ADVANCE: Institutional Transformation

FINAL REPORT
January 1, 2002 – April 30, 2009

PRINCIPAL INVESTIGATOR/PROGRAM DIRECTOR
Lisa Frehill (1/1/02-5/15/05)
Tracy M. Sterling (5/15/05 to present)
CO-PRINCIPAL INVESTIGATORS
Waded Cruzado (8/15/04 to present)
LeRoy Daugherty (1/1/02 to present)
Josephine De Leon (8/15/04-9/15/05) (4/15/06-5-15/08)
William Flores (8/15/05-4/15/06)
Carmen Gonzales (5/15/08 to present)
Richard Hills (1/1/02-8/15/04)
Christine Marlow, Associate Dean (ending 8/15/04)
Kenneth Paap, Dean (ending 8/15/04)
Rudi Schoenmackers (8/15/04 to present)

ASSOCIATE DIRECTOR
Pamela Hunt (6/1/05 to present)
PROGRAM COORDINATORS
Pamela Hunt (2/29/02-6/1/05)
Shawn Werner, Program Coordinator (2/1/5/08 to present)
RESEARCH ANALYSTS
Cecily Jeser-Cannavale (10/15/03-4/15/06)
Abby Javurek-Humig (8/19/06-8/21/07)
ADMINISTRATIVE ASSISTANT
Rebecca Zaldo (8/15/03-12/18/05)
GRADUATE ASSISTANTS
Jammie Benton-Speyer (5/1/02-12/31/04)
Nicole Fuchs (1/1/2002-5/31/02)
Abby Javurek-Humig (5/15/05-5/10/06)
Lauren Ketcham (6/15/04-5/15/05)

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Table of Contents

I. PARTICIPANTS

Program Personnel

PRINCIPAL INVESTIGATOR/PROGRAM DIRECTOR (PI/PD)

Tracy Sterling, PI/PD starting 5/15/05, Professor, Department of Entomology, Plant Pathology and Weed Science

The principal Investigator (PI) is responsible for all aspects of ADVANCE. The PI conducts institutional self-study. The PI also serves as chair of the Committee on the Status of Women in STEM. As Program Director (PD), the PI/PD oversees all program activity, participates in and supports programs of all ADVANCE committees, and supervises Associate Director. The Associate Director supervises the Research Analyst and the Administrative Assistant. Sterling stepped in as PI/PD on May 15, 2005 when Frehill began a position as Program Director at the University of California, Irvine Advance Program.

Lisa M. Frehill, Principal Investigator and Program Director ending 5/15/05, Associate Professor, Department of Sociology and Anthropology

The principal Investigator (PI) is responsible for all aspects of ADVANCE. The PI conducts institutional self-study. The PI also serves as chair of the Committee on the Status of Women in STEM. As Program Director (PD), the PI/PD oversees all program activity, participates in and supports programs of all ADVANCE committees, and supervises associate director. The associate director supervises the research analyst and the administrative assistant. Frehill stepped down as PI/PD in May to begin a position as Program Director at the University of California, Irvine Advance Program.

CO-PRINCIPAL INVESTIGATORS

Dr. Waded Cruzado, Co-PI, Dean, College of Arts and Sciences (until August 31, 2007); Executive Vice President/Provost (starting September 1, 2007, Interim President starting July 15, 2008))

Administration of program. Serves on the Committee on the Status of Women in STEM.

Dr. LeRoy Daugherty, Co-PI, Associate Dean, College of Agriculture and Director, Agricultural Experiment Station

Administration of program. Serves on the Committee on the Status of Women in STEM, the Recruitment Subcommittee and the ADVANCING Leaders Committee.

Dr. Josephine De Leon, Co-PI, Associate Provost for Academic Affairs and Community Colleges (until 5/15/08)

Administration of program. Serves on the Committee on the Status of Women in STEM5

Dr. William Flores, Co-PI, Executive Vice President and Provost (until April 6, 2007)

Administration of program. Serves on the Committee on the Status of Women in STEM; develops institutionalization of program.

Dr. Carmen Gonzales, Co-PI, Vice President for Student Success and Dean, College of Extended Learning

Administration of program. Serves on the Committee on the Status of Women in STEM.

Dr. Richard Hills, Co-PI, Associate Dean, Engineering Research Center (ending 8/15/04)

Administration of program. Serves on the Committee on the Status of Women in STEM and Committee on Research.

Dr. Christine Marlow, Co-PI, Professor, Social Work (ending 8/15/04)

Administration of program. Serves on the Committee on the Status of Women in STEM and Committee on Faculty Development.

Dr. Kenneth Paap, Co-PI, Associate Dean, College of Arts and Sciences (ending 8/'15/04)

Administration of program. Serves on the Committee on the Status of Women in STEM and Committee on Research.

Dr. Rudi Schoenmackers, Associate Dean, Engineering Research Center
Administration of program. Serves on the Committee on the Status of Women in STEM and the Committee on Research.

STAFF
Pamela Hunt, Associate Project Director starting 6/1/05, Program Coordinator ending 6/1/05)
Associate Director handles the daily oversight and management of the ADVANCE Program, including budget oversight, staff supervision, and implementation of program activities by working with faculty, the PI/PD, and university administrators. She facilitates the work of the Committee on the Status of Women in STEM and its subcommittees by: providing logistical support; organizing workshops for faculty and students; coordinating with other relevant on-going programs on campus; facilitating communication among faculty, staff, and administrators; maintaining website; producing program brochure/flyers; monitoring budget; writing interim and annual reports. The Associate Director supervises the Research Analyst.

Shawn Werner, Program Coordinator (starting 2/1/08)
Assist with on-going internal data collection and analysis, including workshop evaluation and reporting. Also responsible for preparing and dissemination of program results at appropriate conferences and in publications, as specified in grant proposal.

Abby Javurek-Humig, (5/10/06-8/21/07) and Cecily Jeser-Cannavale (10/15/03-4/15/06) Research Analyst
Assist with on-going internal data collection and analysis, including workshop evaluation and reporting. Assist with production of publications to disseminate results. As Research Analyst, responsible for on-going internal data collection and analysis, including workshop evaluation and reporting and the required NSF indicators. Also responsible for dissemination of program results at appropriate conferences and in publications, as specified in grant proposal. The Research Analyst supervises the graduate assistant and reports to the PI although her work is managed by the Associate Director in the PI's absence. Works with founding PI on the Advance Supplemental grant to develop indicators of programmatic success.

Abby Javurek-Humig (5/15/05-5/10/06), Lauren Ketcham (6/15/04-5/15/05) and Nichol Fuchs, (1/1/2002-5/31/02), Graduate Assistant
Assist with on-going internal data collection and analysis, including workshop evaluation and reporting. Assist with production of publications to disseminate results.

Rebecca Zaldo, Administrative Assistant (8/15/03-12/18/05)
Provides programmatic support to the Program Coordinator including: meeting facilitation, financial records processing, and financial records database maintenance.

Committee Members
The PI/Program Director and Associate Director are ex officio members of all ADVANCE Committees.

Committee of the Status of Women in STEM
Each Committee member attends meetings of the committee and serves on one of the five subcommittees. This committee is chaired by the PI/Program Director.

Laurie Churchill, Program Coordinator, New Mexico Alliance for Graduate Education and the Professoriate (NM-AGEP) (until April 2007)
Sonya Cooper, Associate Professor, Engineering Technology and Surveying Engineering
Champa Gopalan, Professor, Plant and Environmental Sciences
Roger Hartley, Department Head (through 7/1/04), Computer Science
Patricia Hynes, Project Director, NM Space Grant
Ricardo Jacquez, Professor, Civil and Geological Engineering and Program Director, New Mexico Alliance for Minority Participation
Abby Javurek-Humig, Research Analyst, ADVANCE (until August 21. 2007)
Cecily Jeser-Cannavale (until April 10, 2006)
Steven Loring, Administrative Analyst, Agricultural Experiment Station
Jill Schroeder, Professor, Entomology, Plant Pathology and Weed Science
Ann Vail, Department Head, Family and Consumer Sciences (until 8/1/05)
Shawn Werner, Program Coordinator (starting 2/1/08)
Mark Wise, Department Head, Animal and Range Science

Subcommittees

Transition – This committee was established in the spring of 2006 in response to evaluator Dr. Laura Kramer's recommendation, to steer ADVANCE towards institutionalization.

Co-Chair, Sonya Cooper, Department Head, Engineering Technology and Surveying Engineering
Co-Chair Tom Burton, Department Head, Mechanical Engineering and Aeronautical Engineering
Christina Chavez Kelley, Senior Special Assistant to the President
Waded Cruzado, Co-PI
Mary O'Connell, Professor, Plant and Environmental Sciences
LeRoy Daugherty, Co-PI
Bill McCarthy, Special Assistant to the Provost
Nancy McMillan, Professor, Geological Sciences
Desh Ranjan, Department Head, Computer Science
Rudi Schoenmackers, Co-PI

Recruitment

Chair, Tom Burton, Academic Department Head, Mechanical Engineering and Aeronautical Engineering (member starting 12/15/06, Chair starting 5/15/06)
Chair, Roger Hartley, Professor, Computer Science (member 1/1/02-5/15/07, Chair 2/1/04-5/15/06)
Chair, Linda Riley, Associate Department Head, Industrial Engineering (1/1/02-2/1/04)
Josefina Alvarez (until 5/18/06), Professor, Mathematical Sciences
Le Roy Daugherty, Associate Dean, College of Agriculture and Home Economics and Director, Agricultural Experiment Station
Colleen Jonsson, Associate Professor, Chemistry and Biochemistry (1/1/02-5/15/03)
Tammy May, Associate Professor, Animal and Range Sciences (1/1/02-5/15/03)
Jill Schroeder, Professor, Entomology, Plant Pathology and Weed Science
Michelle Nishiguchi (joined fall 2006), Associate Professor, Biology

Research

Chair, Patricia Hynes, Project Director, NM Space Grant
Sonya Cooper, Associate Professor, Engineering Technology and Surveying Engineering
Robert Czerniak, Associate Dean, Arts and Sciences (5/1/504-5/15/07)

Tiziana Giorgi, Assistant Professor, Mathematical Sciences
Champa Gopalan, Professor, Plant and Environmental Sciences
Richard Hills, Co-PI, Associate Dean, Engineering (1/02-8/15/03)
Kenneth Paap, Co-PI, 1/1/02-8/15/04)
Rudi Schoenmackers, Associate Dean of Research, College of Engineering (starting 5/15/03)
Mark Wise, Department Head, Animal and Range Sciences

Distinguished Visiting Professor

Chair, Steven Loring, Administrative Analyst, Agricultural Experiment Station (member starting 1/1/02, chair starting 5/1/5/05 to present)
Chair, Ann Vail, Academic Department Head, Family and Consumer Sciences (1/1/02-5/15/05)
Stuart Munson-McGee, Professor, Chemical Engineering
Tracy Sterling, Professor, Entomology, Plant Pathology and Weed Science
Nicole Vogt, Assistant Professor, Astronomy

Faculty Development

Chair, Inna Pivkina, Associate Professor, Computer Science (member starting 8/15/04, chair 5/15-08 to present)
Chair, Steven Kanim, Associate Professor of Physics (member starting 8/15/03, chair 5/15/07-5/15/08)
Chair, April Ulery, Associate Professor, Plant and Environmental Sciences (member starting 8/15/03, chair 5/15/05-5/15/07)
Chair, Sonya Cooper, Academic Department Head, Engineering Technology and Surveying Engineering (member starting 8/1/5/03, chair starting 8/15/04-5/15/05)
Chair, Christine Marlow, Professor, Social Work (member starting 1/1/02, chair 7/13/03-8/15/04)
Chair, Laura Huenneke, Academic Department Head Biology (ending 7/15/03)
Laurie Churchill, Specialist, Program Development (1/1/02-5/15/07)
Sue Forster-Cox, Associate Professor, Health Science (starting 5/15/07)
Maria Luisa Gonzales, Academic Department Head, Educational Management and Development (5/15/03-8/1/07)
Tara Gray, Director, New Mexico State University Teaching Academy
Ereny Hadjigeorgalis, Assistant Professor, Agricultural Business and Economics (5/15/07-5/15/08)
Nirmala Khandan, Professor of Civil and Geological Engineering
Patrick Morandi, Academic Department Head, Mathematical Sciences (starting 5/15/07)
William Quintana, Associate Academic Department Head, Chemistry and Biochemistry (starting 5/15/07)
Rene Walterbos, Professor, Astronomy (starting 5/15/07)

ADVANCING Leaders Committee

The leadership development program for faculty at NMSU completed the end of its fifth year. The highlight of each spring semester is completing “The Provost's Project,” a facet of the program established in 2005-2006 where participants formulate an approach to clarifying a university-wide issue. Annual topics to date – which are presented to the Executive Vice President/Provost – have been:

2005-2006: Research Clusters
2006-2007: Reallocation of Faculty Lines
2007-2008: Maintaining Effective Communication at NMSU
2008-2009: Shared Governance

Chair, Robert Rhodes, Department Head and Professor, Special Education and Communication Disorders, Interim Associate Dean, College of Education (starting August 2008)
Past Co-Chair, Patricia Hynes, Program Director, New Mexico Space Grant Consortium
Co-Chair, Michael Morehead, Associate Dean, College of Education
Richard Adkisson, Professor Economics and International Business (starting 8/2008)

Cynda Clary, Special Assistant to the Provost (until August 2008), Chair, Department of Agricultural Business and Economics (starting August 2008)
Tracy Sterling, Professor, Entomology, Plant Pathology and Weed Science and ADVANCE PI/Program Director
Tara Gray, Director, Teaching Academy (starting July 2006)
Bonnie Daily, Associate Professor, Department of Management (until 6/1/05)
LeRoy Daugherty, Associate Dean, College of Agriculture and Home Economics and Director, Agricultural Experiment Station
Alison Mann, Associate Professor, Nursing (starting 8/1/05, ending June 27, 2007)
Michele Nishiguchi, Associate Professor, Biology
Diane Prindeville, Director, Women's Studies Program
Todd Savage, Assistant Professor, Counseling and Educational Psychology (ending December 15, 2007)

ADVANCING Leaders Participants (2004-2005) (Inaugural year of program)
Brenda Benefit, Department Head and Professor, Sociology and Anthropology
Janice Black, Associate Professor, Management
Carolyn Chavez, Assistant Professor, Management
Steven Franks, Department Head and Associate Professor, Survey Engineering
Ricardo Jacquez, Professor, Civil and Geological Engineering and Director, New Mexico Alliance for Minority Participation
Desh Ranjan, Department Head and Associate Professor, Computer Science
Allison Mann, Assistant Professor, Nursing
Gary Roemer, Assistant Professor, Fishery and Wildlife Sciences
Tracy Sterling, Entomology, Plant Pathology and Weed Science
Cynthia Pierard, Department Head, Research and Reference Services, NMSU Library
Connie Stout, Associate Professor, Special Education/Communication Disorders

Mentors for this cohort were:
Wes Holley, Associate Dean/Associate Director of Academic Programs, CAHE
Dan Howard, Academic Department Head, Biology
Marvin Bernstein, Professor, Biology
Douglas Gillan, Academic Department Head, Psychology
Sherry Mills, Associate Professor, Accounting and Business Computer Systems
Anne Gallegos, Regent's Prof, SPED/CD
George Alexander, Academic Department Head, Engineering Technology
Kenneth White, Academic Department Head, CAGE
Kathy Brook, Associate Dean, Business College

ADVANCING Leaders Participants (2005-2006)
Jeffrey Arterburn, Professor, Chemistry and Biochemistry; Program Director, NM-BRIN
Ann Bock, Professor, Family and Consumer Sciences
Teresa Brandon, Professor and Program Director, Health Occupations, Dona Ana Branch Community College
Martha Desmond, Associate Professor, Fishery and Wildlife Sciences
Gerald Hampton, Academic Department Head and Professor, Marketing
David Jauregui, Associate Professor, Civil and Geological Engineering
Martha Mitchell, Academic Department Head and Associate Professor, Chemical Engineering
Robert Rhodes, Academic Department Head and Professor, Special Education and Communication Disorders
Patricia Sandau-Beckler, Associate Professor, Social Work, co-chair Border Research Cluster
Laura Thompson, Professor, Psychology
Karin Wiburg, Associate Dean and Director, Educational Research Center

Mentors for this cohort were:
Michael Hites, Chief Information Officers, Information & Technologies Services

Liz Ellis, Academic Department Head, Finance
Peter Gregware, Associate Dean, Arts and Sciences
Ken White, Academic Department Head, Civil and Geological Engineering
Rebecca Dukes, Vice President, University Advancement
Enedina Vazquez, Associate Dean, Graduate School
Janet Green, Academic Department Head, Hotel, Restaurant & Tourism Management
LeRoy Daugherty, Associate Dean, College of Agriculture and Home Economics and Director, Agricultural Experiment Station
Cynda Clary, Special Assistant to the Provost
Patricia Hynes, Program Director, New Mexico Space Grant Consortium
Tracy Sterling, Professor, Entomology, Plant Pathology and Weed Science and ADVANCE PI/Program Director

ADVANCING Leaders Participants (2006-2007)

Tom Burton, Academic Department Head, Mechanical Engineering and Aeronautical Engineering
Richard Fortin, Professor, Finance
Mary Hoke, Professor, Nursing
J. Philip King, Associate Department Head, Civil Engineering
Eric Lopez, Associate Professor, Special Education
Michele Nishiguchi, Associate Professor, Biology
Felipe Peralta, Associate Professor, Social Work
Susan Pinkerton, Assistant Professor, Library Science
Todd Savage, Assistant Professor, Counciling and Educational Psychology
Larry Tunnell, Associate Professor, Accounting and Information Systems
April Ulery, Associate Professor, Plant and Environmental Sciences

Mentors for this cohort were:

Waded Cruzado, Dean, Arts and Sciences
Rober Czerniak, Associate Dean Arts and Sciences
Gladys De Necochea, Associate Vice President, Community Colleges
Rebecca Dukes, Vice President, University Advancement
Gregory Fant, Assistant to the Dean/Academic Department Head, Arts and Sciences
Mary O'Connell, Professor, Plant and Environmental Sciences
Luis Vazquez, Academic Department Head, Counseling and Educational Psychology
Ben Woods, Senior Vice President, Planning, Resources and University Relations
Walter Zakahi, Associate Dean/Academic Department Head, Communications

ADVANCING Leaders Participants (2007-2008)

Richard Adkisson, Professor, Economics and International Business
Elsa Arroyos-Jurado, Assistant Professor, Counseling and Educational Psychology
Jamie Bronstein, Associate Professor, History
Susan Brown, Program Coordinator, Education Research and Budgeting
Earl Burkholder, Associate Professor, Engineering Technology and Surveying Engineering
Rebecca Creamer, Associate Professor, Entomology, Plant Pathology and Weed Science
Ivan De la Rosa, Associate Professor, Social Work
Sheila Horan, College Associate Professor, Electrical and Computer Engineering
Lou Reyes, Associate Professor, Curriculum and Instruction
Elba Serrano, Professor, Biology
Jeanette Smith, Professor, Information Services

Mentors for this cohort were:

Jeffrey Brown, Academic Department Head, History
Judith Weisinger, Associate Professor, Management
Luis Vazquez, Associate Dean, Graduate School
N. Khandan, Professor, Civil and Geological Engineering
Kathleen Brook, Associate Dean, Business
Satya Krishnan, Associate Professor, Health Science
Scott Moore, Dean of Students, Office of the Dean of Students
Carmen Gonzales, V P for Student Success and Dean, College of Extended Learning
Garrey Carruthers, Dean, Business
Lowell Catlett, Dean, Agriculture and Home Economics
Jeanne Gleason, Academic Department Head, Agricultural Information

ADVANCING Leaders Participants (2008-2009)

Laurie Abbott, Associate Professor Animal and Range Sciences
Julia Barello, Professor Art
Joseph Berning, Assistant Professor Human Performance, Dance and Recreation
Chris Brown, Associate Professor Geography
Dana Christman, Associate Professor Educational Management and Development
Sonya Cooper, Academic Department Head Engineering Technology and Surveying Engineering
Yosikazu DeRoos, Associate Professor Social Work
Chris Erickson, Associate Professor Economics and International Business
Anne Hubbell, Academic Department Head Communication Studies
Mardi Mahaffy, Assistant Professor Library Reference and Research
Maria Mercado, Associate Professor Education
Graciela Unguez, Associate Professor Biology
Dawn Vanleeuwen, Professor Agricultural and Extension Education

Mentors for this cohort were:

Katherine Brook, Associate Dean Business and Administration

Patricia Conn, Assistant Dean for Advancement Education
Roberta Derlin, Associate Vice President, Division for Student Success and Assocate Dean, College of Extended Education
William Eammon, Dean Honors College
Lizbeth Ellis, Academic Department Head Finance
Gregory Fant, Associate Dean Arts and Sciences
Carmen Gonzales, V P for Student Success and Dean College of Extended Learning
Janet Green, Academic Department Head Hotel Restaurant and Tourism Management
Jay Jordan, Associate Vice President Research Programs
Ricardo Rel, Assistant Vice President Agriculture and Extension Education
Elizabeth Titus, Dean Library
Benjamin Woods, Senior Vice President Planning/Physical Resources/University Relations

Participants' Summary

Please see Appendix II for a list of Participants' Summaries, 2002-2008.

