student-clinicians. I also meet with second year students an hour per
week to discuss general issues of therapy, a course which will expand to include more
professional clinical issues this year. I am increasingly involved in work with other agencies
through contracts such as those with Metropolitan Probation and the Court Clinic. My role with New Mexico Psychological Association is changing as I move from Legislative Committee Chair to President in 1997. Issues of concern to our students such as revision of the licensing system and regulation of managed care systems are central concerns at this time. A newly created Division of Research and Training within NMPA is intended to provide a productive and more comfortable (as well as less expensive) home for our students and recent graduates within the organization.

This is the time each year that we experience the loss of our “senior staff” -those who have graduated or are leaving for internship. Susanna Chang, Anner Eliot, John Harlow, Paul Loflin, Craig Noonan, Frank Sanchez, and Ann Waldorf have left for internship in excellent settings. Their work at the Clinic, their support for other student-clinicians and the regular contacts in conversation and supervision will be sorely missed.

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

Although our contracts have been fewer this year and our fees per hour lower, we have maintained a positive balance financially, even after expenditures for testing materials and improvements of the building and equipment.

PHYSICAL SETTING

Owing to the remodelling when the Clinic moved to its present location over ten years ago
plus the furniture and fittings provided by American Furniture, the Clinic is a comfortable and
pleasing environment for clinicians, clients and staff. Five pleasant therapy rooms are available,
and there is office/work space for the students, the Staff Assistant, and the Clinic Director.
The 1996-97 academic year will see the Clinic move to a new location. A large classroom
building is slated to fill virtually the entire block on which the Clinic is located. Though the future
location has not yet been designated by the University, the Facility Planning Office is working
hard to find an appropriate setting that will fit our needs. We have reasonable hopes that the new
location will have at least one additional therapy room which has been badly needed for some
years. We plan to centrally locate recording equipment for videotaping in at least four therapy
rooms.

RESEARCH

Almost continuously over the past three years, students and faculty are using the Clinic
facilities for their research. Debra Palmer and Anner Eliot are students who are conducting
clinical dissertation research at the Clinic. We plan in this coming year to set up a system of data
collection that will allow analysis of outcomes for Clinic cases.

These current and projected research efforts add to the contribution of the Clinic to the
community and to the body of clinical research. Continuation of such work in this setting is
greatly encouraged and appreciated.

SUMMARY

As the year ends and begins, Jane Smith has completed over three years as Associate
Chair for Clinical Training, and Michael Dougher two years as Chair. Dr. Dougher has been
faculty director of the Clinic in the past and has maintained an active involvement as therapist and
supervisor in the Clinic. Dr. Smith has helped the Clinic by seeing clients here for many years and continuously supervising students. She has organized case conferences on a regular basis, adding to the opportunities for students to both teach and learn. These conferences have been a very successful addition to the coursework of the students and an opportunity for interaction with and direction from Dr. Dougher, Dr. Smith and the entire clinical committee.

The Department of Psychology Clinic continues to be a pleasant and supportive environment for providing psychological services to the Albuquerque community. It is a congenial setting to develop the experience and skill of being a therapist and psychological evaluator. Through the efforts of faculty, student-clinicians, supervisors and staff, an atmosphere is maintained that is supportive of this sometimes stressful work. It is a good place to work, learn and grow.

Prepared by

Dan Matthews, Ph.D., Clinic Director
APPENDIX M

SUPPORT STAFF

DEPARTMENT OF PSYCHOLOGY
AY 1995 - 1996

ADMINISTRATIVE SUPPORT STAFF

Department Administrator, III: Robyn Santillanes, MPA
Assists the Department Chair; administers all personnel and budgetary decisions
necessary to execute University policies and policies set by the Department Chair
and faculty; has fiscal responsibility for all budgetary activities in the Department;
assists in hiring and supervision of all staff, students, and technical personnel;
coordinates with various University administrators on a variety of complex
matters, including faculty contracts, student financial aid, staff compensation, and
other matters; drafts policies, procedures, correspondence for the Chair; takes
minutes at faculty meetings.

Administrative Assistant: Candace Blashak
Works in support of Department Chair. Responsibilities include front office
management, supervision and hiring of office clerical and student employees,
responsible for building key security, preparation of a variety of administrative and
instructional documents, faculty recruitment, tenure and promotion files,
coordination of the department convocation activities, departmental receptions,
and other special events.

Program Specialist II: Lois Kennedy
Serves as department’s graduate admissions coordinator; primary liaison with
public and prospective graduate and undergraduate students; responsible for
administering student degree checks, counsels and advises graduate and
undergraduate students in Psychology program regarding policies, requirements,
academic standing, and related matters; maintains all graduate student files and
records; coordinates comprehensive examinations and thesis and dissertation
defenses; interfaces with Graduate Studies Office in policy areas; coordinates with
Scheduling Office, Continuing Education Office, regarding department class
schedules; assists top administration with hiring part-time faculty; is official liaison
between department and visiting faculty; coordinates with Graduate Studies Office,
College of Arts and Sciences, Curriculum Change Committee, and Office of
Scheduling regarding revisions for University catalogs; prepares reports for outside
agencies such as the American Psychological Association as requested. Performs
other duties as requested by the department chair.
APPENDIX M (continued)

Staff Assistant: Nancy Chavez
Edits and word processes complex manuscripts and grant proposals; provides word processing for department faculty; prepares department annual report; writes and edits department quarterly newsletter; prepares information for “Faculty Publications and Creative Works”; serves as department representative for the United Way drive; is a bookholder with back-up duties for department administrator, Program Specialist II and other Staff Assistant and is a paymaster.

Staff Assistant: Terri Nicholson
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, and maintenance of office copier; backup for Program Specialist II, back-up for other Staff Assistant for typing of syllabi, exams and correspondence; maintains department classroom schedule, and supervises two student employees.

Project Coordinator for Grants: DeeAnn Quintana
Coordinates all phases of extramural funding requests; examines all proposals for accuracy; trains and supervises project personnel; monitors and reports on direct and indirect costs associated with research grants; department liaison to the Office of Research Administration and Contract and Grant Accounting.

RESEARCH SUPPORT STAFF

Instrument Technician: Patrick Sharp
Supports faculty, staff and graduate students with computer needs; responsible for electronic design, fabrication, troubleshooting, installation, computer upgrades, consulting, repair, and preventive maintenance for a vast assortment of electronic equipment; fabricates wood and metal products using a variety of equipment; responsible for annual department equipment inventory; advises Chair and department faculty regarding purchase, installation and maintenance of electronic equipment.

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 student employees; works with department’s veterinarian in treatment of laboratory animals and in monitoring compliance with the Animal Welfare Act; works under general supervision of Department Chair, Veterinarian, and Chair of Animal Care and Use Committee.
APPENDIX M (continued)

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; back-up for senior Laboratory Animal Technician IV.

Veterinarian: Linda Contos, DVM
Provides preventive, acute and on-call medical treatment to a variety of departmental laboratory animals; provides professional management of animal research facility and monitors compliance with the Animal Welfare Act; provides relevant instruction to faculty, graduate and undergraduate students concerning care and treatment of laboratory animals; reports to Department Chair and Chair of Animal Use and Care Committee.

PSYCHOLOGY CLINIC SUPPORT STAFF

Clinic Director: Daniel Matthews, Ph.D.
Has overall administrative and fiscal responsibility for the Clinic and executes Clinic policies as set by the Department faculty; reports to the Department Chair through the Associate Chair for Clinical Training. Duties include triage of referrals to the Clinic, supervision of doctoral students, report writing, community relations and some direct clinical services, including assessment.

Staff Assistant: Wanda Sharts
Works under general supervision and in support of Psychology Clinic Director, Psychology Department Chair, and Department Administrator. Assists in the formulation of Clinic policies and procedures; performs a wide variety of duties in the areas of budget, personnel, payroll, and related matters, and performs administrative work at the paraprofessional level; supervises student employee.
APPENDIX N

NEW POLICY ADOPTED BY FACULTY

REVISED STATEMENT OF MISSION
Adopted September 29, 1995

The new mission statement as approved by faculty vote follows:

The Department of Psychology shares with other academic departments at the university its raison d'être: the discovery and dissemination of knowledge. It shares with other science departments a commitment to empirical research. The distinguishing feature of this purpose for a psychology department is that the knowledge being sought concerns the individual organism, and most typically the behavior of the individual person.

The UNM Department of Psychology embraces a number of goals which serve to give the program a distinctive flavor. These are reflected in the mission of the department which is to:

- Create a supportive environment in which faculty and students associated with the department are encouraged to achieve their maximum potential as scholars.

- Promote a scientific approach to psychology, emphasizing both experimental and correlational methodologies as historic traditions.

- Encourage respect for and openness to a variety of theoretical, philosophical, and empirical approaches, with the view that the study of psychology is enriched by the interaction of multiple perspectives.

- Value active research programs within the department and in collaboration with colleagues outside the department.

- Maintain excellence in clinical and experimental psychology and foster the growth of neuroscience approaches to the study of learning, memory, and cognition.

- Encourage and support effective teaching both in communicating psychology to undergraduates as an area of major study and a critical part of a liberal arts education, and in training graduate students at a professional level.

- Train graduate students in the application of general experimental psychology in clinical and other professional settings.
APPENDIX N (continued)

- Ensure that graduate students in all areas are well trained in methodology and ethics appropriate for their effective functioning as researchers and professionals.

- Enable students to understand the development and operation of psychology in the context of diversity within the larger culture, and its application in the culture of the Southwest in particular.

- Be actively involved in service to the university, the community, the state, and the profession.

- Evaluate, in an ongoing fashion, our performance as a department with respect to our mission, and revise this Statement of Mission to accommodate to changing situations.
I am pleased to submit this report covering my fifth (and final) year as department chair. The main office was characterized by stability this academic year. Emily Griffith continued as Administrative Assistant, Rose Muller as Staff Assistant, and Karen Majors as Clerical Specialist V.

A. Important Achievements

The Sociology Convocation was held in the Student Union Ballroom on Saturday, May 11th at 3:30 p.m. A total of 157 graduates received degrees from the Department of Sociology with the following substantive breakdown: 71 Sociology majors and 86 Criminology and Criminal Justice majors. An estimated 700 persons were in attendance including family and friends. The Department heard the presentation, "Challenging the Future with Integrity and Compassion," from Dr. Carol Lujan who also received the 1996 Sociology distinguished alumni award. The Department also awarded honors certificates to two students in each major with the highest overall GPAs, Kimberly Kennedy and Nadine Pohl. Masters degrees were awarded to Andrea Hoplight and Glorianne Gavia. Michelle Hussong received a Ph.D. 1996 marked the 60th anniversary of the UNM Sociology Department.

Some of the Department's important achievements this year include:

- Launched a major new advertising campaign for our graduate program.
- Developed a new undergraduate advisement packet for all majors.
- Director Robert Fiala established a new Survey Research Center at the ISR.
- Moved the Department into an electronic mail system for all routine communications.
- Revised the requirements for the graduate program.
- Completed a detailed self-study of the ISR.
- Implemented a new software package that allows the Department to copy large jobs at CIRT.
- Revised the Faculty Workload statement.
Two Sociology Department graduate students published books during the same semester: Wayne Pitts and Bill Robinson.

- Increased the number of graduate students funded either entirely or partially from extramural research funds to 20.
- Increased Sociology Department faculty participation in funded research through the Institute for Social Research.
- Initiated a new undergraduate honors program
- Published the third annual Sociology working paper series.

B. List of Faculty Publications, Research, and Activities

**Tomas Atencio**

Research Projects or Creative Work:

Research on Hispanic conversions from Catholicism to Presbyterianism between 1860’s and 1930, part of project at Perkins School of Theology, SMU, funded by Lilly Foundation for 3 years. On-going research on Crypto-Judaism in Northern New Mexico and Southern Colorado.

**Beverly Burris**

Publications:


Activities in Learned and Professional Societies:

Richard Coughlin

Publications:


Research Projects or Creative Work:


Activities in Learned and Professional Societies:


Organizer, Seventh International Conference on Socio-Economics, Washington D.C., April 7-9, 1995.

Executive Director and member, Executive Council, Society for the Advancement of Socio-Economics.

Robert Fiala

Publications:


Research Projects or Creative Work:


Activities in Learned and Professional Societies:

Member, Program Committee, 1996 meeting of the Pacific Sociological Association.

Organizer and presider of session on Comparative Political Sociology, 1995 meeting of the Pacific Sociological Association.

Philip Gonzales

Publications:

"Additional Lessons to take from the Hispano Homeland Debate." Perspectives in Mexican American Studies. Forthcoming, Fall 1996.

Research Projects or Creative Work:

"The Hispano Cause: Political Ethnicity, Race Relations and Social Change in New Mexico, 1889-1935." Book in progress. Supported by UNM grants: the Research Allocation Committee ($2,683) and the A&S Dean's Special Research Fund ($2,890).
Activities in Learned and Professional Societies:


Jane Hood

Publications:


Work reprinted in 1995 or to be reprinted:


Research Projects or Creative Work:

Review essay on work and family under contract for McGraw Hill's Primus series.

Paper proposal, "The lost art of theoretical sampling" accepted for ESSEX-96, the Fourth International Sociology Association Methodology Conference (July 1-4, Essex, UK).

Continued revision and submission of internal proposals to support "Politics as Family Work."

Begun additional data-gathering for a future paper on nurses and substance abuse (subject of a roundtable presentation at ASA).
Activities in Learned and Professional Societies:

Offices:
Elected to the Pacific Sociological Association Council; Nominated to the Board for the Society for Study of Social Problems.

Presentations and Conference Participation:


Organizer and presider: Session on Sociology of Work, Pacific Sociology Association meetings (San Francisco, CA, April 7, 1995).

George Huaco

Research Projects or Creative Work:
Completed book manuscript. Reclaiming Marx. It is being reviewed by a university press.

Miguel Korzeniewicz

Publications:


Other Research Projects or Creative Work:
"Competition, Uncertainty and Innovation: Emerging Agendas in the Political Economy of Latin America."

Activities in Learned and Professional Societies:


Gary LaFree

Publications:


Research Projects or Creative Work:


Activities in Learned and Professional Societies:


Philip May

Publications:


Research Projects or Creative Work:

Currently Funded


University of New Mexico, $120,000, "Supplement (from Associate Provost for Research and Arts and Sciences) to the New Mexico Access to Research Careers Program," July, 1995 - June 2000. FY 1996 = $24,000.


U.S. Centers for Disease Control, $1,062,000, "ARBD Epidemiology and Prevention Research in New Mexico," October, 1992 - September, 1997. FY 1996 Funding = $256,000.


NIAAA, Fetal Alcohol Syndrome Epidemiologic Research (FASER II). Funding: $1,196,000, April 1, 1995 - March 31, 1998. FY 1996 = $398,000.

Center for Substance Abuse Treatment (CSAT) and Navajo Nation. Evaluation and Technical Assistance for Alcohol Treatment Programs. $371,000, April, 1995 - March, 1999. FY 1996 = $136,000.

Patrick McNamara

Publications:


Research Projects or Creative Work:

Co-authored book manuscript completed and accepted for publication. Research sponsored by the Lilly Endowment; project title: "Lilly Endowment Study of Church Giving." Total grant amount, $650,000 (my grant funding = $110,000).

Activities in Learned and Professional Societies:

Gilbert Merkx

Publications:


Research Projects or Creative Work:


Director, "Electronic Information for Central America Trade, Investment, Economic Integration, and the Environment," funded by the Ford Foundation, Amount, $75,000. Project Duration, September 1995-August 1996.

**David Rhodes**

**Research Projects or Creative Work:**

"Decision Frames: Parental Education and Four-Year College" under review at *Sociology of Education*.

"Detecting Discrimination: Methods for Analyzing Racial Disparities in Public Contracting." co-authored with Richard Boyle currently under review at *Social Science Research*.

"It Depends on What You Do and Who Your Parents Are: The Implications of Paid Employment for College Students." co-authored with Duncan Sill.