II. ACTIVITIES & FINDINGS

Overview
ADVANCE activities are administrated through a Committee on the Status of Women in STEM at NMSU. The PI/Program Co-PI's, faculty from each of the three colleges involved in ADVANCE (Agriculture and Home Economics, Arts and Sciences, and Engineering) and program directors from related NMSU programs work on this Committee and its five subcommittees. The five subcommittees manage the various programmatic elements and include several faculty members beyond those who work on the main Committee on the Status of Women in STEM. In addition, a new committee was formed upon the recommendation of external evaluator Dr. Laura Kramer: The Transition Committee.

The *Transition Committee* works to steer ADVANCE towards institutionalization.

The *Committee on the Status of Women in STEM (CSW-STEM)* engages in outreach activities and is responsible for coordinating the annual research report on the status of women in STEM at NMSU. The report forms the basis for subsequent programming to address gender disparities in STEM at NMSU. Over the course of the grant, an office staff consisting of an Associate Director, Research Analyst, Graduate Assistant and two seasoned undergraduate student assistants have provided necessary administrative, data collection and analysis, and logistical support for the CSW-STEM's, five subcommittees' and the ADVANCING Leaders Committee's activities.

The *Recruitment Subcommittee* is involved with outreach (meetings with job candidates), research (surveys about search processes, startup, etc.) and training and development (work with departmental search committees) activities. The *Faculty Development Subcommittee* is involved with educational and training and development activities. The *Research Subcommittee* meets to administer a program of grants to existing female STEM faculty for research and travel within their disciplines. The *Distinguished Visiting Professor Subcommittee* administers another research-related activity that involves a strong outreach component and makes women scientists more visible. *The ADVANCING Leaders Subcommittee* oversees a leadership development program for faculty at NMSU, which included an academic year of monthly luncheons, and a two-day, off-campus retreat. Financial support is obtained from all six NMSU academic colleges and the library for the program. And an ad-hoc *Exit Interviews Subcommittee* conducts face-to-face and phone interviews to understand why STEM faculty leave.

Research and Education
The ADVANCE Program at NMSU supports institutional and faculty development research projects that are conducted largely by ADVANCE Program personnel (Frehill, Jeser-Cannavale, and Javurek-Humig). In 2007, with the grant on a no-cost extension, the research and travel grant program for female STEM faculty in the 19 target STEM departments ended.

All reports and data are posted to the ADVANCE program webpage. We routinely bring copies of reports to key administrators (e.g., the President, Provost, Vice Provost for Research, Deans, Director of the Teaching Academy, etc.) to discuss findings and seek assistance in solving problems.

ADVANCE Program Staff Research

- **Institutional Data**: We compiled data for the 12 required indicators (except start-up packages) for the 19 STEM and 6 SBS departments as in the past (findings reported in the attached file) and we compiled many of these indicators for the non-STEM departments. In addition, this year we compiled more trend data to make meaningful presentations about the trends in women's involvement in STEM and academic administration for the five-year period prior to ADVANCE (i.e., 1997-2001) and for the first five years of the ADVANCE Program.

- **Attrition data** for the entire campus were analyzed and presented to: Roles and Rewards Taskforce (and included in the Taskforce's second report to the Provost on Promotion and Tenure); the Associate Provost; the Vice Provost for Research.

    - **Toolkit**: Founding PI Lisa Frehill and Jeser-Cannavale produced a toolkit for other ADVANCE institutions to use in collecting, compiling and reporting the data for the 12 required indicators. The toolkit forms the basis for the supplemental funding award ($60,000) to bring together data analysts from several ADVANCE institutions to craft a uniform approach to the data reporting tasks.

- **Program Analysis**. We are collecting and analyzing data on participants in our programs to determine the overall effect of the program on individuals.

    - **Career Advancement**. We are creating a cohort data set so that we can determine the career advances of faculty who were active with the ADVANCE Program over the course of the grant.

    - **Mentoring Program**. An analysis of the ADVANCE mentoring program was conducted. Twenty-four interviews with participants and 24 interviews with non-participants were conducted. A paper on this work appeared in conference proceedings.

Publications

- Frehill, Lisa, Cecily Jeser-Cannavale, and Janet Malley. "Measuring the Status of Women Towards Cross-Institutional Analysis to Understand Institutional Transformation" forthcoming in *Learning from ADVANCE* edited by Abigail Stewart, Danielle Lavaque-Manty and Janet Malley, Ann Arbor, University of Michigan Press (2007).
- Frehill, Lisa M., Cecily Jeser-Cannavale, Lauren Ketcham. "The Impact of a Mentoring Program on Women and Men in Science and Engineering." Proceedings of the 2007 WEPAN Conference.
- Frehill, Lisa M. "Using the Index of Dissimilarity to Understand the Sex Segregation of Academic Science and Engineering." *Journal of Technology Transfer*, 2006. Volume 31, Number 3, 345-354.
- Frehill, L.M. "The Gendered Construction of the Engineering Profession in the United States, 1893-1920", *Men and Masculinities*, vol. 6, (2004), p. 383.Published
- Frehill, Lisa M. Abby Javurek-Humig, and Cecily Jeser-Cannavale, "Women in Engineering: Review of the 2005 Literature", *SWE Magazine*, vol. 52, (2006), p. 34.Published
- Frehill, Lisa M. Lauren Ketcham and Cecily Jeser Cannavale. "Women in Engineering: A Review of the 2004 Literature.", *SWE Magazine, April-May, 2005*, vol. April-M, (2005), p. 22.Published
- Frehill, L.M. C. Jeser Cannavale and J. Benton-Speyer, "Women in Engineering: A Review of the 2003 Literature", *SWE Magazine*, vol. 50, (2004), p. 20.Published
- Frehill, L.M. "Women of Color in the Engineering Pipeline" , bibl. Albuquerque, NM, (2004). *Proceedings* Accepted. Collection: "Proceedings of the Women in Engineering Program Advocates Network Annual Conference."

- **Dual Career Couples**: ADVANCE personnel have worked with five couples at NMSU to make accommodations, which has resulted in recruitment/retention of six STEM faculty (including two college track females) and two social and behavioral science faculty (both college track).

- **Exit Interviews**: Working through the Provost's Office in 2007, ADVANCE obtained a list of faculty who have left for reasons other than retirement and their contact information from Human Resources and the NMSU Institutional Review Board approved interviews. Thirty-four interviews were ultimately completed by Dr. Christine Eber of the Sociology/Anthropology Department. Dr. Eber, PI/PD Sterling and Associate Director Hunt presented the report to the Interim EVP/Provost Dr. Robert Moulton and Interim President Cruzado on December 15. (A copy of this report is included in the Appendices of the 2008 Annual Report and may be accessed at http://www.advance.nmsu.edu/Documents/PDF/Retention_Report-Nov08.pdf.)
  The report was also presented to the Academic Deans Council and in 2009 was presented to the Colleges of Engineering and the Faculty Senate, with plans to present it at the College of Business and other colleges. The impact of this effort on the institution is already evident: When Employee Relations was working to develop a university-wide exit interview process, their staff requested a meeting with ADVANCE exit interview researcher to review the questionnaire designed by ADVANCE.

- **Diversity in engineering**: Several presentations and papers have been based upon this work. Diversity as it relates to recruitment has been a consistent theme in this research strand.

Institutionalization of ADVANCE

Significant changes have been brought about at New Mexico State University (NMSU) since the inception of the NSF-ADVANCE Institutional Transformation Program in 2002. ADVANCE was the first externally funded effort to deal with gender equity at NMSU. As a result, its substantial monetary resources have provided leverage for a methodological study of the status of women in the disciplines of Science, Technology, Engineering and Mathematics (STEM) where women are under-represented in tenure-track faculty positions relative to Ph.D. degrees awarded. In addition, it has provided the resources to create programming and policy change to improve climate as well as double the numbers of tenure-track female faculty hired into STEM disciplines. The core initiatives for faculty recruitment and retention are now available to all faculty on campus, as the program has been institutionalized and is now located in the Teaching Academy.

In November 2008, over 40 faculty and administrators gathered to celebrate the accomplishments of the NSF-ADVANCE Institutional Transformation grant and to honor the many faculty, staff, and administrators whose vision and dedication made this initiative successful. The achievements of the female STEM faculty members whose work was supported by ADVANCE were also recognized

Looking back, it is clear that significant changes have been brought about since the inception of this $3.75 mi non-renewable grant. Specific successes and publications are enumerated at http://www.advance.nmsu.edu/. Major recruitment and retention initiatives included:

- Twenty-five new hires received over $1 mi in start-up package enhancement awards. This strategy coupled to working with Department Heads and Search Committees to broaden applicant pools has doubled the hiring rate for female tenure-track faculty in STEM from 17% in the years prior to ADVANCE to 35% in the seven years of ADVANCE, creating a net increase in STEM female faculty of over 40%.
- Bi-annual P&T workshops, the Mentoring program where there are now over 100 participants, Department Head Training, and the year-long ADVANCing Leaders Program are available to all faculty on campus
- Strong grass-roots support with over 60 faculty members and administrators filled 115 volunteer positions on the six ADVANCE committees over the life of the grant.
- Partnering for policy change to create a transparent and flexible Promotion & Tenure process, the Employee Climate Survey, the President's Commission on the Status of Women, and NMSU's first Omsbud's office.
- Over $1 mi for research, travel, undergraduate research, and visiting professor awards to enhance research and teaching programs, as well as build collaborations across the nation.

- A new $0.5 mi award, NSF-ADVANCE PAID, is disseminating our best practices of Mentoring and P&T workshops to UNM, NMT and LANL, and is also providing annual department head retreats to discuss recruitment and retention of faculty

THE DATA: In a world where female and underrepresented minority faculty researchers in the sciences are in high demand, it is difficult for universities to attract high quality, diverse faculty members. For this reason, start up packages, and start-up package enhancement can play a huge role in attracting and retaining high quality diverse faculty.

This has been the experience of the ADVANCE Program at NMSU. The ADVANCE grant came at a very unique time in NMSU history. Recent waves of retirement in the STEM fields in 2001 had left several Tenure-track positions open. The ADVANCE Program was able to offer over $1 million in start up package enhancements to 25 tenure-track female scientists and engineers increasing the representation of high-quality female academic scientists at the university.

NMSU's program worked to both increase awareness of diversity issues and bring in high demand female STEM faculty. By training department heads and search committees in proper searching techniques, about the importance of diversity, and about cognitive errors that we commonly make which may result in subtle discrimination, ADVANCE helped to reduce barriers to diverse candidates in the hiring process. By taking the time to meet with female candidates and working with departments to augment start up packages, the program was able to surpass its initial goal of increasing the number of women in STEM fields by 20%, and actually increased this by 40%. The number of STEM new hires roughly doubled the rate at which women were being hired into NMSU's STEM fields.

The data presented in Appendix 1 illustrates the progress ADVANCE has made at NMSU

INSTITUTIONALIZATION ACTIVITIES

ADVANCE Co-PI University Leader

In the aftermath of EVP/Provost's Flores appointment to the position of deputy secretary of higher education for the state of New Mexico, the university launched a search for a new EVP/Provost. In August 2007 the promotion to that position of Waded Cruzado, Dean of the College of Arts and Sciences and a Co-PI of the ADVANCE Program was announced. In July 2008, after President Michael Martin left NMSU to accept a position at Louisiana State University, the Regents appointed Dr. Cruzado to serve as Interim President. Dr. Cruzado has long championed ADVANCE goals at NMSU, and serves as a powerful ally in realizing the aims of the program.

Promotion and Tenure Policy Revision Adopted

PI/PD Sterling served as co-chair of the Provost-convened Faculty Senate Task Force on Promotion and Tenure Revision from Fall 2006 through September 2008. In August 2008 the revised policy went into effect. Sterling and Dr. Larry Creider, Associate Professor of Library Archives and Special Collections, and past-chair of Faculty Senate, reviewed the revisions to the P&T policy with academic department heads from the College of Engineering on 8/27/08 and with College of Arts and Sciences department heads on 1/8-9/08. In addition Drs. Creider and Sterling met with the Executive Vice President/Provost (4/21/08) to discuss the revisions.

Sterling had Co-Chaired the Task Force with Donna Alden, past Faculty Senate Chair and Roles and Rewards co-Chair with Frehill. In November 2006 the Task Force had released a draft document for public comment across campus (including branch campuses and Extension faculty from across the state); each committee member had met with Department Heads and P&T committees from each College to engage dialog and encourage input. In January 2007, the Task Force reconvened, and incorporated changes that were presented as legislation to the Faculty Senate in spring 2007. On May 3, 2007 the Faculty Senate passed Proposition 18-06/07, which revised Sections 5.88, 5.90, and 5.91 of the NMSU Policy Manual. President Mike Martin approved the legislation on May 11, 2007 and the Board of Regents ratified the new promotion and tenure policy on September 7, 2007 and October 22, 2007. Additional edits were approved through the same process in Spring 2008 to clarify certain sections. In August and September 2008, Interim Provost Moulton

reconvened the Task Force to edit each College's new policy to confirm it was in compliance with the new policy which was made official in August 2008 (http://www.nmsu.edu/~fsenate/ptp/index.html). This umbrella policy is to serve as a guide for Colleges and Department to increase the transparency of the tenure process and to recognize the need for flexibility, particularly with 'Stopping the Tenure Clock' and 'Part-Time Tenure-track positions' as well as the definition of 'Scholarship,' and the need that candidates should be reviewed on their allocation of effort. Sterling and Senate Chair, Larry Creider, presented to the Dean's Summer Retreat the highlights of the new policy in order to guide the Deans as they re-write their College policies to come into compliance with the new University policy.

Sterling chaired the College of Agriculture's P&T Action Team charged with, as per the new University policy, bringing the College Promotion and Tenure Document into compliance with the University's new policy.

Faculty Senate Legislation for College-Track Faculty representation on Faculty Senate
As Senator, Sterling sponsored a bill which passed Faculty Senate; the entire NMSU faculty voted to include non-tenure track faculty representation on Faculty Senate (http://www.nmsu.edu/~fsenate/bills/voted/2007-2008/Prop%20190708.pdf).

Exit Interviews Report Completed
Working through the Provost's Office in 2007, ADVANCE obtained a list of faculty who have left and their contact information from Human Resources and the NMSU Institutional Review Board approved interviews. Thirty-four interviews were ultimately completed by Dr. Christine Eber of the Sociology/Anthropology Department. Dr. Eber, PI/PD Sterling and Associate Director Hunt and presented the report to the Interim EVP/Provost Dr. Robert Moulton and Interim President Cruzado on December 15. (A copy of this report is included in the Appendices.) The report was also presented to the Academic Deans Council and will be presented to the Colleges of Engineering and Business. The impact of this effort on the institution is already evident: When Employee Relations was working to develop a university-wide exit interview process, their staff requested a meeting with ADVANCE exit interview researcher to review the questionnaire designed by ADVANCE.

PI/PD Sterling and Dr. Christine Eber, Professor of Anthropology, had met with Provost Flores and Diana Quintana (HR) in 2006 to share an initial report on findings from 12 interviews of faculty who have left NMSU in STEM and non-STEM departments for reasons other than retirement; we were encouraged to continue completing another 16 interviews of faculty who have left NMSU for reasons other than retirement.

Permanent Funding for ADVANCE Programs and Personnel Obtained
In July 2008 NMSU granted the ADVANCE Program in the Teaching Academy $30,000 in Performance Award Funds to carry on four key programs: Mentoring, Promotion and Tenure, Leadership Development (ADVANCING Leaders), and Department Head Training. Performance Award Funds are reviewed annually for three years before becoming a permanent part of the budget. In 2007 the university Budget Committee had approved fully funding the Associate Director's salary starting in July. This position was placed administratively in the Teaching Academy within the College of Extended Learning and is permanently funded. The Teaching Academy is devoted to training Faculty in Professional Development specific to teaching. It is a long-term collaborator of ADVANCE, helping to deliver many of the program's Best Practices (i.e. Mentoring, Department Head training, P&T Workshops, ADVANCING Leaders). In 2007 and 2008 it served as a critical dissemination tool for the newly awarded NSF-PAID grant, with the Teaching Academy Director Dr. Tara Gray becoming a Co-PI of PAID.

Additional evidence of our partnership with the Teaching Academy and institutionalization was the continuing co-sponsorship of Department Head training events in 2007 and spring 2008. With funding from ADVANCE, the Teaching Academy brought the CRLT players to NMSU, held workshops on assessment, and hosted a series of freewheeling discussions for department heads. Additionally, the Teaching Academy and ADVANCE joined with Black Studies and Chicano Programs to present a series of diversity lectures, featuring Harold Bailey, Peggy McIntosh and Tim Wise. Starting in fall 2008, ADVANCE offerings at the Teaching Academy have been funded by NMSU Performance Award Funds.

Legislative Efforts
With the support of President Michael Martin and EVP/Provost Flores, ADVANCE succeeded in getting a house bill on the docket of the New Mexico State legislative session in 2005, 2006 and 2007. In these years PI/PD Sterling traveled to Santa Fe where she testified to the house committee on higher education. Annually Sterling submitted a Proposal in June to the NMSU Budget Committee. President Martin brought the bill to the NM Legislature for the January session. In 2007 the bill requested $600,000 to recruit diverse faculty in STEM disciplines through start-up package augmentation. It was a top priority for the College of Extended Learning, where both the ADVANCE grant and the permanent ADVANCE program are now housed. While the bill did not pass the senate, the progress made in 2007 constitutes a strong foundation for future efforts to obtain the support of state funds.

Ombuds Office Created
A proposal for an ombudsperson, crafted by founding PI Lisa Frehill and former Research Analyst Jeser-Cannavale, was approved in June 2007, and an Office of the Ombuds was created, under the direction of an assistant to the President. In a communication to the Faculty Senate, the Director of the Office of Ombuds publicly recognized the key role that ADVANCE and the President's Commission on the Status of Women played in this initiative. In 2008 for staff and faculty ombudspersons were appointed.

Data Gathering
In 2005, Institutional Research, Planning and Outcomes Assessment (IRPOA) was placed within Information and Communication Technologies (ICT). The director of IRPOA retired and a search was initiated. In December 2005, the ADVANCE PI/PD was invited to join the search committee for this position, and she worked actively on this committee throughout the Spring; Carmen Santana-Melgoza assumed the position in Summer 2006 and has been helpful in helping ADVANCE access critical data. In August of 2007 ADVANCE Research Analyst Abby Javurek-Humig joined the staff of IRPOA, in a newly created position that is designed to help meet the data-analysis needs of programs such as ADVANCE. In October 2007 IRPOA was placed under the Office of the Executive Vice President/Provost.

Working with the Chief Information Officer and IRPOA, ADVANCE obtained access to the raw data for this annual report and for NMSU's employee climate survey conducted in 2004. The data included in the 2005 Annual Report is the first data report produced by any NMSU grant program based on raw personnel data. ADVANCE aggregated the Employee Climate Survey data so that differences between gender, units, and campuses could be available to evaluate climate in specific areas (http://irpoa.nmsu.edu/EmployeeClimateSurvey/EmployeeClimateSurvey.html). NMSU had committed to another Employee Climate Survey in 2007 and consistently thereafter, and to work with UW-Madison to generate questions that have been found by other ADVANCE institutions to be sensitive to gender differences or shown to be reliable indicators of institutional climate. However, the turnover in the position of EVP/Provost contributed to the postponement of this goal to 2009. ADVANCE personnel met with interim Provost Moulton and Director of IRPOA in February 2009 and discussed the process for the second ECS, which has been assigned to an ad hoc committee.

Gender Equity Policy
As a member of the President's Commission on the Status of Women (PCSW) representing ADVANCE, the PI/PD worked on developing a gender equity policy during the past two years, that was approved in 2007. Very few universities in our country have established a gender equity policy. No other university in New Mexico has such a policy. The policy sets foundation to ensure that gender equity is a value for NMSU. With this policy statement, the Administration will determine whether additional recommendations from the President's Commission on the Status of Women will be implemented in the future. Other accomplishments include finalizing a draft of the search committee handbook that is open, transparent, and describes a gender-neutral process.

Location of ADVANCE within Teaching Academy

To help move forward institutionalization, the program relies on specialized part-time staff. Using indirect funds, the program hired a seasoned part-time major gifts officer, Mark Hohnstreiter. As a permanent part-time employee of the NMSU Teaching Academy, Hohnstreiter is familiar with faculty development programs and with the NMSU foundation, for which he has also worked on a contractual basis. This professional works to stage events intended as advocacy and outreach activities attendees ranging from key ADVANCE participants and committee members, NMSU leadership, deans, and department heads, members of the NMSU Foundation, media, elected officials, and University donors. Other participants have included the local chapter of the American Association of University Women and the NM High Tech Research Consortium. We make a general presentation on the accomplishments of the program, present status, and future directions, and engage the group in discussion.

Placing the ADVANCE Program within the Teaching Academy provides access to a strong administrative infrastructure, as evidenced by the assistance given by the Teaching Academy webmaster, who re-designed the ADVANCE website (http://www.advance.nmsu.edu/) to update it and conform to NMSU style guides. In addition, on-line registration is now available for ADVANCE events, again through the Teaching Academy. The majority of ADVANCE programs and events took place in the Teaching Academy meeting room.

The PI/PD also continued in an effort to work out strategies for a regional "consortia" approach to addressing the needs of dual career couples.

In 2008, the Deans of NMSU ADVANCE's three "target colleges" – Dean Lowell Catlett of the College of Agriculture and Home Economics, Dean Pamela Jansma of the College of Arts and Sciences and Dean Steven Castillo of the College of Engineering – provided the funding to bring MentorNet to NMSU.

Findings

Indicators and Reports

See 2008 tables reporting the 12 required indicators in Appendix I. Data for earlier years may be accessed at: http://www.advance.nmsu.edu/Resources/Data_Reports/index.html

Recruitment Efforts

ADVANCE at NMSU spent a total of $884,035 on start-up package enhancements for 24 women scientists/engineers, and $95,346 on dual-career accommodation enhancements for four. In addition as the final no-cost extension neared its end, ADVANCE met with three candidates who were successfully hired by NMSU, starting in the fall of 2009. All three candidates are in the College of Engineering, and one candidate, hired by Mechanical Engineering, is the first women tenure-track faculty member in the history of the department, which spans over 100 years. A list of candidates and the years of the hire follows. Abstracts of start-up fund awards are shown in the following pages.

Dr. Dobroski is arriving in Fall 2009, and will be the first woman to fill a tenure-track position in the Department of Mechanical Engineering throughout the more than 100-year history of that department.

For a start-up fund enhancement recipient listing and abstracts please see Appendix V.

ADVANCE Undergraduate Research Scholarships

ADVANCE Undergraduate Research Scholarships were designed to permit ADVANCE recipients of internal awards (start-up fund enhancements or research grants) and other female STEM faculty to work with female undergraduate students on research projects. A total of 18 students were paired with women STEM faculty members who oversaw their independent research projects. The students received a total of $32,000 in scholarship support to conduct this research. Scholarships provided $1,000 per semester for up to two semesters, including summer terms.

For Undergraduate Research Scholarship recipient listing and abstracts please see Appendix V.

Opportunities for Training and Development

Throughout the grant, ADVANCE supported training and outreach efforts that involved as many members of the NMSU as possible, and allowed the program director and staff to widely disseminate our program's best practices and findings. The ADVANCE Program provided training programs that reached many faculty and administrators from almost every NMSU academic department and a limited number of students (graduate and undergraduate). In addition to ADVANCE events on campus, the ADVANCE Program provides support to the NMSU Teaching Academy and enables STEM faculty, administrators, and students to attend important off-campus workshops and conferences related to gender in the STEM fields.

For a listing by year of outreach and training/development initiatives, please see Appendix III.

Programs and Grants Related to Diversity in STEM Fields

A number of ADVANCE program participants have obtained grants funding STEM gender diversity initiatives at NMSU. Others have won grants that work to increase participation in STEM by underrepresented students. And one researcher into the effect of maternal sensitivity on infant learning is conducting research related to family and life-balance issues.

- The Computer Science Summer Program, funded by an NSF CREST grant, is headed by PI Dr. Desh Ranjan, Academic Department Head of Computer Science and ADVANCE mentor. In the summer of 2008 (July 7-Aug. 8) the Department of Computer Science at New Mexico State University offered three programs to increase participation by underrepresented groups in computer science and bioinformatics. The CREST program at NMSU is aimed at introducing community college students from underrepresented minority groups to NMSU, Computer Science, possible career opportunities in

Computer Science, and the field of bioinformatics. This program is particularly interested in attracting women and American Indian students, who historically are underrepresented in the field of Computer Science. Thirty-four people participated in the three programs in the summer of 2008: Young Women in Computing, the High School Bioinformatics Summer Program and the College Camp.

- The Young Women in Computing Summer Camp, first funded in 2005, is exclusively for female high school students. Female students accepted into this program receive free books, materials and meals, as well as $200 weekly for five weeks. Accepted participants also have the opportunity to participate in monthly luncheons during the academic year to meet experts and learn valuable skills for their future college careers.
- In September 2008 Computer Science faculty members Drs. Inna Pivkina (recipient of ADVANCE start-up enhancement funds) and Professor Enrico Pontelli (ADVANCE mentor), along with Assistant Professor Karen Villaverde were awarded a $600,000 NSF Broadening Participation in Computing supplemental grant for the Young Women in Computing program. With this three-year supplemental grant the team hopes to expand the program beyond its original five-weeks of summer classes and monthly seminars. Dr. Villaverde is an ADVANCE mentee who was recently moved from the non-tenured to the tenure track.
- ADVANCE start-up enhancement recipient, Associate Professor Jing He of the Department of Computer Science, is a PI of NMSU CREST: Center for Research Excellence in Bioinformatics and Computational Biology" grant (National Science Foundation, 2004-2009, $4,500,000). CREST devotes resources to sponsoring outreach in the field of Bioinformatics and Computational Biology that actively recruits from community colleges in the Southwest, including Dona Ana Community College, El Paso Community College, San Juan College, and Dine College, located on the Navajo Nation. All students must be current community college students interested in computer science who have expressed an interest in transferring to a four-year institution.
- Dr. Elba Serrano, Professor of Biology is a recipient of ADVANCE research funds, has served in the ADVANCE mentoring program as both a mentor and trainer, and has participated in the ADVANCING Leaders Program. In January 2008, Dr. Serano assumed directorship of NMSU's National Institutes of Health Research Initiative for Scientific Enhancement (RISE) program to increase the number of underrepresented minority students who achieve Ph.D. degrees.
- Professor Laura Thompson of the Department of Psychology is a past participant of the ADVANCING Leaders Program and an ADVANCE mentor. In 2008 she received a four-year, $1.1 million grant from the Eunice Kennedy Shriver National Institute of Child Health and Human Development to study how infant adrenocortical functioning and learning are affected by various factors in the environment, including maternal sensitivity.
- ADVANCE mentor and Promotion and Tenure trainer Dr. Mary O'Connell of Plant and Environmental Sciences is a PI of the NMSU U54 Partnership for the Advancement of Cancer Research. New Mexico State University and the Fred Hutchinson Cancer Research Center (Seattle, WA) was awarded a $10 million National Cancer Institute grant to support a partnership between these two institutions. The partnership's major objective is to establish cancer research at NMSU and to increase the number of minorities involved in cancer research. The grant was initially funded 2002-2007 and has been renewed 2007-2012.

National and Local Recognition of Participants in ADVANCE Programs

Many ADVANCE participants have achieved recognition that reflects well on the influence of ADVANCE in promoting a climate that supports advancement of women and minorities at NMSU.

- Dr. Jeanine Cook, Associate Professor in the Klipsch School of Electrical and Computing Engineering and recipient of ADVANCE start-up funds enhancements, was selected in December 2008 as one of the winners of the prestigious Presidential Early Career Award for Scientists and Engineers (PECASE). Dr. Cook directs the Advanced Computer Architecture Performance and Simulation Laboratory at NMSU. She was recommended for the PECASE award by the Sandia National Laboratory scientists whose applications performance problems Cook solved by building a simulator to pinpoint the problem's exact location.

- David V. Jáuregui, Associate Professor of Civil Engineering at NMSU and participant in the ADVANCING Leaderse Program, was selected as Higher Education Educator of the Year 2008 by the Society of Hispanic Professional Engineers (SHPE). Dr. Jauregui was also named as the recipient of one of four new professorships named by the College of Engineering, the Wells/Hatch Family Civil Engineering Professorship.
- NMSU's Regents Professorships are considered the highest academic honor. Two new Regents Professorships were awarded at New Mexico State University's Spring Convocation in January of 2009: Dr. Elba Serrano, Professor of Biology and recipient of ADVANCE research funding, and Professor Nancy V. Baker of Government, an ADVANCE mentor.
- Dr. Martha Mitchell of Chemical Engineering is an ADVANCE mentor and the first woman department head in the NMSU College of Engineering. In October 2008 she was named as the recipient of one of four new professorships named by the College of Engineering, the Robert Davis Chemical Engineering Professorship.
- Dr. Thomas Burton, Academic Department Head of Mechanical Engineering and Aeronautical Engineering, and ADVANCE mentor and Recruitment for Diversity trainer for ADVANCE/PAID received one of four new professorships named by the College of Engineering, the Robert G. Myers Department Head Professorship in Mechanical Engineering. In 2008 Dr. Burton succeeded in recruiting the first woman ever to fill a tenure-track position in the more than 100-year history of his department.
- ADVANCING Leaders participant Joseph Berning, Interim Department Head of Physical Education, Recreation and Dance, was recognized with the 2008 Patricia Christmore Teaching Award.
- Dr. Ricardo Jacquez, Professor of Civil Engineering, is a member of the ADVANCE Committee on the Status of Women and mentor in the ADVANCE mentoring program. As director of the Alliance for Minority Participation at NMSU, he has proven to be a staunch ally of ADVANCE. In 2007 he received the Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring.
- ADVANCE start-up fund recipient and mentee in the mentoring program, Dr. Paola Bandini, Assistant Professor of Civil Engineering, received the 2007 NMSU Patricia Christmore Teaching Award for setting the standard in the areas of teaching, mentoring and advising for her college.
- Two other participants in the ADVANCE mentoring program who were also ADVANCE research award recipients of ADVANCE were honored in 2007. Dr. Martha Desmond of the Department of Fishery and Wildlife Sciences was recognized as an E. de la Garza Fellow in the USDA's Hispanic-Serving Institutions National Program in 2007. Dr. Elba Serrano, of the Department of Biology, was selected to the Center for Integrated Nanotechnologies User JumpStart Program of the Department of Energy Nanoscale Science Research Center.
- Engineering Dean Steven Castillo, another institutional transformation ally of ADVANCE, was appointed by the NSF and National Academy of Engineering in 2007 to serve on the Committee on Engineering Education.
- Steven Castillo, Dean of the College of Engineering, will serve as Provost of the Colorado School of Mines starting July 2009.
- ADVANCING Leaders participant Susan Brown, director of the Southern New Mexico SEMAA (Science, Engineering, Mathematics, and Aerospace Academy) at NMSU, received the 2007 John M. Hairston Jr. Award from NASA's SEMAA office.

Professional Accomplishments of ADVANCE Participants

Many ADVANCE participants have achieved career milestones that reflect well on the influence of ADVANCE in promoting a climate that supports advancement of women and minorities at NMSU.

- ADVANCE Co-PI Waded Cruzado, formerly dean of the College of Arts and Sciences, was appointed Executive Vice President/Provost of NMSU in August of 2007.
- In the fall of 2008 Dr. Cruzado was selected as Interim President by the Board of Regents, in the wake of President Michael Martin's departure to accept a position as Chancellor of Louisiana State University. Dr. Cruzado is the first woman ever to serve as Provost or President at NMSU.
- ADVANCE Co-PI and NMSU Executive Vice President/Provost Dr. William Flores, a strong ally of ADVANCE initiatives throughout the life of the grant, was appointed deputy secretary of higher

education for the state of New Mexico in May 2007 and starts as President of the University of Texas, Houston-Downtown starting July 1.

- ADVANCE Co-PI and NMSU Associate Provost, Dr. Josephine De Leon, was appointed deputy secretary of higher education for the state of New Mexico (October 2005 – May 2006). In April 2008 she accepted a position at the University of New Mexico as Vice President for Equity and Inclusion, where she is working with Sterling on the collaborative PAID grant to disseminate NMSU's best practices to NM Institutions of Higher Learning and Research.
- Dr. Michele Nishiguchi, Associate Professor of Biology, recipient of ADVANCE research fund and participant in the ADVANCING Leaders Program who has served as mentee, mentor and workshop facilitator in the ADVANCE mentoring program was named as the new leader of the NMSU Bioscience Cluster in April of 2008, charged with invigorating interdisciplinary research under a broad spectrum of bioscience-related research areas.
- Dr. Rebecca Creamer, Associate Professor in the Department of Entomology, Plant Pathology and Weed Science, recipient of ADVANCE research funds and participant in the ADVANCE mentoring program was named the Director of the Molecular Biology Program at NMSU In August 2008.
- Diana Quintana, formerly Director of Human Resources, was appointed Assistant to the President and Director of the Office of Ombuds in 2007.

On Campus Events

The ADVANCE Program features a number of training events associated with mentoring, department head training and ADVANCING Leaders programs. Attendance at these events averages about 26 people.

In November 2007, the ADVANCE Program co-sponsored a diversity lecture series presented by Black Programs, featuring Harold Bailey, Executive Director of the New Mexico Office of African-American Affairs, Peggy McIntosh, Director of the Wellesley Centers for Women of Wellesley College, and anti-racist writer and activist Tim Wise.

While the mentoring program focused predominantly upon faculty in the STEM and then added SBS fields, several participants are from departments outside these target disciplines and several key NMSU administrators outside of STEM participate in this program. An additional cohort of all colleges was recruited this year and the program expanded to include all new tenure-track faculty to NMSU, with plans to include college-track STEM faculty in the future. In fall 2008, with the ADVANCE Program established at the Teaching Academy, the focus of the program was broadened to include all faculty, especially underrepresented faculty, and all faculty participating in the New Faculty Orientation session were invited to participate.

The ADVANCING Leaders Program also reaches across campus in important ways. Not only are the participants from all six academic colleges plus the NMSU Library, but the invited speakers include important administrators at NMSU. Past speakers include: Provost William Flores, Dean/Provost/Interim President and ADVANCE Co-PI Waded Cruzado, Interim Provost Moulton, Senior Vice President, Planning, Resources and University Relations Ben Woods, Legislative Liaison for NMSU Ricardo Rel and Vice President Gladys De Necochea (Student Affairs). Deans serving as mentors include Carmen Gonzales, ADVANCE Co-PI and Vice President for Student Success/Dean of the College of Extended Learning, Garrey Carruthers, Dean of Business Administration and Economics, Scott Moore, Dean of Student Affairs, and Luis Vazquez, Interim Dean of the College of Health and Social Services. Several Associate deans from multiple colleges were involved as mentors or are on the planning committee for the program including: Kathleen Brooks (College of Business Administration and Economics); LeRoy Daugherty and Wes Holley (College of Agriculture and Home Economics); Peter Gregware (College of Arts and Sciences); Enedina Vasquez (Graduate School); Michael Morehead (College of Education); Robert Czerniak (Arts and Sciences); and Walter Zakahi, Associate Associate Dean (Arts and Sciences).

For a list of all ADVANCE events 2002-2008, please see Appendix IV.