**Activities in Learned and Professional Societies:**

John Roberts

Publications:


Research Projects or Creative Work:


H. Laurence Ross

Publications:


Research Projects or Creative Work:

(With Steven Simon and James Cleary), "License Plate Impoundment for Multiple Offender Drunk Drivers," at the 12th International Conference on Alcohol, Drugs, and Traffic Safety, Adelaide, Australia; printed in the published Proceedings edited by Craig Kloeden and A. J. McLean).

"Burnout and Embezzlement of Time among Housing Inspectors," American Society of Criminology, Boston.

"Housing Code Enforcement as Law in Action," Law and Society Association, Toronto.


"Housing Code Enforcement as Law in Action," accepted for publication as a double article by Law and Policy.

"The Impact of License Loss on Income," report now in draft, to be published as a monograph by the U.S. Department of Transportation in 1996.

"The End of Drunk Driving as a Social Problem," manuscript submitted for presentation at the 1996 Convention of A.S.A.

"Drunk Driving: A Middle-Aged Social Problem," submitted to and accepted for presentation at the 1996 Convention of S.S.S.P.

Lecture series on drunk driving, funded by the New Mexico Traffic Safety Bureau, Department of Highways, $25,000.

Paul Steele

Publications:


**Research Projects or Creative Work:**

**A. Publications**


**B. Technical Reports**


**C. Grants and Contracts**


New Mexico Human Services Department, Medical Assistance Division, "Evaluation of Primary Care Network and Other Special Services." February, 1995-December, 1995. $100,000.


State of New Mexico, Children, Youth and Families Department, "Evaluation of Juvenile Community Corrections Programs and Services." November, 1994-February, 1996. $80,000.


National Children's Advocacy Center, and National Resource Center on Child Sexual Abuse, "Assessment of Services and Outcomes of the National Children's Advocacy Center." Jointly funded project, June, 1993-March, 1995. $16,000.


Activities in Learned and Professional Societies:


Susan Tiano

Research Projects or Creative Work:

Submitted proposal to Wenner-Gren Foundation for Anthropological Research entitled, "The Effects of Macro-economic Changes on the Female Blue Collar Working Population of the NAFTA Signatories." The project was prepared in collaboration with Dr. Luisa Gabayet, of the Centro de Investigaciones y Estudíes Supriores en Antropologia Social de Occidente, in Guadalajara, Mexico.

Activities in Learned and Professional Societies:

I was asked to serve on the Committee on International Sociology for the American Sociological Association, a term which will run from 1995-1998.
Bert Useem

Publications:


Nelson Valdes

Publications:


Papers Presented:


Panelist on “The Latin America Data Base and the Internet,” at the American Bibliographers Association Convention, 12995. Participated in three LASA panels as commentator.

“El Estado y la Transicion Real: Creando Nuevos Espacios en Cuba,” paper presented at the Universidad de Trabajadores Latinoamericanos, August 1995. (Accepted for publication by the Latin American research Review - the official publication of the Latin American Studies Association.)
Service:

Became one of the editors of the Cuban Social Science journal - **TEMAS** (May 1995 -)

Negotiated on behalf of the Sociology Department at UNM and the Centro de Estudios sobre America (Havana) a faculty exchange program (December 1995).

Member of the International Advisory Editorial board of the **Australian Journal of Iberian and Latin American Studies**, the official journal of the Association of Iberian and Latin American Studies Association of Australia (January 1996-).

Grants:

As director of the LADB obtained $75,000 from the Ford Foundation to begin a new electronic newsletter - EcoCentral.

As director of the LADB requested $260,000 from the federal government for general operations. The funding is pending.

C. Graduate Program

Awarded Dissertations, Theses  
Sociology Department/Summer 1995, Fall 1995, Spring 1996

<table>
<thead>
<tr>
<th>Author</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexis Padilla, Ph.D.</td>
<td>“The Numbers Game in the Enforcement of Quantitatively Standardized Rules: The Cases of Driving While Intoxicated, Housing, and Water Pollution”</td>
</tr>
<tr>
<td>Patrick O’Day, Ph. D.</td>
<td>“Mobilization and Victimization: The Case of Black Power”</td>
</tr>
<tr>
<td>Bridget Doyle, M.A.</td>
<td>“An Ecological Model of Spousal Violence”</td>
</tr>
<tr>
<td>Glorianne Gavia, M.A.</td>
<td>“The Assumptive World of Mexican American Girls in Gangs”</td>
</tr>
</tbody>
</table>
Andrea Hoplight, M.A.  “Sexual Identity in the Cultural Borderlands of Puebla, Mexico”

Kim Wallace, M.A.  “Socialist Feminist and Liberal Feminist Approaches to Alleviating Poverty”

The graduate program in Sociology continues to make substantial progress with new admissions for 1995/96. Fifteen new students were admitted in 1995/96. The Sociology Graduate Student Association (SGSA) remained active with past president Shannon Morrison retiring and Ken (Mike) Logan taking on the job.

The Annual Graduate Student Colloquia was held on March 22nd and March 29th, 1996 at 3:00 p.m. in the Sociology Commons. The first session included the following presenters: Judy Driscoll, Rebecca Frerichs, Shannon Morrison and Rebecca Whitecotton. The second session included the following presenters: Margaret Armendariz, Deborah Holmes, Andrea Hoplight, Roy Johnson and Kenneth Logan.

D. Appointments

Dr. Richard Coughlin served as the Executive Director for the Society for the Advancement of Socio-Economics. Dr. Coughlin was appointed as the Chair of the Sociology Department beginning August 1996.

Dr. Robert Fiala served as the Director of the Institute for Social Research (ISR) for the academic year 1995-96.

Dr. Philip Gonzales has been appointed to direct the Southwest Hispanic Research Institute, beginning in Fall 1996.

Dr. Gary LaFree, has been appointed to direct the Institute for Social Research, beginning in Fall 1996.

Dr. Raymond Liedka remained as a full-time Visiting Assistant Professor for 1995/1996. Dr. Liedka taught sociological methods and statistics, an appointment which fills the two year vacancy created by Associate Professor Keiko Nakao’s leave of absence to teach at Tokyo Metropolitan University.

Dr. Phil May served as the Director of the Center on Alcoholism, Substance Abuse and Addictions.

Dr. Gil Merkx served as the Director of the Latin American Institute.
Dr. John Roberts successfully completed his code three review.

Dr. Susan Tiano, has been appointed as an Associate Dean of Arts and Sciences, beginning in Fall 1996. Dr. Tiano served as Associate Chair for the Department in Fall 1995, Spring/Summer 1996.

Dr. Nelson Valdes served as the Director of the Latin American Data Base.

E. Leaves of Absence, Sabbaticals

Professor Tomas Atencio received a one-year leave to pursue his research on the social history of Presbyterianism in Northern New Mexico and to complete a book chapter for his on-going Hispanic Protestant Research Project.

Professor Pat McNamara was approved for a sabbatical in Fall 1996 to complete a series of life-history interviews in Western Europe and the United States. These interviews will eventually be part of a book dealing with the commitment among young Catholic adults to religion.

Associate Professor Keiko Nakao will resume her position in the Department in Fall 1996.

Professor Art St. George was granted an additional one-year leave to direct the Competency and Research section of the National Science Foundation in Washington, D.C. Dr. St. George was named a 1995 recipient of the Director's Award for Excellence by the Education and Human Resources (EHR) and the Computer, Information Sciences and Engineering (CISE) Directorates of the National Science Foundation.

Professor Paul Steele received a one-year leave for 1996/97. During his leave, Professor Steele will be research director for the Vera Institute in New York City.

F. Colloquia Series

David Morgan, (PhD, University of Michigan) made a presentation titled, "The Use of Focus Groups in Mixed-Methods Research" in the departmental Commons on November 21, 1995.

Hector and Norma Orci, two advertising executives, presented a colloquia in the Sociology Department Commons on March 21, 1996.
In Spring 1996, a doctoral student from Sweden who is working with Professor Richard Coughlin, Andres Nordlund, did a presentation in the Sociology Commons on his ongoing research on comparative social policy.

George Ritzer, Author of The McDonaldization of Society and Expressing America, gave a lecture: "Fast Food Restaurants, Credit Cards, and Other Innovations in the Means of Consumption". A public lecture took place on Friday, February 23, 1996 at 11:00 am in the Honor's Center, Humanities 114. A departmental colloquium took place on Friday, February 23, 1996 at 3:30 pm in the Sociology Department Commons, Room 1061.