Committee Memberships

The Program Director was involved in several committees:

- President's Commission on the Status of Women
- Faculty Senate
- Provost's Promotion and Tenure Revision Task Force – co-chair
- College of Agriculture's Promotion and Tenure Revision Action Team - chair
- Biochemistry Search Committee - member
- Institutional Research, Planning and Outcomes Assessment Search Committee - member
- Leadership Institute – an embryonic grass-roots committee engaged in creating Leadership curriculum for all staff and faculty at NMSU

The Associate Director was also doing committee work:

- Children's Village Planning Committee (on-site daycare)
- Committee on Diversity
- Working with Housing to create MOUs among the science colleges to create Living Learning Communities for Women in Science and Engineering; The first WISE hall was established in fall 2006; the AD meets periodically with the students and their residential hall and faculty advisor, inviting them to our events, several of which they have attended.
- Women's Studies Steering Committee
- Chair, Women's History Month – Theme: Women in Science and Technology
- Leadership Institute – an embryonic grass-roots committee engaged in creating Leadership curriculum for all staff and faculty at NMSU

The Research Analyst served on:

- President's Commission on the Status of Women
    - Monitoring Policies Subcommittee
    - Maternity and Family Leave Policy Subcommittee

Presentations to NM science faculty/staff audiences to disseminate ADVANCE initiatives throughout New Mexico's doctoral-granting institutions and National Labs:

- ADVANCE staff and NMSU faculty and administers presented workshops on mentoring and promotion and tenure throughout New Mexico.
- Participation of ADVANCE staff and NMSU faculty and administers as presenters and workshop facilitators in the PAID Department Head Retreats each May.

Sessions Organized/Moderated/Presented at Conferences

Throughout the grant, ADVANCE supported training and outreach efforts that involved as many members of the NMSU as possible, and allowed the program director and staff to widely disseminate our program's best practices and findings.

For a year-by-year list of these presentations, please see Appendix III, Outreach and Training.

Distinguished Visiting Professor

Between 2002 and 2007 ADVANCE brought 11 Visiting Professors to NMSU. These women scientists and engineers helped ADVANCE to:

- Promote women in science, math and engineering programs at NMSU
- Engage women scholars, graduate students, undergraduates, and K-12 students with nationally recognized scholars

- Provide one-on-one consultations for women scholars with other scholars to review programs, goals and possible collaborations
- Provide community level presentation to enhance visibility for women scholars in general and NMSU scholars specifically

For a listing of ADVANC Visiting Professors and schedules/descriptions of their visits, please see Appendix VI.

III. PRODUCTS

The ADVANCE program at NMSU has produced an impressive array of products in a large number of STEM disciplines via the mini-grants program that provides research and travel funds to women faculty in 19 departments at NMSU.

For a complete list of the more than 120 journal articles, book chapters and other publications, please see Appendix VI.

Websites
http://www.advance.nmsu.edu/ . ADVANCE program website.

IV. Contributions

Within PI Discipline

In 2008 the PI/PD was named Co-PI on a new NSF PAID grant (Partnerships in Adaptation, Implementation and Dissemination), PROMOTE. PROMOTE is headquartered at Utah State University withs five other universities including NMSU. The grant's aim is to improve the Promotion to Full process at each university. USU will interview professors at each university, and each university will offer a workshop session for promotion to full within the first year of the grant. Each university will also work to ensure that STEM colleges have guidelines in place for promotion to full.

In 2007 the PI/PD was named PI on the NSF PAID grant awarded to NMSU. This grant seeks to disseminate best practices for mentoring, promotion and tenure training and department head training with partner institutes: University of New Mexico, New Mexico Institute for Mining and Technology, and Los Alamos National Laboratory.

The Associate Director, in her new capacity as head of the permanently established ADVANCE Program at the NMSU Teaching Academy, became a member of the NMSU Diversity Council in Fall 2008. The Diversity Council serves as an engaged advocate for achieving a diverse faculty, staff and student body by creating effective and meaningful recommendations and policy in support of an inclusive university environment.

Through 2007 the Research Analyst worked with founding PI Frehill to prepare a number of manuscripts within the field of sociology. To some extent, the data related to the institution and the question of how to make meaningful and appropriate cross-institutional comparisons among the original nine ADVANCE institutions has formed the basis of one thread of work, measuring the status of women. This work will continue, with additional presentations and publications.

Other related research used in-depth qualitative interviews and other programmatic records maintained by the ADVANCE program to understand how institutional forces affect faculty work lives. Frehill and the research analyst, also a sociologist, worked on several projects to be presented at sociology and educational management conferences. These projects examined the impact of the mentoring program and the study of space allocation that we have completed at NMSU.

Contributions to Other Disciplines

Over the course of the grant, ADVANCE funds have assisted in the preparation of scholarly work in eight STEM disciplines: Plant and Environmental Sciences, biology, computer science, fishery and wildlife, food sciences, geological sciences, industrial engineering, and mathematical sciences. Wide-reaching contributions across the STEM fields have been and will continue to be made as a result of this grant.

Development of Human Resources

ADVANCE start-up package enhancements, research awards, mini-grants and undergraduate student researcher scholarships have been essential to scholar's professional development over the life of the grant.

ADVANCE start-up fund enhancements contributed to breakthrough hires in two departments. The Physics Department, which had been without a female tenure-track position since 2002, was able to hire Dr. Kanani Lee. And in Biology, Michele Shuster transitioned from "college track" to tenure track – a major success for the ADVANCE Program which has engaged in activities to develop college track women to enable them to compete successfully for future tenure-track openings. Dr. Shuster was a recipient of ADVANCE mini-grants in 2006.

ADVANCE research funds contributed to the professional development of recipients. M. Cristina Mariani, a recipient of the first "round" of start-up package enhancements, became the first in that cohort to receive tenure. Within a year she was promoted to full professor. Her progress was augmented by an ADVANCE research grant. An ADVANCE research grant was also instrumental in the tenure of Elizabeth Gasparim, also of the Department of Mathematical Sciences. Susana Salamanca-Riba used her research funds to work with a

collaborator at MIT on a wide-ranging project on Lie groups. And Nancy Flores of Food Science conducted research to collect data designed to contribute to future USDA and CREES grant proposals.

The ADVANCING Leaders Program and the department head training sessions contributed the development of the managerial capabilities of women in science and the furthering of a constructive university climate. A majority of the ADVANCING Leaders participants are women. Of the two new interim department heads appointed in 2005, both became full Department Heads: Martha Mitchell (Chemical Engineering) and Sonya Cooper (Engineering Technology). Both were associate professors who were promoted to full professor while serving as the first women department heads within the College of Engineering. Discussions between the ADVANCE program, the Dean of the College of Engineering, and the two new department heads contributed to effectively improving their skills as department heads and ensuring that they maintained research productivity essential for promotion to full professor. A graduate of the ADVANCING Leaders Program, Tracy Sterling (Weed Science) assumed the role of ADVANCE PI and Program Director when Frehill took professional leave.

The ADVANCE Program granted scholarships of up to $2,000 to 18 female undergraduate students who assisted in the research of their faculty mentors in 2008. Megan Lockwood, working with her faculty mentor, Elizabeth Gasparim of Mathematical Sciences, studied string theory – work which she has found helpful as she continues her studies in physics. Kalli Lambeth, working with Kathryn Hanley of Biology, studied patterns of inter-seotypic competition in dengue virus. Not only does this scholarship program encourage undergraduate female STEM students to pursue graduate work and perhaps faculty careers by forming mentoring relationships with their faculty sponsors – these sponsors in turn receive valuable assistance in their research by highly motivated students.

The ADANCE Program mini-grant enabled Associate Professor Inna Pivkina and Professor Enrico Pontelli of Computer Science to present “Recruiting High School Women into Computer Science” at the Birds of a Feather Session of the Grace Hopper Celebration of Women in Computing: We Build a Better World (10/1-4/08). Attendance at the Grace Hopper Celebration enabled these faculty members to increase their understanding of the underlying issues confronting broadening participation of women in computing, and to learn more about other attempts and initiatives in this area.

Mini-grant recipient David Finston’s participation in the Mathematical Association of America 2006 session on “Models That Work: Building Diversity in Advanced mathematics,” furthered his development as a spokesperson on the topic of minority doctorates and the pipeline. Mini-grants also contributed to the professional development of Dr. Muhammad Dawood of Electrical and Computer Engineering, who attended an intensive week-long teaching institute, Boot Camp for Profs. Dr. M. Cristina Mariana used her mini-grant funds to attend a special session on recent developments on fluid and geophysical fluid dynamics at the American Mathematical Society Spring Southeastern Meeting 2006. She took advantage of her attendance at the conference to discuss developing a professional master program in financial mathematics – an initiative she is developing at NMSU with the Finance Department.

Julieta Valles-Rosales of Industrial Engineering and Paola Bandini of Civil and Geological Engineering were able to use ADVANCE research awards to leverage resources—additional funds or equipment--from the college and their departments. Both have also successfully competed for external research funding, with Valles-Rosales winning a $62,192 grant from SCERP (with two co-PIs from the Department of Management, including her mentor Bonnie Daily) and Bandini receiving $50,000 from the New Mexico Department of Transportation. As the ability to generate external funds has become more vital within the promotion and tenure process at NMSU, these early successes bode well for both of these faculty members within the College of Engineering. Nancy McMillan of Geology received $25,000 from the Army to continue her research on tracing geologic processes and terrorist trading

ADVANCE has helped build an infrastructure to support sustained efforts at increasing gender and ethnic equity by sending Dario Silva, Director, Employee Assistance Program and Laura Godwin, Assistant Professor, Theatre to the Center for Research on Learning and Teaching Theatre Program Summer Institute. Building on

their training, ADVANCE will work to develop a consistent, institutionalized use of effective theatre techniques to promote gender and ethnic equity among the faculty and students at NMSU. Dr. Silva will be participating in a performance by the Cornell Players, who will be coming to NMSU in the fall of 2009.

The program engaged in activities to develop women who ranked as "college track" (not eligible for tenure) at NMSU to enable them to compete successfully for future tenure track openings. All five women in this case are part of "dual career couples". Funds were provided to Dr. Michele Shuster in Biology and Dr. Nancy Chanover in Astronomy for this purpose, and both were ultimately transitioned to tenure track. Dr. Chanover was the Co-PI on three separate grants and subcontracts, including a $2.7 million NASA grant with the noted Rete Beebe as the PI. This track record and the publications Dr. Chanover produced equipped her well to compete for an open tenure-track position. Dr. Shuster's position focuses on the scholarship of teaching, which has been elevated under the new, Boyer-based policy for promotion and tenure that was spearheaded by ADVANCE PI Sterling.

Finally, Dr. Linda Riley, the first chair of the ADVANCE Committee on Recruitment, left NMSU to become the Associate Dean of the School of Engineering at Roger Williams University in Rhode Island. Dr. Laura Huenneke left NMSU to become the Dean of Arts and Sciences at Northern Arizona University. PI Frehill left NMSU to become the Executive Director of the Commission on Professionals in Science and Technology. PI Sterling is leaving NMSU to become chair of the department of Land Resources and Environmental Sciences at Montana State University-Bozeman. And Maria Christina Mariani, recipient of ADVANCE start-up funds, is leaving NMSU to chair the Department of Mathematics at the University of Texas, El Paso. Within the larger perspective of ADVANCE's intended effects on higher education, the movement of a STEM woman from a department head position to one of academic leadership is important to note. Dr. Huenneke indicated that her substantial participation in the ADVANCE program helped her to envision herself as a dean.

Physical, institutional, or information resources that form the infrastructure for research and education.

The ADVANCE program was instrumental in providing significant support for increased information resources at NMSU for STEM and non-STEM fields. Working with the Office of the Provost, the Hispanic Faculty/Staff Caucus, the Teaching Academy and Faculty Senate the program provided support for broad-based institutional training. ADVANCE program funds have been essential to the launch of the NMSU Teaching Academy.

In addition, the program, in collaboration with the University of Texas at EL Paso ADVANCE Program, has produced a brochure on "Dual Career Couples" for use by the institutions in solving dual career dilemmas. The program brought top administrators and department heads together to attend Virginia Valian's briefing dinner and discuss gender equity in recruitment and working across colleges and disciplines. The program has established a reputation among department heads of providing quality, value-added programming that is truly relevant to their administrative roles. NMSU President Martin has continued these conversations with President Natalicio of UTEP, demonstrating an institutional commitment to dual career issues.

The ADVANCE program website, and the vital connections maintained with the other ADVANCE institutions have been essential in making information about institutional change easily accessible to a wide audience. The PI, Research Analyst, and Research Analyst made presentations about women's status in STEM fields and the ADVANCE Program to various NMSU, state, and national audiences.

Program personnel participation in other institutional efforts - notably a campus-wide Provost's Taskforce on Roles and Rewards, the President's Commission on the Status of Women, the Committee on Diversity and the Employee Climate Survey Committee are important in disseminating the information learned via the many data collection efforts of the program across campus. Such involvement insures that issues related to the status of women at the institution are kept at the forefront of these other institutional efforts.

Other Aspects of Public Welfare

Research on diversity in science and engineering is important in determining how more women and under-represented minorities can be recruited and retained at all levels of the science engineering pipeline. Affecting the pipeline is also one important role of the Distinguished Visiting Professor program. Every ADVANCE Visiting Professor visited K-12 classrooms or educators as part of their visits. Such women were an inspiration to the young girls in these classes, providing them with role models affirming that there are women in science.

ADVANCE FINAL REPORT

APPENDICES – ACTIVITIES AND FINDINGS

Appendix #	Title
I	Institutional Data, Tables and Graphs
II	Participants' Summaries
III	Outreach and Training
IV	Events
V	Subaward Recipient Lists and Abstracts: • Start-up Fund Enhancement Packages • Research and Travel Awards • Undergraduate Research Scholarship
VI	Visiting Professor Programs
VII	Publications
VIII	Budget

ADVANCE: Institutional Transformation

Annual Report
January 1, 2008 – December 31, 2008

APPENDIX 1:

INSTITUTIONAL DATA, TABLES AND GRAPHS

Appendix I

*All Data Provided by the Office of Institutional Research, Planning, and Outcomes Assessment (IRPOA) unless otherwise noted

Table 1: New Mexico State University Faculty by Category, Fall 2008

Faculty Category	All NMSU			STEM and SBS Departments			Social and Behavioral Science Departments			ADVANCE (STEM) Departments		
	All	Female	% Female	All	Female	% Female	All	Female	%Female	All	Female	% Female
Tenured/ Tenure Track	582	198	34.0%	290	73	25.2%	46	20	43.5%	244	53	21.7%
Temporary / Non-Tenure Track	141	92	65.2%	51	29	56.9%	13	8	61.5%	38	21	55.3%
Total	723	290	40.1%	341	102	29.9%	59	28	47.5%	282	74	26.2%

[1]For a complete list of Social and Behavioral Science Departments and ADVANCE (STEM) Departments, see Table 3.

Table 2: Distribution of NMSU STEM Faculty by Category and Gender, Fall Semesters 1995-2008

	Tenure/ Tenure Track			Non- Tenure Track			All Categories		
	Total	Female	%Female	Total	Female	%Female	Total	Female	%Female
1995	251	34	14%	35	15	42.9%	286	49	17.1%
1996	246	33	13%	31	15	48.4%	277	48	17.3%
1997	250	40	16%	31	17	54.8%	281	57	20.3%
1998	247	41	17%	36	18	50.0%	283	59	20.8%
1999	240	42	18%	27	16	59.3%	267	58	21.7%
2000	231	20	9%	32	22	68.8%	263	42	16.0%
2001	233	37	16%	30	18	60.0%	263	55	20.9%
2002	232	41	18%	39	19	48.7%	271	60	22.1%
2003	236	42	18%	24	16	66.7%	260	58	22.3%
2004	241	46	19%	23	13	56.5%	264	59	22.3%
2005	244	47	19%	21	13	61.9%	265	60	22.6%
2006	247	51	21%	31	17	54.8%	278	68	24.5%
2007	255	52	20%	41	22	53.7%	296	74	25.0%
2008	244	53	22%	37	21	56.8%	281	74	26.3%

Table 3: Fall 2008 STEM and SBS Departmental Faculty Sex Composition

	Tenured and Tenure Track			Non-Tenure Track			Non-Tenure Track as % All Females
	All	Female	%Female	All	Female	%Female	
Agriculture and Home Economics	66	19	28.8%	6	2	33.3%	9.5%
Agronomy and Horticulture	18	3	16.7%	1	0	0.0%	0.0%
Animal and Range Science	19	2	10.5%	1	0	0.0%	0.0%
Entomology, Plant Pathology and Weed Science	9	3	33.3%	2	0	0.0%	0.0%
Family and Consumer Science	11	9	81.8%	1	1	100.0%	10.0%
Fishery and Wildlife Science	7	2	28.6%	1	1	100.0%	33.3%
Arts and Sciences	104	26	25.0%	25	17	68.0%	39.5%
Astronomy	10	2	20.0%	1	1	100.0%	33.3%
Biology	19	7	36.8%	1	1	0.0%	12.5%
Chemistry and Biochemistry	19	3	15.8%	5	2	40.0%	40.0%
Computer Sciences	11	3	27.3%	1	1	100.0%	25.0%
Geological Sciences	6	2	33.3%	0	0	0.0%	0.0%
Mathematical Sciences	24	8	33.3%	14	10	71.4%	55.6%
Physics	15	1	6.7%	3	2	66.7%	66.7%
Engineering	72	8	11.1%	6	2	33.3%	20.0%
Electrical and Computer Engineering	19	1	5.3%	1	1	100.0%	50.0%
Chemical Engineering	7	1	14.3%	0	0	0.0%	0.0%
Civil and Geological Engineering	13	2	15.4%	0	0	0.0%	0.0%
Engineering Technology	10	2	20.0%	1	1	0.0%	33.3%
Industrial Engineering	5	1	20.0%	1	0	0.0%	0.0%
Mechanical Engineering	15	0	0.0%	2	0	0.0%	0.0%
Survey Engineering	3	0	0.0%	0	0	0.0%	0.0%
Social and Behavioral Sciences	57	24	42.1%	14	9	64.3%	27.3%
Communications	6	3	50.0%	3	3	100.0%	50.0%
Criminal Justice	10	4	40.0%	6	3	50.0%	42.9%
Geography	6	2	33.3%	0	0	0.0%	0.0%
Government	11	4	36.4%	1	1	0.0%	20.0%
Psychology	12	3	25.0%	0	0	0.0%	0.0%
Sociology and Anthropology	12	8	66.7%	4	2	50.0%	20.0%

Table 4: Distribution within Sex and Field of Rank and Tenure Status of NMSU Faculty, Fall 2008