Two graduate student colloquia were held in March. The first session was held Friday, March 22, from 3pm to 5pm in the Sociology Commons. Presentations were as follows:

- Judy Driscoll, "The Duran Consent Decree: Analysis of Judicial Capacity on Intervention at the Penitentiary of New Mexico."
- Rebecca Frerichs, "A Comparative Historical Analysis of Protest Groups in the United States."
- Shannon Morrison, "Social Support Networks of At-Risk Women and Men: Structure, Functions, and Changes Over Time."
- Rebecca Whitecotton, "Seeking Unity: An Analysis of Factors Which Draw Spiritual Seekers to the Unity School of Christianity."

The second session was held Friday, March 29, from 3pm to 5pm in the Sociology Commons. Presentations were as follows:

- Margaret Armendariz, "Time-series Analysis of Mexican Immigrants as a Reserve Labor Force in the U.S."
- Deborah Holmes, "Nietzsche and Deviance."
- Andrea Hoplight, "Homosexual Identity in the Cultural Borderlands of Latin America and the U.S."
- Roy Johnson,"Conflict in Organizations."
F. Report of the Institute for Social Research

The organizational structure of the Institute is illustrated in Table 1. The ISR Director is responsible for overall operation of the Institute. Accounting, payroll, publishing, reception, community relations and an array of other activities are the responsibility of the central administrative unit, run under the supervision of Robert Wilson. Current ISR projects are summarized in Table 2. Most current research occurs within one of five centers within the Institute. Below is a description of each center.

The Statistical Analysis Center (SAC) (Gary LaFree, Director)

The New Mexico SAC is supported by a grant from the federal Bureau of Justice Statistics, which funds similar centers in states throughout the United States. It has a yearly budget of $50,000 and is designed to conduct and disseminate criminal justice research in New Mexico. The SAC produces the annual Crime in New Mexico Report and does research for a variety of criminal justice agencies in New Mexico. In 1994 the SAC won an unprecedented three national awards at the annual meeting of the Bureau of Justice Statistics and the Justice Research Statistics Association in Atlanta: awards for use of criminal justice statistics, for excellence in statistical management, and for excellence in research policy and analysis.

The most recent project associated with the SAC is the Criminal and Juvenile Justice Coordinating Council (CJJCC). The CJJCC is officially a state agency administered by the ISR. It is composed of representatives from various criminal justice constituencies in New Mexico, with a mandate to advise and make recommendations on matters relating to criminal and juvenile justice. These include recommendations to the legislature concerning proposed changes in laws relating to criminal and juvenile justice, and making recommendations on policy issues concerning criminal sanctioning and sentencing guidelines. For fiscal 1994/95 the Council had a budget of $350,000, of which $249,000 was allocated for research activities carried out within ISR. In fiscal 1995/96 the ISR will be responsible for research budgeted at $221,000. Chris Birkbeck, formally of the Sociology Department, is Research Director of the Coordinating Council, which is chaired by Professor Gary LaFree.

The Center for Applied Research and Analysis (CARA) (Paul Steele, Director)

In 1994 YRAC changed its name to the Center for Applied Research and Analysis (CARA) to better reflect its expanding focus on applied work outside of issues dealing directly with youth. At present CARA has the largest number of projects in the Institute and the largest number of employees. One of the largest and longest contracts in the Center is the ongoing “Target Cities” evaluation. Target Cities serves as a grantee agency to local publicly supported programs dealing with drug issues in Albuquerque. CARA is funded to evaluate various aspects of the program, including its
administration, referral patterns, child care programs, and detoxification facilities at the University of New Mexico's Mental Health Clinic and the Center on Alcohol, Substance Abuse and Addictions. The current budget is $225,000.

The Center for Criminal Justice Studies (CCJS) (Pete DiVasto, Director)

One of the first projects in the ICJS was to provide psychological testing and evaluation of applicants for positions within the New Mexico Department of Corrections. That project lasted for seven years, ending in 1994 with over 4,000 completed interviews. Efforts are currently being made to obtain funding to help code and analyze the data, with a graduate student in the Sociology Department working to obtain proper clearances for use of the data. The Center for Criminal Justice Studies (CCJS) was formed in 1993 as the unit responsible for carrying out the last round of these interviews, and has been involved in providing psychological testing and evaluation for other criminal justice agencies in New Mexico. Current projects include an assessment of citizen attitudes regarding police services in Bernalillo and Sandavol counties, as well as psychological services for the Albuquerque Police Department.

The Center for the Study of Social Problems (CSSP) (Ed Gilliland, Director)

CSSP is involved in research, planning and program evaluation focusing on a variety of social problems. Clients include: Bernalillo County, Socorro County, New Mexico Advocates for Children, Youth and Families; and the Navajo Nation. Currently, a major project is a contract with Quay County in New Mexico for assessment of drug use and knowledge among the population, as well as assessment of organizations and personnel concerned with drug problems in the County. The project will include recommendations for needed change in the focus, activities and implementation of drug abuse programs.

The Survey Research Center (SRC) (Robert Fiala, Director)

Through most of its history telephone surveys for research projects in the ISR were subcontracted to other research units outside the ISR. As the Institute grew, and the use of telephone surveys increased, it seemed appropriate for the Institute to develop its own survey research capacity. The main justifications of the survey center were to increase the breadth of research activities carried out by the Institute, and to provide the Institute with increased research and employment opportunities. A secondary advantage of a survey center was to increase the availability of computers for general Institute use when the computer assisted telephone interviewing system (CATI) is not being used for surveys.

In 1995 the Executive Committee of the ISR gave its approval for starting a Survey
Research Center (SRC) within the ISR. Initial funds for purchasing equipment came from ISR general funds. Since November, 1995 the SRC has completed four surveys varying in size from 400 to 3,000 interviews. Surveys are usually done as subcontracts for other projects within the ISR. The SRC employs ten undergraduate students and two graduate students. It recently moved to a permanent room with office landscaping appropriate for a unit doing telephone survey research.
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Organizational Structure of ISR
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- three years at $50,000 per year
- Target Cities end date moved to coincide with funds available
- 16,000 addition to contract and extended time
- fy'97 221,000 approved
DEPARTMENT OF SPANISH AND PORTUGUESE

Chair: Erlinda Gonzales-Berry
Department Administrator: Rosario Johnson

ANNUAL REPORT
JULY 1, 1995-JUNE 30, 1996

I. TEACHING FACULTY AND STAFF

A. Permanent Faculty

Spanish

Bergen, John  Professor
Bills, Garland  Professor
Cárdenas, Anthony  Professor
Gerdes, Dick  Professor
Gonzales-Berry, Erlinda  Professor
Lipski, John  Professor
Rebolledo, Tey Diana  Professor
Rodríguez, Alfred  Professor
Tolman, Jon  Professor
Lamadrid, Enrique  Associate Professor
Kidd, Michael  Assistant Professor
Higgins, Antony  Assistant Professor
López, Kimberle  Assistant Professor
Rivera, Susana  Assistant Professor

B. Visiting Professors

Ortega, José; Spain
Pelayo, Alejandro; México
Vieira, João; Brazil

C. Lecturers

Cornejo-Patterson, Deanna
Espinosa, Hilma
Estill, Adriana
LeDoux, John
Maciel, David
Marcano, Iris
Martínez, Raquel

D. Emeritus Professors

Cobos, Ruben
Duncan, Robert
Fernández, Pelayo
Fernández, Rosa
González, Angel
Holzapfel, Tamara
Lopes, Albert
McCurdy, Raymond
Nason, Marshall
Ulibarrí, Sabine

E. Language Learning Center

Vigil, Neddy, Director

F. Teaching Associates

Martínez, Elizabeth
Ortiz-López, Luis A.
Sánchez, Josué

G. Project Assistants

Desachy-Godoy, Elvira
Ramsdell, Lea, Assistant Lower Division Coordinator
Rojas-Galván, Fernando
Watts, Keith, Lower Division Coordinator
Yates, Sarah

H. Teaching Assistants

Ph.D.