	Social and Behavioral Sciences				NMSU-ADVANCE STEM Fields				Non-STEM or SBS			
	Females		Males		Females		Males		Females		Males	
	#	%	#	%	#	%	#	%	#	%	#	%
Non-Contract												
Instructor	2	66.7%	1	33.3%	4	57.1%	3	42.9%	36	61.0%	23	39.0%
Assistant	3	60.0%	2	40.0%	6	54.5%	5	45.5%	25	80.6%	6	19.4%
Associate	3	75.0%	1	25.0%	10	66.7%	5	33.3%	5	45.5%	6	54.5%
Full	0	0.0%	0	0.0%	1	25.0%	3	75.0%	3	50.0%	3	50.0%
Tenure-Track/ Tenured												
Assistant, Tenure-Track	10	55.6%	8	44.4%	14	27.5%	37	72.5%	43	57.3%	32	42.7%
Assistant, Tenured	1	50.0%	1	50.0%	1	33.3%	2	66.7%	4	66.7%	2	33.3%
Associate, Tenure-Track	4	66.7%	2	33.3%	5	27.8%	13	72.2%	13	44.8%	16	55.2%
Associate, Tenured	5	33.3%	10	66.7%	12	19.7%	49	80.3%	37	46.3%	43	53.8%
Full, Tenured	4	25.0%	12	75.0%	20	18.2%	90	81.8%	28	27.5%	74	72.5%
Total	32	46.4%	37	53.6%	73	26.1%	207	73.9%	194	48.6%	205	51.4%
Non-Contract, Total	8	67%	4	33.3%	21	57%	16	43.2%	69	64%	38	35.5%
Tenure-Track, Total	14	58%	10	41.7%	19	28%	50	72.5%	56	54%	48	46.2%
Tenured, Total	10	30%	23	69.7%	33	19%	141	81.0%	69	37%	119	63.3%

Table 5: Faculty by Gender and Ethnicity, Number and Percent Total within Tenured and Tenure-Track and Non-Tenure Track

2007		Tenured and Tenure-Track						Non Tenure-Track					
		Hispanic	Asian	Black	White	Am. Indian	Not coded	Hispanic	Asian	Black	White	Am. Indian	Not coded
STEM	Female #	8	7	0	36	0	1	0	1	0	18	0	3
	%	3.1%	2.8%	0.0%	14.2%	0.0%	0.4%	0.0%	2.5%	0.0%	45.0%	0.0%	7.5%
	Male #	16	25	2	150	1	8	0	1	0	17	0	0
	%	6.3%	9.8%	0.8%	59.1%	0.4%	3.1%	0.0%	2.5%	0.0%	42.5%	0.0%	0.0%
	Total	24	32	2	186	1	9	0	2	0	35	0	3
SBS	Female #	3	1	0	16	0	3	0	0	0	7	0	2
	%	5.4%	1.8%	0.0%	28.6%	0.0%	5.4%	0.0%	0.0%	0.0%	14.0%	0.0%	4.0%
	Male #	3	0	0	24	0	6	1	0	0	3	1	1
	%	5.4%	0.0%	0.0%	42.9%	0.0%	10.7%	2.0%	0.0%	0.0%	6.0%	2.0%	2.0%
	Total	6	1	0	40	0	9	1	0	0	10	1	3
Non-STEM and Non-SBS	Female #	14	2	2	84	3	13	11	0	1	31	0	7
	%	5.2%	0.7%	0.7%	31.5%	1.1%	4.9%	15.3%	0.0%	1.4%	43.1%	0.0%	9.7%
	Male #	19	5	1	110	4	10	7	0	0	12	0	3
	%	7.1%	1.9%	0.4%	41.2%	1.5%	3.7%	9.7%	0.0%	0.0%	16.7%	0.0%	4.2%
	Total	33	7	3	194	7	23	18	0	1	43	0	10

2008		Tenured and Tenure-Track						Non Tenure-Track					
		Hispanic	Asian	Black	White	Am. Indian	Not coded	Hispanic	Asian	Black	White	Am. Indian	Not coded
STEM	Female #	8	6	0	36	0	2	0	1	0	18	0	3
	%	3.3%	2.5%	0.0%	14.8%	0.0%	0.8%	0.0%	2.6%	0.0%	47.4%	0.0%	7.9%
	Male #	15	29	2	136	1	8	0	1	0	14	0	1
	%	6.2%	11.9%	0.8%	56.0%	0.4%	3.3%	0.0%	2.6%	0.0%	36.8%	0.0%	2.6%
	Total	23	35	2	172	1	10	0	2	0	32	0	4
SBS	Female #	4	0	0	17	0	3	0	0	0	8	0	1
	%	7.0%	0.0%	0.0%	29.8%	0.0%	5.3%	0.0%	0.0%	0.0%	57.1%	0.0%	7.1%
	Male #	3	0	0	25	0	5	1	0	0	3	1	0
	%	5.3%	0.0%	0.0%	43.9%	0.0%	8.8%	7.1%	0.0%	0.0%	21.4%	7.1%	0.0%
	Total	7	0	0	42	0	8	1	0	0	11	1	1
Non-STEM and Non-SBS	Female #	14	2	2	84	3	20	11	1	1	35	0	13
	%	4.8%	0.7%	0.7%	28.8%	1.0%	6.8%	12.6%	1.1%	1.1%	40.2%	0.0%	14.9%
	Male #	21	5	2	113	5	21	6	0	0	13	0	7
	%	7.2%	1.7%	0.7%	38.7%	1.7%	7.2%	6.9%	0.0%	0.0%	14.9%	0.0%	8.0%
	Total	35	7	4	197	8	41	17	1	1	48	0	20

Table 6A: Assistant Professor Cohorts, ADVANCE (STEM) Departments

Cohort Year	# In Cohort		Tenured		Left Institution				Not Yet Tenured	
					After P/T		Without P/T			
	M	F	M	F	M	F	M	F	M	F
1995	9	4	8	0	0	1	1	3	0	0
1996	10	1	4	1	3	0	3	0	0	0
1997	9	1	6	0	0	0	3	0	0	1
1998	5	3	5	2	0	1	0	0	0	0
1999	7	4	5	4	0	0	2	0	0	0
2000	6	2	5	1	0	0	1	1	0	0
2001	18	1	5	0	0	0	8	0	5	1
2002	11	6	9	5	0	0	2	0	0	1
2003	14	4	1	1	0	0	3	2	10	1
2004	7	5	0	0	0	0	2	1	5	4
2005	5	1	0	0	0	0	0	0	5	1
2006	6	4	0	0	0	0	0	2	6	2
2007	4	0	0	0	0	0	0	0	4	0
2008	5	0	0	0	0	0	0	0	5	0
Total	116	36	48	14	3	2	25	9	40	11
Total 1995-2007	111	36	48	14	3	2	25	9	35	11

Table 6B: Assistant Professor Cohorts, Non-ADVANCE (STEM) Departments

Cohort Year	# In Cohort		Tenured		Left Institution				Not Yet Tenured	
					After P/T		Without P/T			
	M	F	M	F	M	F	M	F	M	F
1995	10	13	4	4	3	2	3	7	0	0
1996	9	15	6	5	1	3	2	7	0	0
1997	8	12	2	4	1	3	5	5	0	0
1998	10	5	2	2	1	0	7	3	0	0
1999	8	5	5	1	0	0	2	3	1	1
2000	10	9	6	3	1	1	3	3	0	2
2001	4	13	1	4	1	1	0	1	2	7
2002	15	21	8	11	0	0	4	6	3	4
2003	12	5	1	1	0	0	3	1	8	3
2004	5	12	0	1	0	0	3	3	2	8
2005	4	7	1	0	0	0	1	1	2	6
2006	7	10	0	0	0	1	0	0	7	9
2007	7	6	0	0	0	0	0	0	7	6
2008	5	4	0	0	0	0	0	0	5	4
Total	114	137	36	36	8	11	33	40	37	50
Total 1995-2007	109	133	36	36	8	11	33	40	32	46

Table 7A: Associate Professor Cohorts, ADVANCE (STEM) Departments

Cohort Year	# In Cohort		Promoted		Left		Not Yet Promoted		Not Yet Tenured	
	M	F	M	F	M	F	M	F	M	F
1995	6	1	2	1	2	0	2	0	0	0
1996	7	3	3	1	3	1	1	1	0	0
1997	9	1	4	1	3	0	2	0	0	0
1998	8	4	5	3	0	1	3	0	0	0
1999	10	2	6	1	2	1	2	0	0	0
2000	9	3	3	0	3	3	3	0	0	0
2001	7	1	3	0	1	1	3	0	0	0
2002	5	1	2	0	2	0	1	1	0	0
2003	6	0	3	0	0	0	3	0	0	0
2004	8	2	2	0	1	0	5	2	0	0
2005	4	5	0	0	0	0	4	5	0	0
2006	11	3	0	1	0	0	11	2	3	0
2007	1	0	0	0	0	0	1	0	1	0
2008	9	6	0	0	0	0	9	6	4	1
Total	100	32	33	8	17	7	50	17	8	1
Total 1995-2007	91	26	33	8	17	7	41	11	4	0

Table 7B: Associate Professor Cohorts, Non-STEM Departments

Cohort Year	# In Cohort		Promoted		Left		Not Yet Promoted		Not Yet Tenured	
	M	F	M	F	M	F	M	F	M	F
1995	8	11	2	3	2	5	4	3	0	0
1996	11	6	5	1	4	4	2	1	0	0
1997	5	3	1	0	0	2	4	1	0	0
1998	7	9	3	2	2	5	2	2	0	0
1999	6	10	4	3	2	5	0	2	0	0
2000	4	4	3	2	1	1	0	1	0	0
2001	2	5	1	2	1	1	0	2	0	0
2002	11	7	5	2	3	1	3	4	0	0
2003	5	7	0	2	2	2	3	3	0	1
2004	5	4	0	0	0	1	5	3	2	0
2005	5	5	0	0	0	0	5	5	1	1
2006	10	8	0	0	0	1	10	7	1	3
2007	1	1	0	0	0	0	1	1	1	0
2008	7	18	0	0	0	0	7	18	2	8
Total	87	98	24	17	17	28	46	53	7	13
Total 1995-2007	80	80	24	17	17	28	39	35	5	5

Table 8: Tenured and Tenure Track Age, Time at NMSU, Experience, 2008

2008	SBS Departments			STEM Departments			NonSTEM/SBS Departments		
	Males	**Females**	**Gender Gap**	**Males**	**Females**	**Gender Gap**	**Males**	**Females**	**Gender Gap**
Age									
Mean	48.8	44.4	4.4	49.6	48.6	1.0	52.7	49.2	3.5
Median	51	44.5	6.5	49	47.5	1.5	54	49	5.0
Std. Dev.	9.9	9.1		9.2	7.9		9.5	9.7	
Minimum	32	31		28	33		32	29	
Maximum	63	61		76	67		72	77	
# of valid cases	33	24		191	52		167	125	
Time at NMSU									
Mean	12.8	8.9	3.9	14.9	11.8	3.1	14.5	9.5	5.0
Median	14	8	7.9	14	10.5	3.5	14	7	7.0
Std. Dev.	9.1	6.8		9.9	6.9		9.5	7.4	
Minimum	0	0		0	0		0	0	
Maximum	33	19		42	25		37	35	
# of valid cases	33	24		191	52		167	125	
Years of Experience									
Mean	15.9	11.9	4.0	19.7	15.6	4.1	19.4	12.4	7.0
Median	15	10.5	4.5	19	14	5.0	18	11	7.0
Std. Dev.	9.8	7.8		9.3	7.7		9.8	8.1	
Minimum	1	1		1	2		0	0	
Maximum	34	30		47	33		41	35	
# of valid cases	33	20		180	52		153	115	

*Gender Gap = Male - Female
*Years of Experience = current year - date of PhD.

Table 9: Tenure and Tenure Track Monthly Salary By Rank, 2008

	SBS Departments			STEM Departments			Non-STEM and Non-SBS		
	Males	**Females**	**Gender Gap**	**Males**	**Females**	**Gender Gap**	**Males**	**Females**	**Gender Gap**
Monthly Salary: Assistant Professors									
Mean	$5,436.06	$4,813.50	$622.56	$6,901.25	$6,306.55	$594.70	$5,968.96	$5,178.41	$790.55
Median	$5,757.33	$4,519.50	$1,237.83	$6,611.11	$6,111.11	$500.00	$5,346.72	$4,730.25	$616.47
Std. Dev	$872.91	$726.12		$1,289.94	$1,286.66		$1,895.70	$1,137.92	
Minimum	$4,000.00	$4,080.00	Ratio:	$4,795.94	$4,699.23	Ratio:	$3,583.33	$3,747.69	Ratio:
Maximum	$6,348.02	$5,760.03	0.89	$9,215.69	$9,411.61	0.91	$11,333.33	$10,168.29	0.87
# valid cases	9	11		39	15		34	47	
Monthly Salary: Associate Prodessors									
Mean	$5,919.26	$5,953.00	($33.74)	$7,270.28	$6,976.15	$997.08	$6,668.03	$6,446.39	$221.64
Median	$5,620.13	$5,473.73	$146.40	$7,088.20	$6,877.36	$740.83	$6,310.43	$5,761.45	$548.98
Std. Dev	$1,164.46	$880.19		$1,385.91	$1,058.61		$1,854.61	$1,809.64	
Minimum	$4,564.16	$4,967.99	Ratio:	$4,993.50	$5,539.64	Ratio:	$2,550.00	$4,466.82	Ratio:
Maximum	$8,314.02	$7,203.89	1.01	$10,118.96	$9,704.44	0.87	$11,447.55	$11,231.33	0.97
# valid cases	12	9		62	17		59	50	
Monthly Salary: Full Professors									
Mean	$7,429.77	$6,865.93	$563.84	$8,686.31	$7,973.23	$713.08	$8,339.71	$7,816.96	$522.75
Median	$7,392.47	$6,780.86	$611.61	$8,355.29	$7,618.19	$737.10	$8,174.66	$7,852.33	$322.33
Std. Dev	$960.81	$1,333.86		$1,589.70	$1,097.19		$2,034.49	$1,747.00	
Minimum	$5,425.96	$5,577.39	Ratio:	$6,301.93	$6,755.43	Ratio:	$4,932.12	$5,256.76	Ratio:
Maximum	$8,834.98	$8,324.64	0.92	$13,670.14	$10,293.43	0.92	$14,425.28	$12,709.03	0.94
# valid cases	12	4		90	20		74	28	

Table 10: Non-Contract Age, Time at NMSU, Experience and Monthly Salary 2008

2008	SBS[1] Departments			STEM[2] Departments			Non STEM/SBS[3]		
	Males	**Females**	**Gender Gap[4]**	**Males**	**Females**	**Gender Gap[4]**	**Males**	**Females**	**Gender Gap[4]**
Age									
Mean	58.8	49.7	9.1	54	44.4	9.6	55.2	50	5.2
Median	60	48	12	55.5	46	9.5	58	50	8
Std. Dev.	3.27	13.6		12.1	7.5		9.77	9.5	
Minimum	55	28		31	28		26	30	
Maximum	63	67		71	57		65	64	
# valid cases	5	9		16	21		26	61	
Time at NMSU									
Mean	11	11.9	-0.9	15.8	9.1	6.7	10.4	8.9	1.5
Median	9	9	0	17	7	10	8	5	3
Std. Dev.	3.7	9.3		10.4	7.3		9.3	8.4	
Minimum	8	4		3	1		1	0	
Maximum	15	33		29	27		35	36	
# valid cases	5	9		16	21		26	61	
Years of Experience									
Mean	20.6	15.6	5	21.1	14.6	6.5	21	13.6	7.4
Median	17	18	-1	20	15	5	21	13	8
Std. Dev.	11.3	10.9		11.6	6.5		11.5	8.9	
Minimum	9	2		3	2		2	1	
Maximum	34	36		41	25		39	38	
# valid cases	5			15	20		25	56	
Monthly Salary: All Non-Contract									
Mean	$4,344.91	$3,728.20	$616.71	$5,362.98	$4,258.89	$1,104.09	$4,626.22	$4,279.74	$346.48
Minimum	$1,961.12	$2,538.67		$1,656.93	$1,656.93		$2,111.71	$1,586.67	
Maximum	$6,448.22	$4,533.33		$13,057.28	$7,031.77		$8,097.58	$9,374.41	
# valid cases	5	9		16	21		26	61	
Monthly Salary: Excluding Instructor Rank									
Mean	$4,344.91	$3,728.20	$616.71	$5,997.85	$4,663.29	$1,334.56	$4,897.36	$4,643.17	$254.19
Minimum	$1,961.12	$2,538.67		$2,400.40	$2,400.40		$3,000.00	$1,610.24	
Maximum	$6,448.22	$4,533.33		$13,057.28	$7,031.77		$8,097.58	$9,374.41	
# valid cases	5	9		13	17		21	37	

Table 11: NMSU Administrative Leadership Positions, Fall 2002 and 2008

	2002				2008			
	Total	**Male**	**Female**	**% Female**	**Total**	**Male**	**Female**	**%Female**
STEM Department Heads	19	17	2	10.5%	18	14	4	22.2%
STEM Associate Department Heads	7	6	1	14.3%	4	3	1	25.0%
STEM Assistant Department heads	1	1	0	0.0%	2	2	0	0.0%
Vice Presidents / Provosts	5	3	2	40.0%	6	3	3	50.0%
Vice Provosts	3	1	2	66.7%	3	1	2	66.7%
Deans	7	5	2	28.6%	9	6	3	33.3%
Associate Deans	11	7	4	36.4%	14	11	3	21.4%

Table 12: Social and Behavioral Science (SBS) Faculty, ADVANCE (STEM) Faculty, and Faculty not in ADVANCE Departments nor Social and Behavioral Science Departments (non-STEM and Non-SBS) Holding Regents Professorships, 2008

	Total	**Men**	**Women**
SBS Departments	3	2	1
STEM Departments	12	10	3
Non-STEM and Non-SBS	9	8	2
Total	24	20	6

Table 13: Gender Distribution of Promotion and Tenure Committees 1997-2008

	College of Agriculture and Home Economics			College of Arts and Sciences			College of Engineering		
	Total	Female	% Female	Total	Female	% Female	Total	Female	% Female
1997-1998	N/A	N/A	N/A	6	0	0.00%	6	0	0.00%
1998-1999	5	1	20.00%	6	0	0.00%	7	0	0.00%
1999-2000	5	2	40.00%	6	1	16.60%	6	0	0.00%
2000-2001	5	2	40.00%	6	1	16.60%	7	0	0.00%
2001-2002	5	2	40.00%	6	1	16.60%	6	0	0.00%
2002-2003	5	2	40.00%	6	1	16.60%	6	0	0.00%
2003-2004	5	2	40.00%	6	2	33.30%	5	0	0.00%
2004-2005	5	2	40.00%	6	2	33.30%	5	0	0.00%
2005-2006	7	3	42.90%	6	3	50.00%	6	1	16.60%
2006-2007	8	3	37.50%	6	3	50.00%	5	0	0.00%
2007-2008	12	3	25.00%	7	4	57.14%	6	1	16.60%

*Data Source: College Dean's Offices.

Table 14: Women as a Percent of All Ph. D. Recipients Nationwide, 2003, Post Docs, 2001, Academic Employment, 2003 and NMSU Faculty, 2008

	Physical Sciences[1]	Biological and Agricultural Sciences[2]	Earth and Atmospheric Sciences[3]	Mathematical Sciences[4]	Computer Sciences[5]	Engineering[6]
National, 2003	26.90%	44.00%	33.10%	26.50%	20.20%	17.00%
Post Docs, 2001	23.10%	43.10%	25.00%	25.00%	0.00%	22.20%
Employed in Academia, 2003	14.80%	32.1% *		17.10%	18.30%	10.30%
NMSU Faculty[7], 2008	13.6%	23.60%	33.30%	33.30%	27.30%	9.70%

[1]Physical Sciences Includes: Astronomy, Chemistry and Biochemistry, and Physics

[2]Biological and Agricultural Sciences Includes: Agronomy and Horticulture; Entomology, Plant Pathology and Weed Science; Animal and Range Sciences; Fishery and Wildlife Sciences and Biology

[3]Earth and Atmospheric Sciences Includes: Geological Sciences

[4]Mathematical Sciences Includes: Mathematical Sciences

[5]Computer Sciences Includes: Computer Science

[6]Engineering Includes: Chemical Engineering; Civil and Geological Engineering; Electrical and Computer Engineering; Engineering Technology; Industrial Engineering; Mechanical Engineering and Survey Engineering

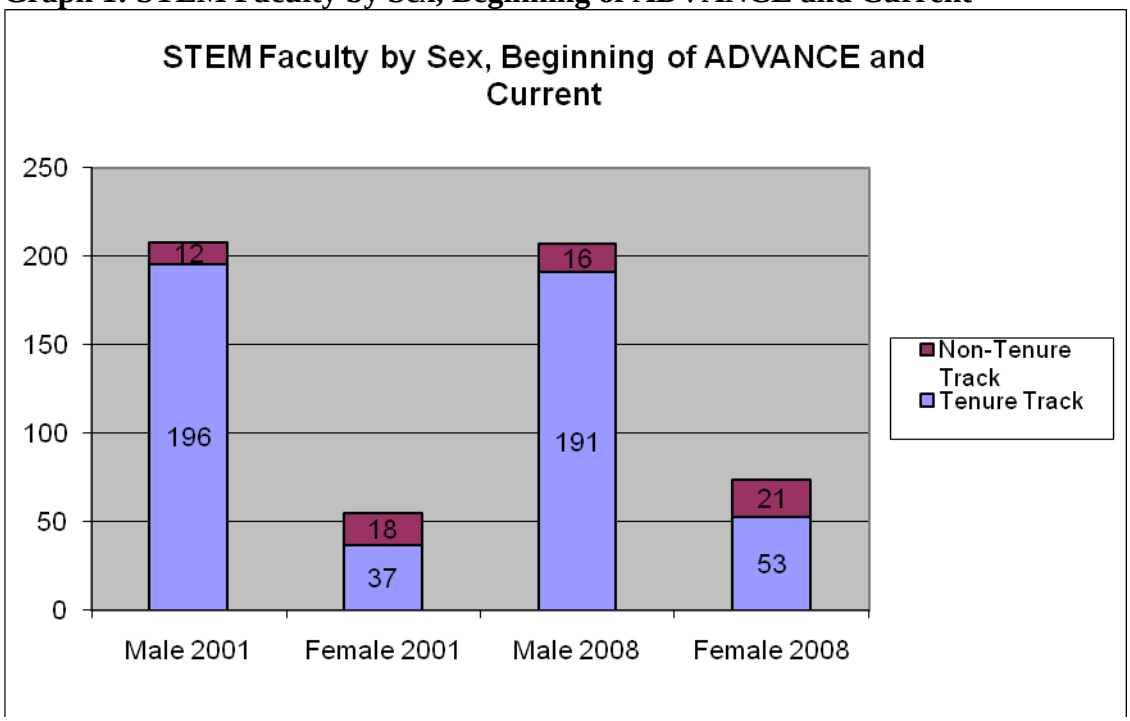
[7]Tenured and Tenure-Track Faculty Only.

* In 2001, the percentage of women employed in Academia Biological and Agricultural Sciences was 31.3% and Earth and Atmospheric Sciences was 18.6%. In 2003 there was not a report splitting these two groups up.

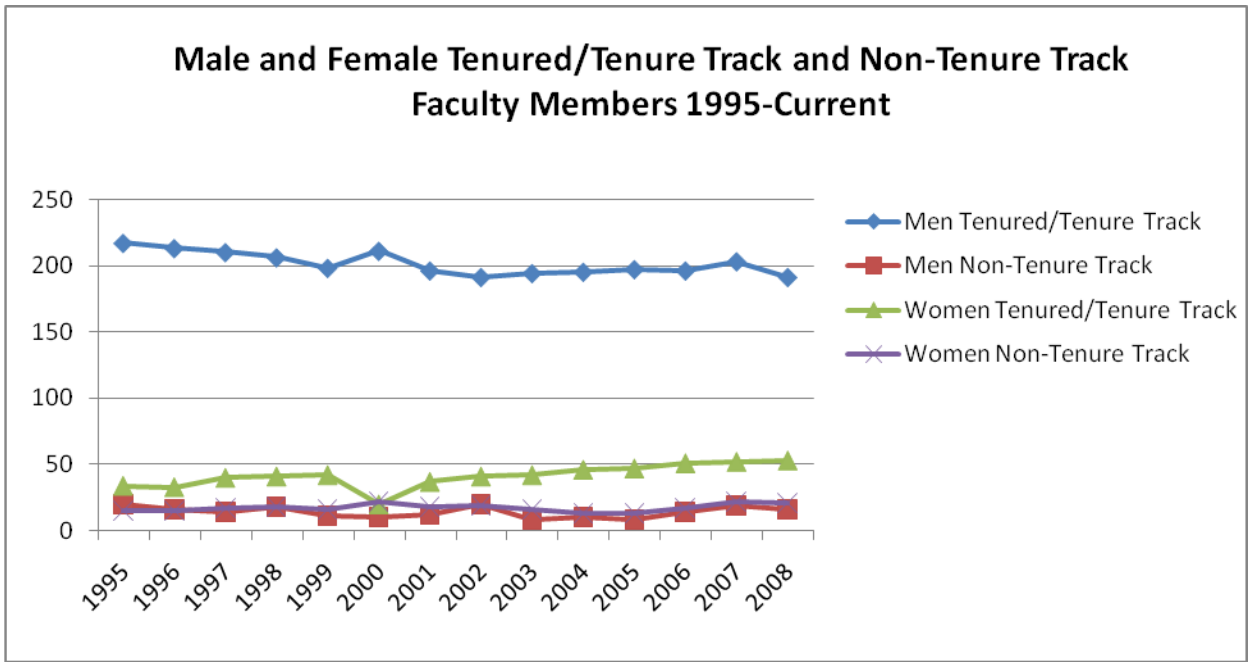
Table 15: Women as a percentage of all STEM New Hires 1995-2008

1995	33%
1996	9%
1997	0%
1998	29%
1999	36%
2000	22%
2001	6%
2002	35%
2003	33%
2004	36%
2005	38%
2006	40%
2007	28%
2008	27%

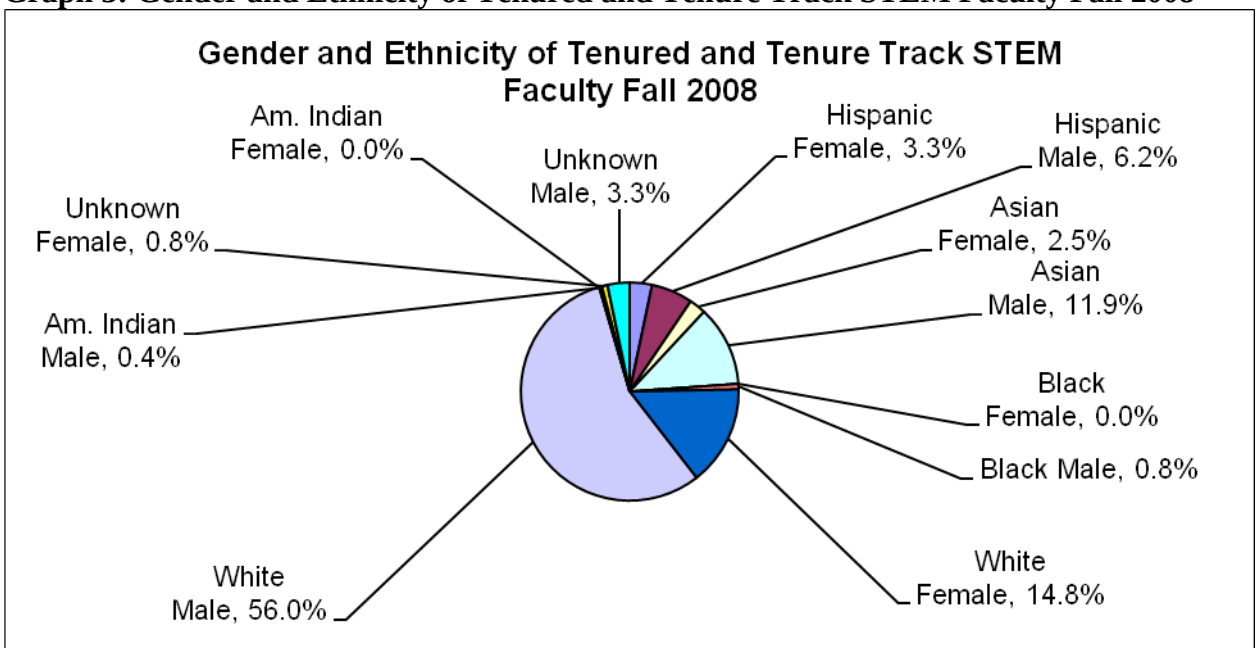
Graph 1: STEM Faculty by Sex, Beginning of ADVANCE and Current



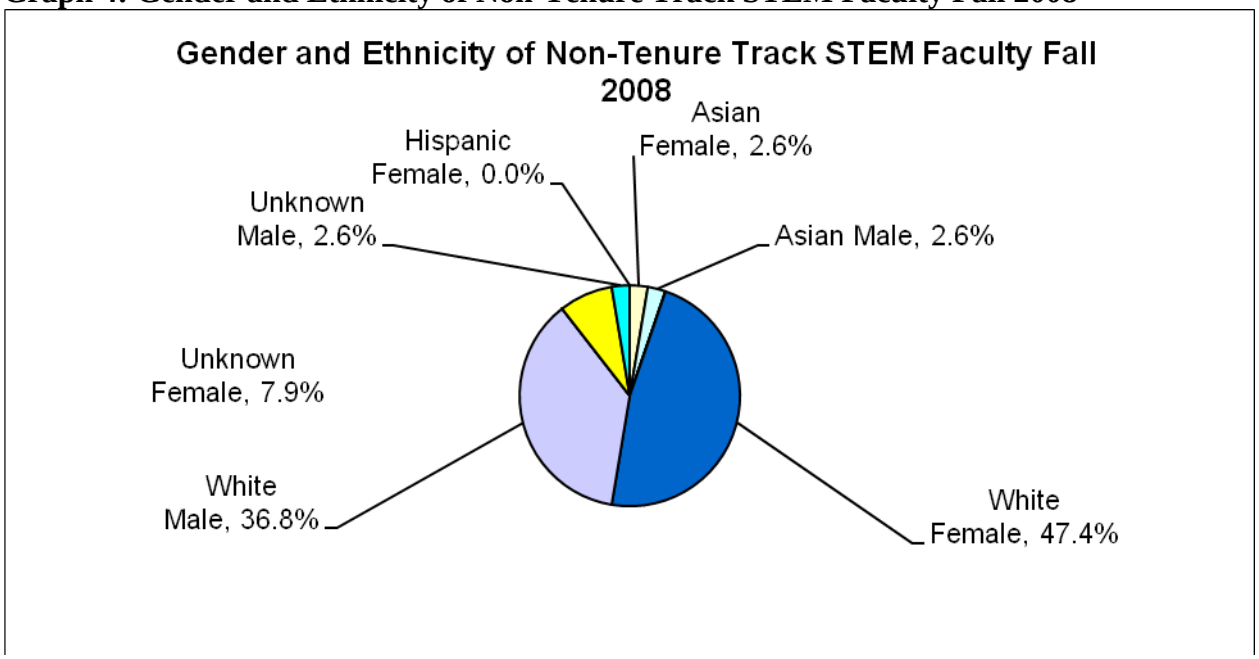
Graph 2: Male and Female Tenured/Tenure Track and Non-Tenure Track Faculty Members 1995-Current



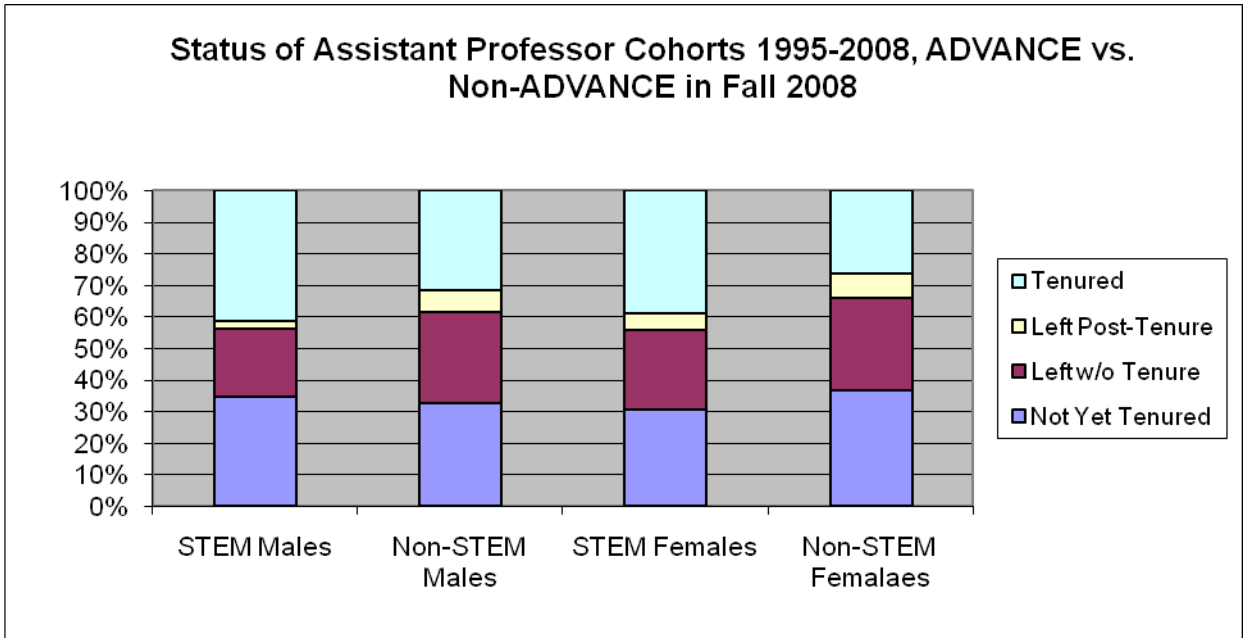
Graph 3: Gender and Ethnicity of Tenured and Tenure Track STEM Faculty Fall 2008



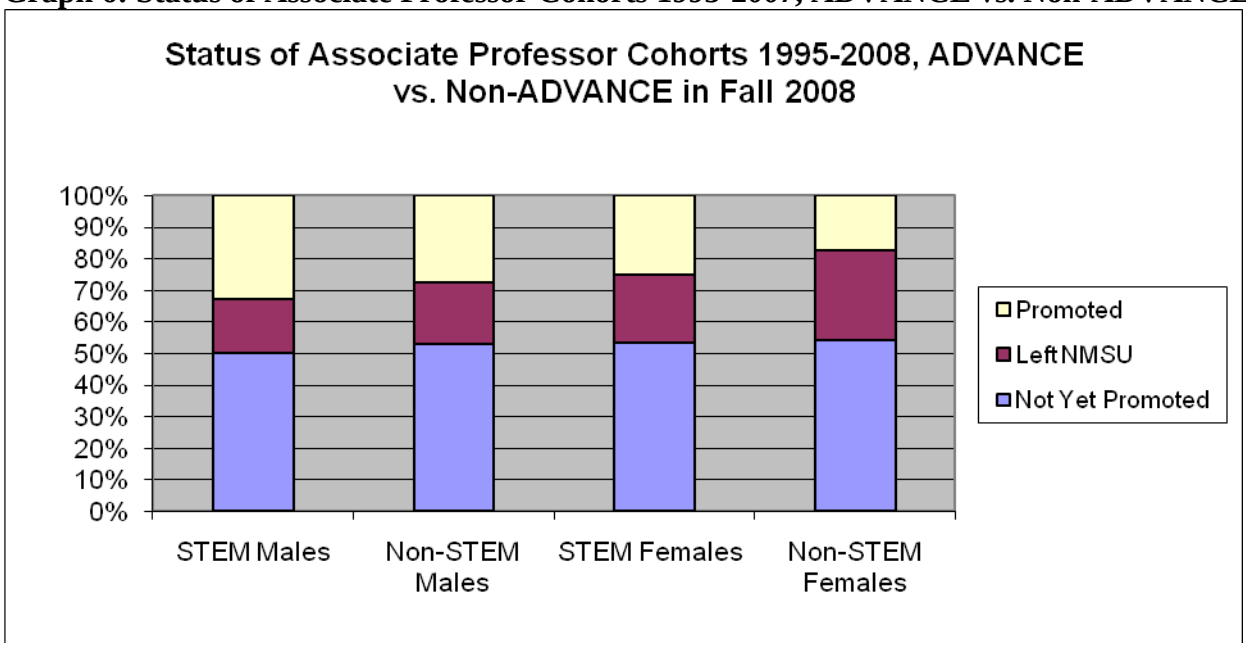
Graph 4: Gender and Ethnicity of Non-Tenure Track STEM Faculty Fall 2008



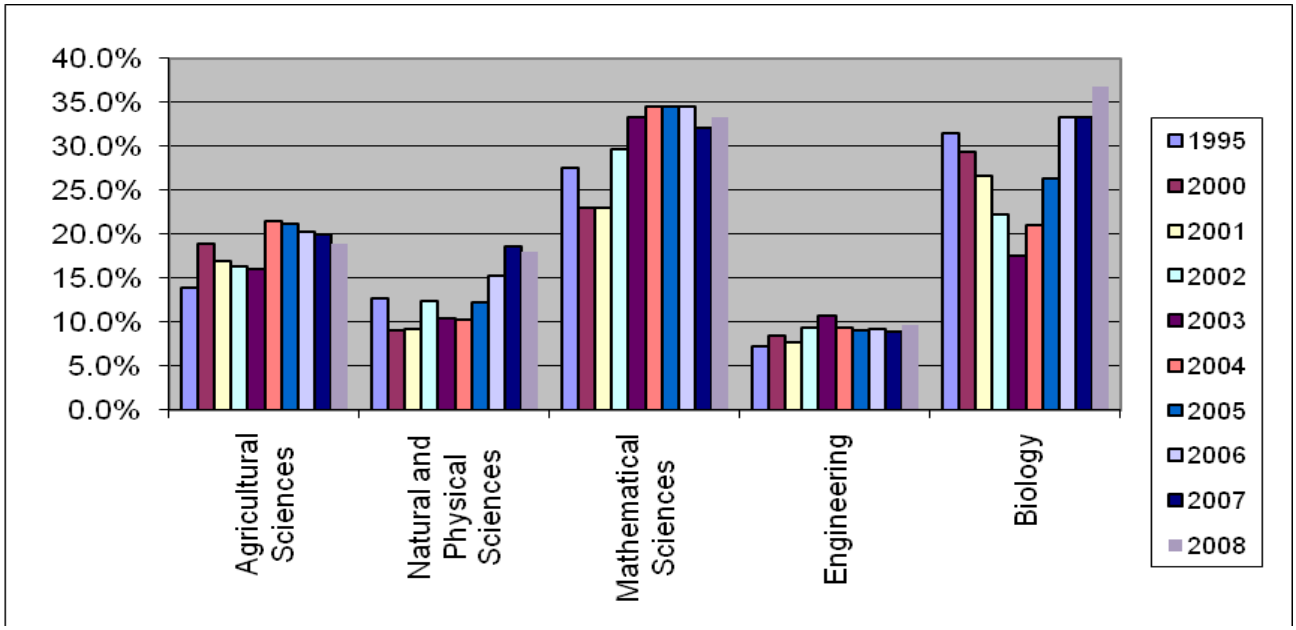
Graph 5: Status of Assistant Professor Cohorts 1995-2007, ADVANCE vs. Non-ADVANCE in Fall 2008