Batson, Tracie
Berho, Debbie
Díaz, Gabriela
Dykstra, Joel
Fernández, Arturo
Fetters, Robin
Huer, Kyung
Jewell, Eric
Kim, Sangsuk
Lárraga, Maribel
Lee, Andrés
López, Eduardo
Mato, Shigeko
O'Connell, Patrick
Pagel, Michael
Shuru, Xochitl
Silesky, Jean
Tarp, Cathleen
Torres-Cocoullos, Rena
Utley, Gregory
Watts, Keith

M.A.
Baeza, Gabriela
Bañuelos, José
Campos, Rosa
Colín, Juan José
Cook, Vinka
Cuervo-Utley, Ana
Eguía, Myriam
Fernández, Angélica
Goldberg, Paul
Gouveia, Saulo
Irwin, Angela
Jenkin-Yepez, Deborah
Jenkins, Devin
Knudsen, Kristina
Mofatto, Valeriane
Morton, Michelle
Nicasio, David
Pinedo, Rosa
Ramirez, Mariana
Schwartz, Dori
Stocker, Karen
Swinehart, Kimberley
Ugarte, Gueli

I. Degrees Awarded

Ph.D in Romance Languages/Spanish

Summer '95
Coonrod Martínez, Elizabeth, Dissertation title: "The Novel of the Latin American Vanguard: Specific Examples of its Innovation and Legacy".

Weyers, Joseph R., Dissertation title: "Authentic Video: Improving Listening and Speaking in the L2 Classroom".

Spring '96
Socorro Lara, Dissertation Title: "La parodia como poder feminista subversivo en la narrativa de Rosario Ferré."
Spring '96  Luis A. Ortiz López, Dissertation Title: "El contacto lingüístico afrohispanico en la génesis y evolución del español de Cuba."

MAS/Spanish Fall '95
Larry D. Miller
John LeDoux
María Ortega
Mariana Ramírez

MAS/Spanish Spring '96
José Bañuelos
Angélica Fernández
Angela Irwin
Devin Jenkins
David Nicasio
Rosa Pinedo
Dori Schwartz
Stephen Tisinger
Sarah Yates

Bachelors of Art/Portuguese Major
García, Eric Christopher

BA/BS-Spanish as a Second Major
Alonzo-Scott, Laura
Archuleta, María D.
Arruti, Ginger
Barela, Elaine
Beers, Sara
Bell, Michael
Benavídez, Crista F.
Bennett, Kimberly
Berretta, Kristina L.
Campbell, Michelle M.
Charest, Isabelle
Chávez, Nicolasa
Chávez, Stephanie
Contreras, Guillermo
Crume, Kierson
Davis, Jeremy
Fincke, Laura.
Gabaldón, Rodney
Garay, Raul
García, Eric Christopher
Gutsch, Rodney
Hedlund, Dawn
Hernández, Vicky
Johnson, Rachel
Jordan, Amber
Kunkel, Fereschteh
Larragoite, Melissa
Lowe, Flor de Maria
Pacheco, Steven
Palladini, Paulette
Perry, Demian
Polcao, Ana Marie
Ramírez, Leroy J.
Riley, Natalie
Robinson, Eric
Rossi, Giovanna H.
Schula, Steven
Talbot, Jessica
Triolo, Tania
Trujillo, John A.
Valdez, Joseph

J. Office Staff

Johnson, Rosario Department Administrator
Cerna, Ivana Staff Assistant
Zazueta, Ana S. Staff Assistant
Hicks, Artemisa Lower Division Spanish Secretary

K. Work Study Team

Bentley-Gunthorpe, Virginia
Calderón, Arturo
Dykstra, Blanca
Martin, Sonia
Nadler, Peter

II. COURSES OFFERED

A. SUMMER 1995

Spanish

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### C. SPRING 1996

### Spanish

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III. Department Highlights

The Department of Spanish and Portuguese had a very positive academic year, with healthy enrollment in our classes, an impressive list of graduates, and an exciting list of support activities.
The highlight of the year was our Fifth Annual Conference on Ibero-American Culture and Society. This year we teamed up with an international organization and, in conjunction with our annual conference, hosted the Quinto Simposion Internacional de Escritura de Mujeres de America Latina. Two-hundred participants, including writers from Chile, Puerto Rico, Costa Rica, Argentina, and Mexico joined us for the three-day conference. The Mexican Consulate hosted an opening reception and the final event was a dance which was attended by over 500 people. The exchange of writers and scholars from Latin America and the United States was a felicitous event that left its mark on our students, faculty and community at large. Without the support of Vice-President Orcilia Zúñiga Forbes and Dr. Joseph Sánchez of the Spanish Colonial Research Center this conference would not have been possible.

We are especially pleased the Journal of Hispanic Linguistics was moved from the University of Minnesota to UNM. It will be in the able hands of professor John Lipski, our newly elected chair. We believe the presence of this journal in our department will serve as an important recruitment tool and will bring a good deal of national and international visibility to the department.

On the more nitty-gritty level, the faculty collaborated on some significant curriculum changes which we believe will give our MA program more depth and at the same time make it more attractive. Our Major and Second Major have also been revamped
in such a way as to give both programs more substance and depth.

Over the past four years, six new colleagues have joined the department. This brings the total FTEs in 1996-97 to 15.3 from 11.3 in 1992-93. We are already feeling the energizing effects of this growth and we look forward to an even more exciting and productive year.

A. New Professors
The Department of Spanish and Portuguese was joined by two new faculty members in the Fall: Professors Michael Kidd and Susana Rivera. Michael Kidd, Assistant Professor of Spanish, received his Ph.D. from Cornell University in Ithaca, New York. Susana Rivera, Assistant Professor of Spanish, returns to her Alma Mater after spending four years at the University of Oklahoma.

B. Faculty Searches
The Department conducted two searches this year for candidates for the positions of Spanish Linguistics, job number 2826, and Portuguese, job number 2825. Selected candidates were: Mary Carmen Iribarren, Ph.D. University of Florida and Margo Milleret, Ph.D. University of Kansas. They will start their positions at UNM in the Fall of 1996.

C. Promotion
Associate Professor Tey Diana Rebolledo was promoted to Full Professor, Fall 1995.
Ana Zazueta was promoted to Staff Assistant, June, 1996.

D. Retirement
Professor Rosa Fernández retired from her position as Lower Division Coordinator in July, 1995.

E. Departures
Artemisa Hicks, secretary for the Lower Division Spanish retired and moved to Morelia, México, in October 1995.

F. New Chair Selection
Professor John Lipski was selected to serve as chair for the Spanish & Portuguese Department. He will start his appointment August 1, 1996. Professor Garland Bills was selected to serve as Chair for the Linguistics Department starting August, 1995.

G. Establishment of Journal
The Department took over the publishing of the Hispanic Linguistics journal from the University of Minnesota, starting the Fall 1995, Editor in Chief will be Prof. John Lipki, Spanish Linguistics. The Journal has been published since 1984. It is devoted to the study of the languages and dialects originating in the Iberian Peninsula and currently spoken throughout the world. Articles, notes, and book reviews are published in each issue.
H. Awards

Professor Dick Gerdes received the Soeurette Diehl Fraser Award in Translation for *The Fourth World* (El Quarto Mundo by Diamela Eltit). Houston, April 13, 1996.

Professor Emeritus Angel González was selected to serve on the Board for the prestigious Royal Academy of the Spanish Language in Madrid, Spain, January 25, 1996.

I. Departmental Lectures and Conferences

The Department of Spanish & Portuguese Department sponsored the following presentations:

Mexican Film Director and Producer, Alejandro Pelayo. Pelayo showed and spoke about his last film "Miroslava", July 27, 1995, 6:00 p.m. at Woodward Hall 147.

Professor Doris Sommer of Harvard University, "Proceed with Caution: A Rhetoric of Particularism", September 1, 1995, 3:30 p.m. in Ortega Hall Reading Room.

Luis A. Ortiz López, a graduate student from the Department of Spanish & Portuguese presented "Anécdotas y reflexiones acerca de vivir e investigar en Cuba," September 6, 1995, 2:00 p.m., Ortega Hall Reading Room.
Jorge Cevallos, Ecuadorian writer, "La literatura ecuatoriana: una visión del pasado al presente a través de la historia", September 14, 1995, at 3:00 p.m. Ortega Hall 335.

Carlos Monsivais, Mexican writer, "A través del Espejo: El Cine Mexicano y su Público", September 18, 1995, 6:00-7:00 p.m. Woodward Hall 147.

The First Linguistic/Literary Colloquium by graduate students of the Department of Spanish & Portuguese featured, Gueli Ugarte, "La enseñanza del español a hispanohablantes: Praxis y Teoría;" Arturo Fernández-Gibert, "El eslabón perdido: los indios ladino de Nuevo México y su documentación; datos para una revisión histórica y lingüística." Sponsored by the Spanish & Portuguese Graduate Student Association, September 18, 1995, 2:00 p.m. Ortega Hall Reading Room.

The First Workshop entitled "La investigación lingüística: los primeros pasos" by Professor John Lipski. Sponsored by the Spanish & Portuguese Graduate Student Association, September 25, 1995, 2:00 p.m., Ortega Hall Reading Room.

A round table on "Master Comprehensive Examination" with Professor John Lipski, Graduate Advisor, and graduate students, October 2, 1995, 2:00 p.m., Ortega Hall Room 435.
The Second Linguistics Research Workshop "Data Collecting in Linguistic Research" by Dr. Garland Bills, Chair of the Linguistics Department and Spanish Professor, October 11, 1995, 2:00 p.m. Ortega Hall 335.

Miguel Méndez, "Charla y lectura de su obra creativa", October 11, 1995, 3:00 p.m., Ortega Hall Reading Room. Co-sponsored with Zimmerman Library, American Studies and Center for Regional Studies.

Second Linguistic/Literary Colloquium featured graduate students Cathleen Tarp, "Hirsute Virtue and Hairless Depravity in Amadis de Gaula;" Luis Ortiz López, "El debate lingüístico sobre el Español Antillano-Caribeño: Diacronía vs. Sincronía", October 16, 1995, 2:00 p.m., Ortega Hall Reading Room. Sponsored by the Spanish & Portuguese Graduate Student Association.

Crisol-Bufons, a group of Spanish musicians, actors and trovadores presented 1) A Concert and Spanish Food event, October 17, from 12-3 p.m. at El Centro/Hispanic Student Services; 2) A skit entitled "Don Quijote en Nuevo Mexico", October 18, 3:00 p.m., Woodward Hall 147; 3) A lecture on "La cultura española: convivencia de tres culturas, October 18, 10 a.m., Ortega Hall Reading Room; 4) A lecture demonstration "La Historia del Romance", October 19, 11 a.m., Ortega Hall Reading Room.
The Third Linguistic/Literary Coloquium at the Spanish & Portuguese Department, Angélica Fernández, "Mujer como estrategia literaria en el Poema de Mío Cid", November 8, 1995, 2:00 p.m., Ortega Hall Reading Room.

The Third Linguistics Research Workshop "The Role of Statistics in Linguistic Research or How to Plan to Spend my Christmas Vacation" by Professor John Bergen, November 13, 1995, 2:00 p.m. Ortega Hall Reading Room. Sponsored by the Spanish & Portuguese Graduate Student Association.

Professor José Ortega, the University of Granada, Spain "La novela española en el fin del milenio;" November 15, 1995, 3:00 p.m. in Ortega Hall Reading Room.

Piers Armstrong, ABD, University of California-Los Angeles and candidate to the Portuguese/Latin American Literature position at the Spanish & Portuguese Department, "Dystopia and Utopia: Contrasts in the Spanish American and Brazilian Intellectual Heritages", January 19, 1996, 3:00 p.m. Ortega Hall 153.

Dr. Alexis Levitin, SUNY--Plattsburgh, "Translating Clarice Lispector", February 8, 1996, 1:30-3:00 p.m., with the Latin American Institute.
The Department held its Fifth Annual Conference on Ibero-American Culture and Society and the V Simposio Internacional at the Hilton Hotel, February 8-10, 1996. The theme this year was "Latin American Women Writers Discourse On/Of the Feminine". Creative nightly readings by women writers were held throughout the conference. Papers were presented by 160 participants from the U.S., México Canada, Chile, Argentina, Spain, Costa Rica and France. The Conference culminated with a dance on Saturday at 9:00 p.m.

Assistant Professor, Margo Milleret, Vanderbilt University and candidate to the Portuguese/Latin American Literature position at the Spanish & Portuguese Department, "Dramas of the Domestic/Domesticating Drama in Contemporary Latin American Women's Plays," February 12, 1996, 2:00 p.m. Ortega Hall 335.

Professor Denia García Ronda, the University of Habana, Cuba, "La Vangaurdia Narrativa Cubana," March 26, 1996 at 3:00 p.m., Ortega Hall Reading Room.

Dr. Jorge Castañeda, Professor of Economics and International Affairs at the National Autonomous University of México, "The Mexican Shock: Its Meaning for the U.S.", April 8, 1996 at 7:00 p.m. in the Kiva Auditorium. With The Latin American Institute Program Committee, the GPSA Projects Committee, ASUNM Special Events, UNM Departments of History, Economics and Political
Science, the Southwest Hispanic Research Institute, the office of
the Dean of Arts and Sciences, the Anderson School of Management,
and the office of President Peck.

Dr. Nicolas Shumway, Professor of Spanish, Director, Latin
American Institute, University of Texas-Austin, "Yo el Supremo:
texto sagrado/texto profano". April, 25, 1996, 4:00 p.m., Ortega
Hall Room 153. With the Latin American Institute and the Office
of International Programs.

J. Faculty Activities

Papers Read at Professional Meetings by Faculty

Cárdenas, Anthony 1) Read: "The Celluloid Cid vs. RHW Victor on
Vellum: A comparison of the Poema Del Mio Cid and the Hollywood
Film Version", at the MLA Convention, Chicago, Illinois, December

Gonzales-Berry, Erlinda 1) "Anselmo Arellano's Inocencio: The
writer as Ethnographer," AATSP Conference in San Diego,
California, August 10, 1995. 2) "Innovations in the Curriculum:
The Bridge Course". 3) Read from her Creative Work, MLA

Higgins, Antony 1) "Mapping Colonial Space: Eighteen Century
'Criollo' Literary Discourse on Mexican Geography," Early Modern


Lipski, John 1) "Portuguese Language in Angola: Luso-Creoles Missing Link?" AATSP Conference, San Diego State University, August 7-11, 1995. 2) "Chinese-Cuban Pidgin Spanish Implications for the Afro-Creole Debate" at the Linguistic Society of America 70th Annual Meetings, San Diego, CA, January 4-7, 1996.


Papers Read by Graduate Students


Ortiz, Luis - 1) "El elemento afrohispánico en la sincronía del español cubano: una aproximación preliminar al corpus de una investigación en progreso", Instituto de literatura y Lingüística, Academia de Ciencias de Cuba, La Habana, Cuba, Agosto 1995. 2) "El debate lingüístico sobre el español antillano/caribeño: Historia vs. sincronía", Coloquio de Lingüística y Literatura, Departamento de Español y Portugués, University of New Mexico, Octubre, 1995. 3) "El contacto
afrohispanico en la generacion y evolucion del espanol cubano/caribeño: analisis e implicaciones sociolingüísticas", Ohio State University, Noviembre 1995. 4) "Estratificacion del lexico de las partes del cuerpo en el espanol de Puerto Rico: Deficit vs. variacion", Colloquium on Spanish and Portuguese Dialectology, San José State University, San José, California, April 1996. 5) "El espanol de Cuba: una aproximacion a una lengua 'criolla' como base dialectal", II Coloquio de Identidad y Cultura Popular Cubana, Centro Martiano, La Habana, Julio 1995.

Torres-Cacoullos, Rena 1) "Neutralizacion del aspecto gramatical en verbos estativos entre bilingües transicionales de Nuevo Mexico", Colloquium on Spanish and Portuguese Dialectology, San José State University, San José, California, Abril, 1996.


K. Invited Lectures and Other


Rebolledo, Tey Diana: 1) "Who killed Presiliano Ulibarri or the case of the Missing Women, Clues for Cultural Studies" and "Latin American Feminist Criticism," Kansas State University, April 14-19, 1996.