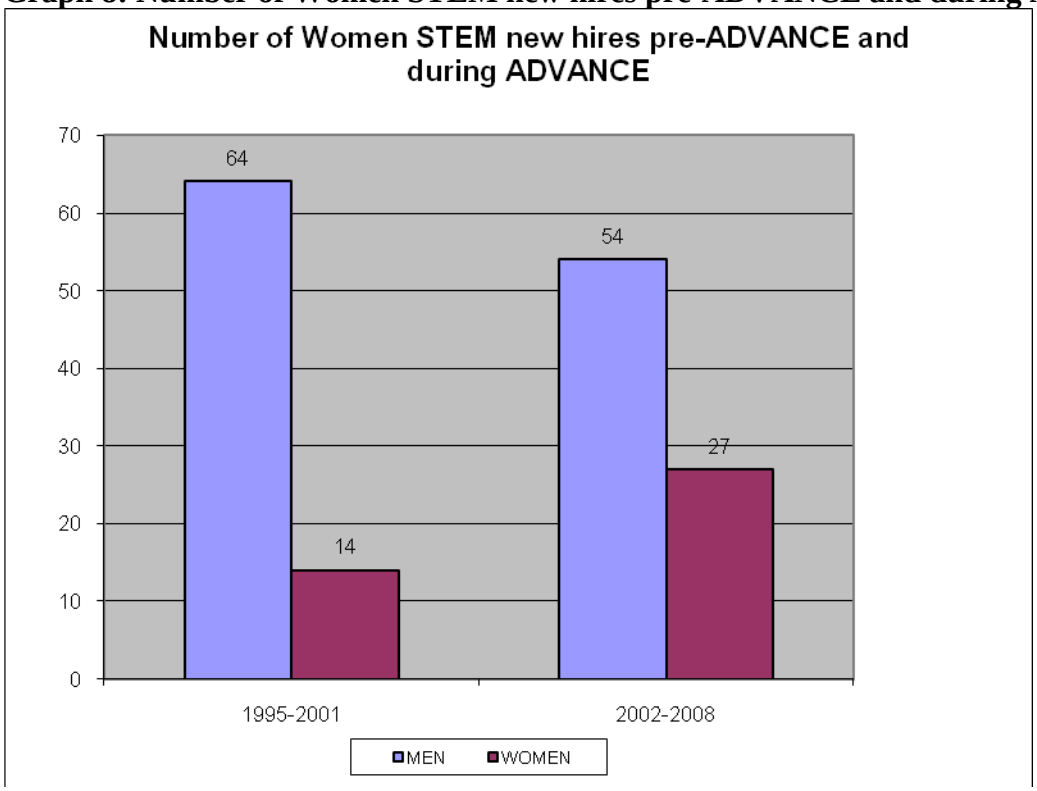
Graph 6: Status of Associate Professor Cohorts 1995-2007, ADVANCE vs. Non-ADVANCE Fall 2008



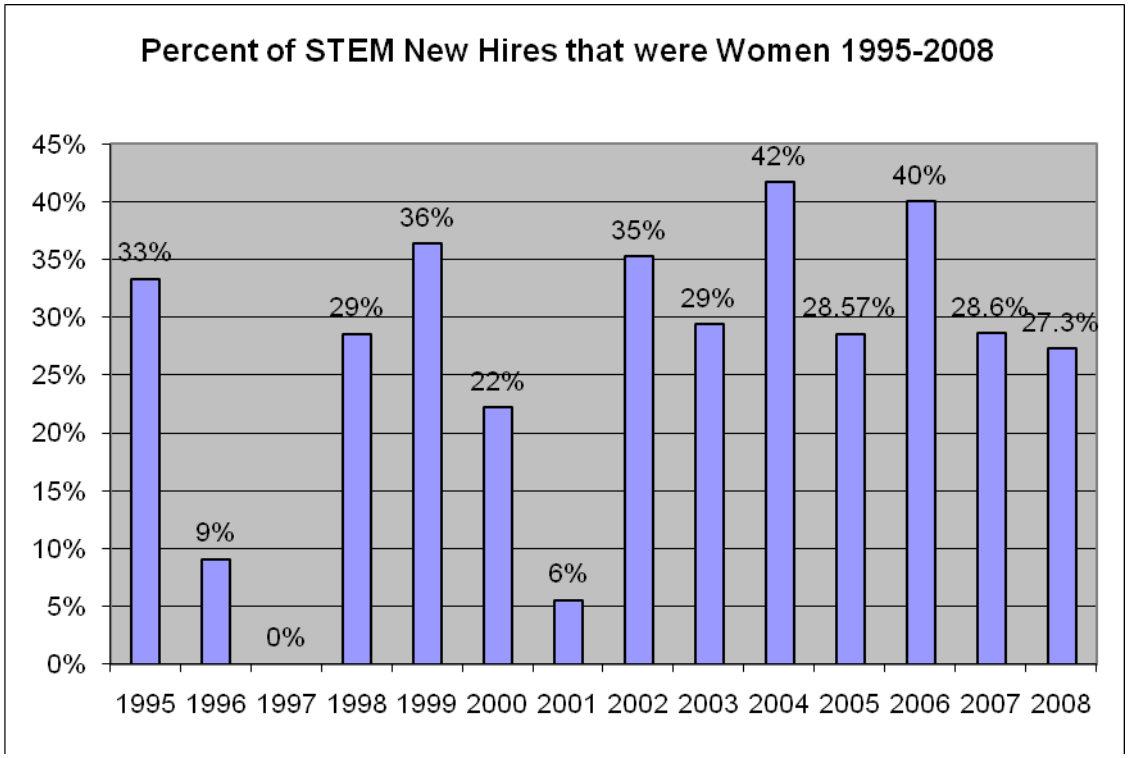
Graph 7: Women as a Percentage of STEM Tenured and Tenure-track faculty by discipline 1995-2008



Graph 8: Number of Women STEM new hires pre-ADVANCE and during ADVANCE



Graph 9: Percent of STEM New Hires that were Women 1995-2008



APPENDIX II

PARTICIPANTS' SUMMARY

Because the goal of ADVANCE is institutional transformation, involvement of faculty and administrators from across campus is essential in changing the institution and for garnering support for the continuation of ADVANCE programs after the end of the award period. The following participants' summaries clearly show the development of ADVANCE into an integral part of the university's culture over the years of the grant.

2008 Participants' Summary

Between January and December 2008, 538 faculty, students, staff and community members attended events.

One hundred and sixteen tenure-track STEM and social science faculty attended ADVANCE Mentoring Program events throughout the year.

Forty-nine tenure-track faculty members attended a spring university-wide tenure working session co-sponsored by ADVANCE and the office of the EVP/Provost.

Fifty-four tenure-track faculty attended a fall university-wide tenure workshop co-sponsored by ADVANCE, the Teaching Academy and the Hispanic Caucus.

One hundred and twenty-one faculty members attended eight Department Head training sessions. With the exception of the PAID Department Head Retreat, these events were co-sponsored by ADVANCE and the Teaching Academy.

Details on participants:

- 82 (38 female, 49 male) STEM faculty and department heads from all of the 18 target STEM departments attended at least one ADVANCE event. (Note: One of the original 19 target departments, Surveying Engineering, has been merged into Engineering Technology, now known as Engineering Technology and Surveying Engineering.)
- 86 faculty and department heads from 24 of the 36 non-STEM NMSU departments participated in an ADVANCE event.
- 120 faculty and administrators—mostly from STEM fields, with 25 from the social sciences—participated in the mentoring program (half men, half women).
- 21 department heads from 20 academic departments attended at least one ADVANCE-sponsored department head training event.
- Deans and/or associate deans from all seven of NMSU's colleges attended at least one ADVANCE event.
- The President, two Vice Presidents, the Executive Vice President/Provost, all three members of the Provost's Office, and nine senior administrators participated in at least one ADVANCE event.

2007 Participants' Summary

Between January and December 2007, 538 faculty, students, staff and community members attended events.

One hundred and eighteen tenure-track STEM and social science faculty attended ADVANCE Mentoring Program events throughout the year.

Thirty-five tenure-track faculty members attended a spring university-wide tenure working session co-sponsored by ADVANCE and the office of the EVP/Provost.

Fifty-two tenure-track faculty attended a fall university-wide tenure workshop co-sponsored by ADVANCE, the office of the EVP/Provost and the Hispanic Caucus..

One hundred and twenty-one faculty members attended eight Department Head training sessions. With the exception of the PAID Department Head Retreat, these events were co-sponsored by ADVANCE and the Teaching Academy.

Details on participants:

- 82 (38 female, 49 male) STEM faculty and department heads from all of the 18 target STEM departments attended at least one ADVANCE event. (Note: One of the original 19 target departments, Survey Engineering, has been merged into Engineering Technology.)
- 86 faculty and department heads from 24 of the 36 non-STEM NMSU departments participated in an ADVANCE event.
- 100 faculty and administrators—mostly from STEM fields, with 19 from the social sciences—participated in the mentoring program (half men, half women).
- 21 department heads from 20 academic departments attended at least one ADVANCE-sponsored department head training event.
- Deans and/or associate deans from all seven of NMSU's colleges attended at least one ADVANCE event.
- The President, two Vice Presidents, the Executive Vice President/Provost, all three members of the Provost's Office, and nine senior administrators participated in at least one ADVANCE event.

Because the goal of ADVANCE is institutional transformation, involvement of faculty and administrators from across campus is essential in changing the institution and for garnering support for the continuation of ADVANCE programs after the end of the award period.

2006 Participants' Summary

Between January and December 2006, 623 faculty, students, staff and community members attended events.

One hundred and seven tenure-track STEM and social science faculty attended ADVANCE Mentoring Program events throughout the year.

Forty-five tenure-track faculty attended a spring university-wide tenure working session co-sponsored by ADVANCE and the office of the EVP/Provost.

Forty-two tenure-track faculty attended a fall university-wide tenure workshop co-sponsored by ADVANCE, the office of the EVP/Provost and the Hispanic Caucus..

One hundred and nine faculty attended five Department Head training sessions in the fall semester; events were co-sponsored by ADVANCE and the Teaching Academy.

Details on participants:

- 65 (31 female, 31 male) STEM faculty and department heads from all of the 18 target STEM departments attended at least one ADVANCE event. (Note: One of the original 19 target departments, Survey Engineering, has been merged into Engineering Technology.)
- 64 faculty and department heads from 27 of the 36 non-STEM NMSU departments participated in an ADVANCE event.
- 91 faculty and administrators—mostly from STEM fields, with 13 from the social sciences—participated in the mentoring program (half men, half women).
- 17 department heads from as many academic departments attended at least one ADVANCE-sponsored department head training event.
- Deans and/or associate deans from all seven of NMSU's colleges attended at least one ADVANCE event.
- The President, two Vice Presidents, two Vice Provosts, all three members of the Provost's Office, and eleven senior administrators participated in at least one ADVANCE event.

Because the goal of ADVANCE is institutional transformation, involvement of faculty and administrators from across campus is essential in changing the institution and for garnering support for the continuation of ADVANCE programs after the end of the award period.

2005 Participants' Summary

- 100 (37 female, 73 male) STEM faculty and department heads from all of the 19 target STEM departments attended at least one ADVANCE event.
- 94 faculty and department heads from 30 of the 36 non-STEM NMSU departments participated in an ADVANCE event.
- 97 faculty and administrators—mostly from STEM fields, with 14 from the social sciences—participated in the mentoring program (half men, half women).
- 35 department heads from as many academic departments (including 19 STEM departments) attended at least one ADVANCE-sponsored department head training event.
- Deans and/or associate deans from all seven of NMSU's colleges attended at least one ADVANCE event.
- The President, two Vice Presidents, two Vice Provosts, all three members of the Provost's Office, and eleven senior administrators participated in at least one ADVANCE event.

Because the goal of ADVANCE is institutional transformation, involvement of faculty and administrators from across campus is essential in changing the institution and for garnering support for the continuation of ADVANCE programs after the end of the award period. To facilitate this, the program brought Dr. Virginia Valian to campus to conduct an intensive schedule of meetings, workshops and talks involving department heads, recruitment committee chairs, upper administration, the ADVANCING Leaders Program, Women's Studies, graduate students and the wider NMSU community. This program was co-sponsored by the Colleges of Agriculture and Home Economics, Arts and Sciences, Education, Engineering, the Physical Sciences Laboratory and the Library—all of whom contributed substantially to the cost of bringing Dr. Valian to NMSU.

2004 Participants' Summary

- 99 (37 female, 62 male) STEM faculty from 18 of the 19 target STEM departments attended at least one ADVANCE event.
- 60 faculty and department heads from 25 of the 36 non-STEM NMSU departments participated in an ADVANCE event.
- 80 faculty and administrators—mostly from STEM fields—participated in the mentoring program (half men, half women).
- 30 department heads from 26 academic departments (including 11 STEM departments) attended at least one ADVANCE-sponsored department head training event.
- Deans and/or associate deans from all eight of NMSU's colleges attended at least one ADVANCE event.
- The President, two Vice Presidents and all three members of the Provost's Office participated in at least one ADVANCE event.

Almost all female STEM faculty members were involved in some aspect of the ADVANCE program during the past year. Many department heads--from STEM and non-STEM departments--participated in ADVANCE-Sponsored programming that was part of a series of department head workshops. The evaluator (Dr. Ann Austin) met with numerous people, most of whom were from non-STEM departments at NMSU to discuss ADVANCE. Dr. Austin's evaluation followed up on previous evaluations (one by Dr. Austin and two by Dr. Laura Kramer) to provide the NMSU ADVANCE team with guidance on how best to expand the program to involve faculty throughout the institution. Because the goal of ADVANCE is institutional transformation, involvement of faculty and administrators from across campus will be essential in changing the institution and for garnering support for the continuation of ADVANCE programs after the end of the award period.

Several deans attended the ADVANCE PI meeting and conference hosted by Georgia Tech this year: Dean Waded Cruzado-Salas (College of Arts and Sciences); Associate Dean Jeffrey Brown (College of Arts and Sciences); Dean LeRoy Daugherty (College of Agriculture and Home Economics and Director of the Agricultural Experiment Station); and Associate Dean Rudi Schoenmackers (College of Engineering). In addition, the newly appointed Dean of the College of Engineering, Dr. Steven Castillo, attended the two-day ADVANCE/NSF Engineering Directorate workshop in Arlington, VA on December 13-14, 2004.

2003 Participants' Summary

Almost all female STEM faculty members were involved in some aspect of the ADVANCE program during the past year. Many department heads--from STEM and non-STEM departments--participated in ADVANCE-Sponsored programming that was part of a full day of department head workshops or the departmnet head roundtable event. The evaluator (Dr. Laura Kramer) met with 26 different people at NMSU to discuss ADVANCE. In addition, ADVANCE programming reached faculty members from across the university via a Promotion and Tenure Workshop, via programming offered by the Teaching Academy and sponsored by ADVANCE, via public presentations about the program on camps, and via the mentoring program. All NMSU Deans and senior administrators learned of the ADVANCE program via a presentation at Provost's Council. Other outreach efforts, especially those associated with Distinguished Visiting Professors' programming, reached undergraduate and graduate students in STEM, K-12 teachers in the community, and other members of the Las Cruces community with various educational programs.

2002 Participants' Summary

Thirty-three of the 41 female STEM faculty members (80%) were involved in some aspect of the ADVANCE program during its inaugural year. All 19 STEM department heads and almost all NMSU department heads participated in ADVANCE-Sponsored programming that was part of a full day of department head workshops. The two evaluators met with 49 different people at NMSU to discuss ADVANCE. In addition, ADVANCE programming reached 77 faculty members from across the university via a Promotion and Tenure Workshop and all NMSU Deans learned of the ADVANCE program when they met with the PI, who solicited their input for a Dual Career Couple Program at NMSU. Other outreach efforts, especially those associated with Distinguished Visiting Professors' programming, reached undergraduate and graduate students in STEM, K-12 teachers in the community, and other members of the Las Cruces community with various educational programs.

APPENDIX III

OPPORTUNITIES FOR TRAINING AND DEVELOPMENT

Throughout the grant, ADVANCE supported training and outreach efforts that involved as many members of the NMSU as possible, and allowed the program director and staff to widely disseminate our program's best practices and findings. The ADVANCE Program provided training programs that reached many faculty and administrators from almost every NMSU academic department and a limited number of students (graduate and undergraduate). In addition to ADVANCE events on campus, the ADVANCE Program provides support to the NMSU Teaching Academy and enables STEM faculty, administrators, and students to attend important off-campus workshops and conferences related to gender in the STEM fields.

2009

Conferences

PI Tracy Sterling served as a symposium speaker (1/15/09) at the Weed Science Society of America, presenting on Diversity and Inclusion: Why all the Fuss? The presentation included an historical view of the data and strategies for improving the inclusion of underrepresented groups in STEM fields, using the NMSU ADVANCE Program as a model.

2008

Associate Professor Inna Pivkina and Professor Enrico Pontelli of Computer Science attended the Grace Hopper Celebration of Women in Computing: We Build a Better World (10/1-4/08), where they presented "Recruiting High School Women into Computer Science" at the Birds of a Feather Session.

PAID Retreat 2008 (5/21-22/08), Elephant Butte, NM: Two Academic Department Heads shared NMSU ADVANCE best practices at the NM PAID annual Retreat, led by ADVANCE/PAID PI/PD Sterling. Dr. Thomas Burton of Mechanical Engineering and Aeronautical Engineering led the Recruitment session, "Effective Strategies to Diversify Faculty. Dr. Anne Hubbell of Communications and Journalism led a session on Collegiality. Faculty and Researchers from the partner institutions, University of New Mexico, New Mexico Institute of Mining and Technology and Los Alamos National Laboratory, participated in these trainings.