L. Attendance/Contributions to Other Meetings, Workshops, Seminars, Readings, etc...

Gonzales-Berry, Erlinda: Board Member, New Mexico Endowment for the Humanities; Board Member American Departments of Foreign Languages; Board Member, Restoring the U.S. Latino Literary Heritage.

M. University and Community Service

Bills, Garland: College of Arts and Sciences: Chair, Junior Faculty Promotion and Tenure Committee (1994-95); Member, Interdisciplinary Committee for Latin American Studies. University: Member, UNM Press Committee; Member, Council on the Americas.
Cárdenas, Anthony J.  
College of Arts and Sciences: Senior Promotion Committee, Chair; University: Faculty Senate.


Gonzales-Berry, Erlinda: Department: Chair of Spanish and Portuguese Dept. University: Member, Hispanic Student Services Advisory Board, Search Committee, Vice President for Student Affairs; Member of Council for the Americas; Member, Chicano Studies Committee; SHRI Faculty Associate; Member, Hispanic Arts Council; Reader for University of Arizona Press, *Journal of Chicana and Latina studies*.

Higgins, Antony: Department: Member of Undergraduate Committee; Member of Merit and Evaluation Committee; Program Committee for Fifth Annual Conference on Ibero-American Culture and Society; Member of BRAC Committee; Reader for *Colonial Latin American Historical Review*.

Kidd, Michael: Department: Member of the Activities Committee.

Lamadrid, Enrique: University: UNM Press Committee. College: Fine Arts: Regional & Folk Arts Steering Committee; Department: Graduate Committee. SHRI: Faculty Associate; Public Service: NM Endowment for the Humanities Speakers Bureau Lecture Series

Lipski, John: Department: Graduate Advisor, and Chair of the Graduate Committee; Member of the Advisory Committee; Director Ph.D. Thesis for Luis A. Ortiz López. College: Member of Graduate Curriculum Committee. University: Member of the Faculty Senate Library Committee, Member of Committee on Governance, Arts and Sciences representative to Faculty Senate Graduate Committee (now chair-elect), Member of Core Curriculum Task Force.

López, Kimberle: Department: Undergraduate Committee, Program Committee for Fifth Annual Conference on Ibero-American Culture and Society, Search committee for Brazilianist; member, Advisory Committee; member, Merit Evaluation Committee. University: New Faculty Committee.

Rebolledo, Tey Diana: University: The University of New Mexico Press Committee, Co-Chair: Women Studies Research Institute; Executive Committee, The Southwest Hispanic Research Institute; Faculty Research Associate, Southwest Hispanic Research Institute. Department: Chair, Fifth Annual conference on Ibero-American Culture and Society; Search Committees.
Rivera, Susan D.: University: Arts and Sciences, Undergraduate Committee; Women Studies, Associate; Department: Undergraduate Advisor; Chair, Undergraduate Committee.

Rodríguez, Alfred: Department: Graduate Committee.

Tolman, Jon: University: Academic Freedom and Tenure Committee; Interdisciplinary committee on Latin American Studies; Council of the Americas. Department: Latin American Institute, Associate Director for Luso-Brazilian Programs; Executive Committee; Budget Committee; Research and Grants Committee. Department of Spanish & Portuguese Graduate Committee; Coordinator for the Luso-Brazilian Studies.

N. Honors

To students

Armijo, Andrew: Southwest Hispanic Research Fellowships, Academic year 1995-1996.

Shuru, Xochitl, Latin American Institute, Graduate Scholars Fellowship, Fall 1995.

O. Grants and contracts, extramural and otherwise

Higgins, Antony

Title: Spanish American Archives Sciences at the Newberry Library Center

Agency: NEH
Dates: June 24-August 1, 1996
Funding: $3,900

López, Kimberle
Title: Book Project, Oregon
Agency: NEH
Dates: Summer 1996
Funding: $800.00

P. Affirmative Action

This past fiscal year, the Department tried to set goals to comply with the rules and regulations of Affirmative Action, providing employment to qualified personnel, making the effort to attract women and minority groups. During this year the Department issued contracts to 44 Teaching Assistants, 19 of which were Hispanic, 4 were Asian; a total of 28 women, 14 of them were of Hispanic origin and 2 were Asian. A total of 7 Lecturers taught on a part-time basis, 5 of them were women of Hispanic origin. The work study team was composed of 5 students, 3 being Hispanic.
Annual Report
Women Studies Program
College of Arts and Sciences
July 1, 1995 - June 30, 1996

Prepared by Karen A. Foss, Director

Staff

Karen Foss, Associate Professor of Communication & Journalism, was appointed half-time director in August, 1995, by Bill Gordon, dean of Arts and Sciences. Dr. Foss also served as director for summer, 1996. She was promoted to professor, effective fall, 1996.

Dr. Foss implemented the new structure for the program, designed the previous spring by the Planning Committee. This structure consists of a three-person Executive Committee, which advises the director on budget issues, part-time hires, and program planning. Shane Phelan, Political Science; Gordene MacKenzie, Women Studies; and Teresa Marquez, Library, were chosen to serve as the Executive Committee. Teresa Marquez resigned in March because her commitments in the library no longer allowed her the time to devote to Women Studies; she has been replaced with Monica Espinoza, English, for the 1996-97 academic year.

The Executive Committee brings to the Women Studies Council, which meets no more than three times a semester, major hiring, policy, and program decisions. The members of the Council for 1995-96 were: Teresa Cordova and Gordene MacKenzie, Women Studies faculty; Karen Foss, Women Studies director; Monica Cyrino and Jane Caputi, faculty representatives from A&S; Jackie Hood and Bonnie Duran, faculty representatives from outside A&S; Juba Ometse-Clayton, representative from the Women’s Center; Susanne Baackmann, representative from the Research Institute; Leslie Donovan, part-time instructors’ representative; Cynthia Suchomel, graduate student representative; Megan Davidson, undergraduate student representative; and Toni Syzmanski, student representative from the Women Studies Student Research Center. Jane Caputi served as chair.

Teresa Cordova continued as half-time core faculty and as an assistant professor in Architecture and Planning. She taught Introduction to Chicana Studies in fall, 1995, and the Senior Seminar and Grassroots Mobilization Among Women of Color in spring, 1996. Dr. Cordova was promoted to associate professor with tenure in Architecture and Planning, effective fall, 1996.

Gordene MacKenzie began her second year as a two-year visiting assistant professor. She taught Women in Contemporary Society and Women’s Sexualities in fall, 1995; in the
spring, she taught Race, Class, and the Feminist Movement and Women and Horror Films. Because of the reorganization of the program, combined with positive evaluations of her performance, her contract was extended for a third year—the 1996-97 academic year.

Maura Daly and Barb Korbal were hired as graduate assistants in the program for the 1995-96 academic year; both are doctoral candidates in American Studies. Maura worked with the Research Institute, coordinated and typed the fall and spring newsletters, and taught Gender, Technology, and Culture in spring, 1996. Barb planned several special programs, including the screening of the video, The Great Divide, and handled publicity for Women Studies events. She taught Lesbian Culture and Politics in spring, 1996. Both Maura and Barb also did research for the director.

Many courses continued to be taught by part-time faculty. During fall, 1995, courses were taught by Leigh Anne Chavez, Lehua Lopez, Maisha Baton, and Leslie Donovan. The program bought out one course from Nursing so that Cheryl Learn could teach Women and Health. In the spring, part-time instructors included Maisha Baton, Jeanne Block, Maya Sutton, Holly Hughes, and George Anne Gregory. Louise Lamphere, Anthropology, taught Women, Culture, and Society for the program through a course buyout.

Bessie Gallegos-Torrez continued as Administrative Assistant.

**Instructional Activities**

The program has approximately 130 minors at present; Gordene MacKenzie, who serves as minor advisor, is assembling permanent addresses for graduating minors so we can keep in touch with and track our minors after they leave UNM. Nine minors graduated in spring, 1996, and a ceremony and reception for them and their families was held May 10, 1996.

Program enrollments in courses continue to increase. In fall, the program offered 9 courses, with a total enrollment of 235; in spring, we offered 13 courses, with a total enrollment of 298. These figures do not include figures from cross-listed courses; one course was cross-listed with Women Studies courses for fall; 10 were cross-listed for spring.

The Executive Committee mapped out a schedule for when to offer each course in the program. It is hoped that such a schedule will make it easier for students to plan their schedules as well as streamlining the hiring of part-time instructors.
In summer, 1996, we offered four courses: Introduction to Chicana Studies, Women in Contemporary Society, Women in Music, and Women's Utopian Fiction.

Program Activities

A goal of the year was to increase faculty involvement from across campus. Thus, special attention was given to implementing procedures and programs to facilitate greater participation. An informational flyer and invitation to participate in the program as an Associate was sent to all women faculty. This mailing also included a survey of their interests and needs in terms of program activities. Approximately sixty women responded to this invitation and affiliated as Associates for the 1995-96 year. Many of these women had not previously been active in Women Studies. An E-mail distribution list for Associates was created, and this proved an excellent way to keep faculty informed about the program throughout the year. Minutes from all Executive Committee and Women Studies Council meetings were distributed via E-mail along with announcements about other program events, issues for discussion, and requests for information.

The program sponsored, co-sponsored, or participated in the following activities during the 1995-96 year:


Ondine Chevoya, Professor of Media Arts, University of Rochester, "Gender and Chicano Film," July 6, 1995.

Isabel Martinez Benlloch, Professor of Psychology, Spain, "Gender and Sex-Role Stereotypes," July 19, 1995.

Potluck for all women faculty, October 1, 1995.

Women Studies Student Research Center Open House, October 5, 1995.


Conference on Affirmative Action, UNM, November 3-4, 1995

Women Studies Open House, December 14, 1995

Ibero American Culture and Literature Conference, January 1996.

Conversation Circles' organizational meeting for women faculty, staff, and students, February 23, 1996

International Women's Day Luncheon, March 7, 1996. The following individuals were honored for their contributions to women in New Mexico: Elena Avila, Carletta Bullock, Jane Caputi, and Veronica Mendez-Cruz.

Medieval Lecture Series, Spring, 1996.

Creative Ideas and Resources Fair, sponsored by the Department of Pediatrics, Office of Creative Endeavors, March 17, 1996

Women's Studies Faculty Research Conference, March 22, 1996


Albuquerque Rape Crisis, lecture in Women Abuse class, April 1996

Esther Newton, Professor of Anthropology, State University of New York, "'Dick(less) Tracy' and the Homecoming Queen: Lesbian Power and Representation in Gay Male Cherry Grove," April 4, 1996

Las Comrades Third Annual Chicana Conference, April 11, 1996


Lecture by C. Jacob Hale, Assistant Professor of Philosophy, CSU, Northridge, "Transgendered Strategies for Refusing Gender," April 22, 1996.

Performance by Peggy Seeger, April 1996.
Performance by Holly Hughes, New York City performance artist, April 26, 1996

Graduation ceremony for Women Studies minors, May 10, 1996.

The program also helped sponsor attendance at women’s conferences. Sandi Gonzales, Women’s Center, to attend the Women’s Conference in Beijing, July, 1995; Barb Korbal and Maura Daly, to attend the New Mexico Women’s Conference, March, 1996; and Barb Korbal and Jane Caputi to attend the National Women’s Studies Association Conference, June, 1996.

In addition, we continued to publish a newsletter about program activities each semester. This was sent to all women faculty, advisors, departments, and administrators at UNM; it was also sent to all Women Studies programs in the country.

In August, 1995, Gordene MacKenzie established the Women Studies Student Research Center after receiving a donated computer. The center teaches computer literacy, helps students and faculty find funding for research projects and conferences; and provides a place where students, staff, faculty, and community members can network around women’s issues. The Center wrote and posted two electronic newsletter during the year; created an electronic undergraduate journal called Harpies; created a web page for Women Studies; and solicited and received donations of additional computers, modems, and paper.

In December, 1995, Frontiers ended its tenure at the University of New Mexico. The journal moved to Washington State University, under the editorship of Sue Armitage. Three volumes of the journal were assembled and published during the year, with Jane Slaughter as editor, Shane Phelan as associate editor, and Elizabeth Cahn as managing editor. Volume 15:3 focused on women’s history in the American West; volume 16:1 included an interdisciplinary range of articles, from an analysis of the TV show, Murphy Brown to the poetry of Sandra Cisneros, to a political discussion of bisexuality. Volume 16:2/3 was dedicated to the topic of gender, nation, and nationalism. The opportunity to publish Frontiers at UNM has provided the opportunity for feminist intellectual development and exchange for faculty and graduate students as well as positive recognition for the university.

A Research Committee has worked to establish up a structure for a Women’s Research Institute, which would essentially take over the offices and funding allocated to Frontiers. The committee, comprised of Louise Lamphere (chair), Jane Slaughter, Monica Espinoza, Suzanne Baackmann, Karen Foss, and Maura Daly, planned and implemented a research confer-
ence for women faculty at UNM to discuss research issues and work in progress. They also have prepared a brochure of
comen scholars at UNM to promote feminist/gender scholarship
and the visibility of this research at UNM. This brochure
will be ready for distribution in the fall of 1996. The
group also prepared a list of priorities for the Institute,
which was submitted to Dean Michael Fischer and Provost Bill
Gordon in April, 1996. In June, 1996, the provost and dean
agreed to continue the funding that had gone to Frontiers--
$10,000 from the Provost and $10,000 from the College for
1996-97--for the establishment of the Women's Research
Institute.

The Executive Committee, in conjunction with the Women Stud­
ies Council, conceptualized the new positions we will
request for the program in fall, 1995. These include: 2
joint appointments (half-time in Women Studies and half-time
in another department; and a director position (half-time
director; half-time teaching in Women Studies or in another
department). The committees also discussed and agreed upon
search procedures and the composition of the search commit­
tee for these hires.

The Women Studies faculty also presented a proposal to the
Senate Graduate Committee to propose a graduate course in
Women Studies in feminist scholarship and methodologies.
This course will be submitted to the Graduate Committee in
fall, 1996. This course is designed to meet the needs of
graduate students across the university who are engaged in
feminist scholarship but may not have access to specific
classes dealing with feminist perspectives and approaches
within their own departments.

Publications and Professional Activities

During the year, the director and the two faculty members in
the program participated in a variety of professional activ­
ities related to feminist, gender, and multi-cultural schol­
arship. Karen Foss was awarded a contract with Sage for
her book, Feminist Rhetorical Theories. She presented the
following conference presentations: "'Table Talk' on Affir­
mative Action," "Audacious Acts and Rhetorical Rebellions," and a workshop on transforming the public speaking course to
include multicultural perspectives at the Speech Communica­
tion Association convention, November, 1995; workshop on
transforming the public speaking course at the Western
States Communication Association convention, February 1996;
and "Institutional Issues for Women Scholars," at the Con­
ference on Gender and Communication, April 1996. Dr. Foss
also presented a workshop on Women and Communication at Hum­
boldt State University, April 6, 1996.
Gordene MacKenzie began research for her book, tentatively titled, *Fifty Billion Galaxies of Gender: An Analysis of Transgender Cultural Readers*. Her chapter, "Entering a New Century of Gender," will be published in *Reclaiming Gender: Essays on Transsexuality/Transgressing Gender at the Fin de Siecle*, to be published by Cassells in 1997. She presented a paper as part of a panel on transgender activism at the Fourth Annual International Transgender Law and Employment Conference in July, 1995; in January, 1996, she presented "Electronic (Trans) Gender Colonization, Transportation, and Transmutation: An Analysis of U.S and International Film Representations of Trans-Identified Persons" at the Pacific Basin International Popular Culture/American Culture Conference. At the International Transgender Conference: The Texas T, Dr. MacKenzie presented a talk on "Wobbling Orbit;" gave the keynote address, "50 Billion Galaxies of Gender;" and facilitated a workshop for genetic female partners of trans-identified individuals. She received an award at this convention for "outstanding contribution, assistance, and participation in the gender community."

Teresa Cordova attended the following conferences during the year: the Association for Collegiate School of Planning, Detroit, October, 1995; and The National Association of Chicana/Chicano Studies, March, 1996.