- WEPAN Conference, St. Louis, MO **(**06/10/08). Poster Presentation by Shawn Werner, Program Coordinator, "NSF ADVANCE-PAID: Partnering for Diversity. New Mexico Institutions of Higher Learning and Research.
- ENGAGE New Mexico Day, Las Cruces, NM (04/25/08) – Connecting STEM and Knowledge Workforce Solutions Statewide in order to educate New Mexicans about the need for STEM education, support collaboration between communities, education, government, industry, youth development, etc., and to build capacity for local schools to provide improved STEM education and career guidance. Poster Presentation presented by Tracy Sterling, PI and Shawn Werner, Program Coordinator, "ADVANCE Institutional Advancement."
- New Mexico Network for Women in Engineering and Science Annual Meeting, Truth or Consequences, NM (10/25/08). Poster Presentation by Pamela Hunt, Associate Director: "NSF ADVANCE: Institutional Transformation."

- UNM Mentoring Institute Conference – Fostering a Mentoring Culture in the 21st Century, Albuquerque, NM (10/22/08, 10/23/08). Poster Presentation by Shawn Werner, Program Coordinator, "NSF ADVANCE: Institutional Transformation."
- American Association for the Advancement of Science (AAAS). Southwestern and Rocky Mountain (SWARM) Division Conference, Albuquerque, NM (04/11/08) , Poster Presentation, by Tracy Sterling, PI and Shawn Werner, Program Coordinator: "NSF ADVANCE-PAID: Partnering for Diversity. New Mexico Institutions of Higher Learning and Research."

2007

Academic Department Head Dave Thompson of Entomology, Plant Pathology and Weed Science attended the 2007 LEAD: Leadership Excellence for Academic Diversity workshop.

Conferences
D. Tiziana Giorgi, a recipient of ADVANCE start-up enhancement funds, presented at a session on women in mathematics of the annual meeting of the American Mathematical Society: "ADVANCE Program at NMSU: A Formalized Mentoring Program for STEM Faculty."

Academic Department Head Dave Thompson of Entomology, Plant Pathology and Weed Science attended the 2007 LEAD: Leadership Excellence for Academic Diversity workshop.

Sterling, T. M., L. M. Frehill, and C. Jeser-Cannavale. 2007. NSF-ADVANCE: Institutional transformation for faculty diversity. ADVANCE PI Meeting.

Posters
Sterling, T.M., P. Hunt, L.M. Frehill, and C. Jeser-Cannavale. 2007. NSF-ADVANCE: Institutional transformation for faculty diversity. NMSU University Research Council Fair – Placed as one of top three posters at the fair.
Poster Presentation

PAID Activities
PAID Retreat 2007 (5/17-18/07), La Sevilleta, NM: At the 2007 NM-PAID Retreat NMSU faculty members who have been active in the ADVANCE initiative also participated in disseminating best practices to PAID partners. Associate Dean Dr. Luis Vazquez of the Graduate School led a session, "Collegiality and Approaches to Creating Department Cohesion." Academic Department Heads Dr. Dan Howard of Biology, Dr. Tom Burton of Mechanical and Aeronautical Engineering, and Dr. Sonya Cooper of Engineering Technology and Surveying Engineering participated in a panel discussion, "Creative Start-Up Packages and Dual Career Issues." Dr. Howard also led a Recruitment session, "Effective Strategies to Diversify Faculty."

PAID Training 2007 (3/30-31/07) University of New Mexico, Albuquerque, NM: Faculty members active in ADVANCE at NMSU also helped train PAID Alliance for Faculty Diversity committee members get off the ground at a meeting at the University of New Mexico at the grant's outset. Led by Sterling and then-Co-PI Mary O'Connell, attendees from the partner institutions learned how best to organize Promotion and Tenure Training Programs and Mentoring Programs from Dr. Cooper, Dr. April Ulery, Professor of Plant and Environmental Sciences, Dr. Vazquez, and Dr. Walter Zakahi, Associate Dean of Arts and Sciences.

2006

ADVANCE PI Meeting (5/06), Washington DC -
Presentation – 'Mentoring and Institutional Transformation: A Formalized Mentoring for STEM Faculty', Sterling, T.M., L.M. Frehill, P. Hunt, and C. Jeser-Cannavale.
Panel - 'Engaging Senior Female Faculty', Hunt and Sterling
Poster – 'NSF-ADVANCE: Institutional transformation for faculty diversity', Sterling, T.M., P. Hunt, L.M. Frehill, and C. Jeser-Cannavale.

Conferences
Javurek-Humig, Abby Rose, L.M. Frehill, and C. Jeser-Cannavale. 2006. "Navigating Faculty Life: Promotion and Tenure Workshops." Presented at the annual Pacific Sociological Association Meetings in Hollywood, California, Saturday, April 22, 2006.

David Finston, Professor of Mathematical Sciences used a $500 ADVANCE Mini-Grant to present on the topic of increasing diversity in advanced mathematics at the Mathematical Association of America Special Session on Increasing Diversity in Mathematics Programs, January 2006.

Frehill, L.M. Convener, ADVANCING Women in Computer Science at Grace Hopper Conference of Women in Computing; Desh Ranjan, Department Head of Computer Science at NMSU, presenter.

Frehill, L.M. ADVANCE: Institutional Transformation at New Mexico State University: Sociological Practice Built on the Foundation of Sociology of Science, Feminist Organizations Theory and Social Research Methods, presented at the American Sociological Association Annual Meetings, Montreal, Quebec, August 2006.

Poster Presentations:
Sterling, T. M., L. M. Frehill, and C. Jeser-Cannavale. 2006. NSF-ADVANCE: Institutional transformation for faculty diversity. Proc. Western Society of Weed Science 59:44-45.

Sterling, T. M., L. M. Frehill, and C. Jeser-Cannavale. 2006. NSF-ADVANCE: Institutional transformation for faculty diversity. Weed Science Society of America Abstracts 46:23-24.

Sterling, T.M., P. Hunt, L.M. Frehill, and C. Jeser-Cannavale. 2006. NSF-ADVANCE: Institutional transformation for faculty diversity. NMSU University Research Council Fair – Placed as one of top three posters at the fair; Dr. Chaitanya (VPR) recognized awardees at a reception December 13, 2006.

2005

May 2005: ADVANCE PI Meeting and Conference, Arlington, VA: NMSU ADVANCE supported attendance by: Associate Dean LeRoy Daugherty (College of Agriculture and Home Economics); PI/Program Director Sterling and Research Analyst Jeser-Cannavale also attended the conference.

Dario Silva, Director, Employee Assistance Program and Laura Godwin, Assistant Professor, Theatre received training at the Center for Research on Learning and Teaching Theatre Program Summer Institute for training on using theatre to promote multicultural and gender diversity in recruitment and promotion.

Michele Shuster, College Assistant Professor in Biology attended the American Society of Microbiology Scholarship of Teaching and Learning Summer Workshop in July 2005 as an ASM Scholar-in-Residence, partially supported by an ADVANCE mini-grant.

Paola Bandini, Assistant Professor of Civil and Geological Engineering, attended the 2005 Teaching/Demonstration Short Course on Pile Design for Educators in June, partially supported by an ADVANCE mini-grant.

Martha Mitchell, Department Head of Chemical Engineering, attended the Engineering Leadership Institute (WELI) in 2004. At the time of her attendance she was Interim Department head of Chemical Engineering; since then she has been appointed full Department Head. She reports that meeting with 40-plus other women in women in engineering academic leadership reassured her that she was not an anomaly, and that she benefited from sessions on issues that are important for administrators, including department heads. Lynn Kelly of Engineering Technology attended the 2005 WELI.

Donald Caccamise, Department Head of Fishery and Wildlife, attended the University of Washington National Leadership Workshop for Department Chairs in July 2005, partially supported by an ADVANCE mini-grant.

Partially supported by ADVANCE mini-grants, the following STEM faculty members attended the NSF regional workshop in Albuquerque New Mexico in November: Amiya Bhattacharya and Inna Pivkina (Computer Science); Elizabeth Gasparim (Mathematical Sciences); Ou Ma (Mechanical Engineering); and Paola Bandini (Civil and Geological Engineering).

Frehill: Organized and moderated the "Gender and Ethnic Diversity in Academic Science" workshop at the AAAS conference in Washington, D.C., February 2005.

Frehill: Presentation on ADVANCE at NSF-HRDT conference in April 2005.

Cannavale: Participant on Space Allocation panel at NSF PI meeting, May 2005.

Frehill: Presentation on Indicators at at NSF PI meeting, May 2005.

Frehill: "Recruitment and Retention at NMSU ADVANCE," ASEE conference in Portland,Oregon, June 2005

Frehill: "Its Just Not Fun Coming to Work Anymore: Faculty Exit Interviews" at the Pacific Sociological Association Annual Meetings in Portland, OR in April 2005

Ketcham: "SWE Literature Review," presented at the joint Women in Engineering Programs and Advocates Network/National Association of Minority Engineering Program Administrators (WEPAN)/National Association of Minority Engineering Programs (NAMEPA) conference in Las Vegas, Nevada in May 2005.

Frehill: Organizer and moderator of the Dean's Panel at the joint WEPAN/NAMEPA conference in Las Vegas, NV, April 2005.

Sterling: "ADVANCE: "Institutional Transformation for Faculty Diversity," at the New Mexico Network for Women in Science and Engineering Annual Meeting, Albuquerque, NM, October 2005.

Sterling and Cannavale: "ADVANCE: Institutional Transformation for Faculty Diversity," at the NMSU University Research Council Research Symposium, Las Cruces, NM, October 2005.

2004

March 2004: ADVANCE provided partial funds to enable the student chapter of the Society of Women Engineers to leverage funds from the College of Engineering Dean's office to send seven students and two faculty advisors to the regional conference in Phoenix, AZ.

April 2004: ADVANCE PI Meeting and Conference, Atlanta, Georgia: NMSU ADVANCE supported attendance by: Dean Waded Cruzado-Salas and Associate Dean Jeffrey Brown (College of Arts and Sciences); Associate Dean LeRoy Daugherty (College of Agriculture and Home Economics); Associate Dean Rudi Schoenmakers (College of Engineering); Christine Marlow (New Mexico Alliance for Graduate Education and the Professoriate Program Director); and Melanie Martin (Computer Science Doctoral student and Member, President's Commission on the Status of Women). Program Director Frehill, Coordinator Hunt and Research Analyst Jeser-Cannavale also attended the conference. Michelle Shuster, College Assistant Professor in Biology attended an educational symposium.

May 2004 Delia Julieta Valles-Rosales (Assistant Professor, Industrial Engineering) was supported to attend the second annual FORWARD to the Professorship workshop at Gauladet University in Washington, DC.

June 2004: A number of faculty members were supported to attend the Women in Engineering Programs and Advocates Network conference in Albuquerque:

Paola Bandini (Assistant Professor, Civil and Geological Engineering)
Jeanine Cooke (Assistant Professor, Electrical and Computer Engineering)
Jing He (Assistant Professor, Computer Science)
Sheila Horan (College Professor, Electrical and Computer Engineering)
Inna Pivkina (Assistant Professor, Computer Science)

July 2004 Edward Pines (Industrial Engineering Department Head) was supported to attend the Department Chairs workshop at the University of Washington.

October 2004: two Industrial Engineering faculty (Tim Matis and Julieta Valles) received matching funds to attend the INFORMS (Institute for Operations Research and the Management Sciences) Conference in Denver, Colorado to recruit new faculty to NMSU.

October 2004: Grace Hopper Celebration of Women in Computing, Chicago, IL: Support was provided to enable attendance by five graduate students and three faculty in the Department of Computer Science. The faculty members included:

Inna Pivkina (Assistant Professor of Computer Science)
Roger Hartley (Professor of Computer Science and member of the ADVANCE Committee on the Status of Women in STEM at NMSU and the Recruitment Subcommittee)
Karen Villaverde (College Assistant Professor of Computer Science).
Students were: Iris Chavez, Nina Javaher, Melanie Martin, Cameron Mott, and Rajaa Shindi. The conference involved technical sessions and numerous events and sessions relating to the advancement and status of women in computer science.
December 2004: Dean Steven Castillo (College of Engineering) and PI Frehill attended the NSF Engineering Directorate/ADVANCE Workshop in Arlington, VA.

Jeser-Cannavale, Cecily. “ADVANCE at New Mexico State University” poster presented at the Women in Engineering Programs Advocates Network annual conference, Albuquerque, NM, June 2004.

Frehill attended and made presentations as follows:

ADVANCE Leadership Development Program at the University of Washington (2/12)

ADVANCE Mini-PI Meeting at the University of Washington (2/12) with a status report-style presentation.

American Association for the Advancement of Science, Feb. 12-16, Frehill, Lisa M. “ADVANCE at New Mexico State University: Sustainability, Adaptability, and Replication” Presented at the American Association for the Advancement of Science Annual Meetings, February 2004.

Frehill, Lisa M. “ADVANCE: Institutional Transformation at New Mexico State University: Successes and Challenges“ presented at the ADVANCE National Conference, Atlanta, GA, April 2004.

Frehill, Lisa M. “Mentoring: Some Observations” presented at the BRIN Conference, Las Cruces, NM, May 2004.

Frehill, Lisa M. “Mentoring and Institutional Transformation at New Mexico State University” presented at the Society of Women Engineers National Conference, Milwaukee, WI, October 2004.

ADVANCE: Best Practices in Recruitment and Retention. Session organized by L. Frehill for the ADVANCE Conference, Atlanta, GA, April 2004.

Career Trajectories in Engineering. Session moderated by L. Frehill at the WEPAN Conference, June 2004.

2003

PI and Program Coordinator are Program Co-Chairs for the 2004 Women in Engineering and Program Advocates Network (WEPAN) national conference, to be held in Albuquerque, NM, June 2004.

PI and three co-PI's (Kenneth Paap, Leroy Daugherty and Christine Marlow) attended the NSF ADVANCE Principal Investigators' meeting May 1-2, 2003.

Funded STEM women's attendance at the New Mexico Women's Studies Conference (February 2003 in Socorro, NM) Ramona Parra, Specialist I, SWAT Lab (and a NM-AGEP Scholar); Melissa Fowler (Psychology Student), Jammie Benton-Speyer (Sociology Student), Cecily Jesser (Sociology Student).

PI organized and presented information about ADVANCE at the New Mexico Women's Studies Conference, Socorro, NM February 27-28.

Program Coordinator attended the Women in Engineering Program and Advocates Network Conference in Chicago, IL June 2003.

Presentations by PI to video conference hosted by North Dakota State University (8/03), and teleconferences with Marshall University (12/03) and American Society of Engineers (11/03).

Mai Gehrke, Professor of Mathematical Sciences used a $500 ADVANCE Mini-Grant to participate in a panel about shaping a career in mathematics at the 2003 meeting of the Association of Women in Mathematics.

2002

Funded SME women's attendance at the New Mexico Women's Studies Conference (March 2002 in Albuquerque, NM): Colleen Jonsson, Associate Professor, Chemistry and Biochemistry; Ramona Parra, Specialist I, SWAT Lab (and a NM-AGEP Scholar); Graciela Unguez, Assistant Professor, Biology.

PI organized and presented information about ADVANCE at the New Mexico Women's Studies Conference, Albuquerque, NM, March 8-9, 2002.

PI and Program Coordinator attended the Women in Engineering Program and Advocates' Network Conference in San Juan, Puerto Rico, June 8-11, 2002. PI organized and moderated a session about ADVANCE programs. The Program Coordinator presented a poster about the program.

Program Coordinator attended the International Conference for Women in Engineering and Science Conference, July 27-31, 2002 in Ottowa, Ontario.

PI organized a session about ADVANCE at the NM-AGEP Conference, Albuquerque, NM, September 12-13, 2002. Session included presentations by the PI, Program Coordinator, and Patricia Baggett, Professor of Mathematical Sciences and recipient of an ADVANCE research award.

PI and Program Coordinator presented separate papers at the NSF funded conference "Retaining Women in Early SMET Careers" October 17-20, at Iowa State University, Ames, IA. Co-PI Marlow and Dr. Laurie Churchill (member, CSW-SME and Program Coordinator for NM-AGEP) also attended the conference. Papers presented: Frehill: "Building bridges between personal narratives and institutional practices: Gender equity in higher education" and Hunt: "The NSF-funded ADVANCE: Institutional Transformation program at New Mexico State University."

APPENDIX IV:

ADVANCE EVENTS

2002-2009

2009

Date	Attendees	Event
1/9/09	29	ADVANCING Leaders: Geeze Don't Make Me Talk About Conflict Issues in the Workplace , Nancy Algert, Texas A&M
2/5/09	7	Mentoring Program: Informal Mixer
2/6/09	10	ADVANCING Leaders: Provost's Project Work Session
2/12/09	13	Department Head Colloqouium: Outcomes Assessment, Panel – Marth Mitchell, Department Head, Chemical Engineering; Chris Burnham, English; Shelley Stovall, Music, Sherry Mills, Accounting and Computer Business Systems
2/20/09	14	Mentoring Program: Writing for Publication, Tara Gray, Director, Teaching Academu
3/6/09	14	ADVANCING Leaders: Storytelling and Leadership, Grace Rosile and David Boje, Professors of Management, NMSU
3/13/09	30	Promotion & Tenure: Applying NMSU's New Policies for Promotion and Tenure, Amy Driscoll, Carnegie Foundation
3/13/09	13	Promotion & Tenure: The Role of Deans in the Evaluation of Scholarship, Amy Driscoll, Carnegie Foundation
3/19/09	30	Department Head Colloquia: Mediation Training, Marlene K. Schwalje, Infinite Resolutions LLC
4/2/09	17	Mentoring Program: Analyzing a Request for Proposals, Sudha Murthi and Harold Smith, Office of Strategic Planning
4/3/09	11	ADVANCING Leaders, Communicating with Difficult People with Dario Silva, Employee Assistance Program
4/9/09	16	Department Head Colloquia: Preventing Harassment, Gerry Nevarez, Director, EEO
4/20/09	24	Promotion & Tenure: The Scholarship of Engagement at NMSU, Nancy McMillan, Department Head, Geology and Lisa Bond-Maupin, Women's Studies
4/22	19	Mentoring Program: Why Proposals Fail, Sudha Murthi and Harold Smith, Office of Strategic Planning

2008

Date	Attendees	Event
1/11/08	7	ADVANCING Leaders Luncheon: Patricia Witherspoon, Conflict Management Workshop
2/1/08	12	ADVANCING Leaders Luncheon: Carter Campbell, Seven Habits Follow-up
2/14/08	6	Department Head Training: A Free Wheeling Discussion for Department Heads
2/15/08	48	Promotion and Tenure Workshop: Getting a Head Start on Tenure Review, with EVP/Provost Cruzado
2/22/08	7	Faculty Hiring: Diversity and Excellence Go Hand-in-Hand, with Biology Academic Department Head Dan Howard
2/28/08	14	Department Head Training: Want to Electrify Your Performance Evaluations?
2/29/08	12	Department Head Training: Want to Electrify Your Performance Evaluations?
3/5/08	26	Mentoring Program Workshop/Lunch: Microagressions: Their Impact on Your Well-Being with Dean Luis Vazquez, Graduate School
3/7/08	10	ADVANCING Leaders Luncheon: Antonio Cachazo, Mid-West Textile Co.
3/12/08	23	Department Head Training: Want to Electrify Your Performance Evals?
3/13/08	2	Department Head Training: A Free Wheeling Discussion for Department Heads
4/4/08	14	ADVANCING Leaders Luncheon: Tim Nesbitt, Keeping the University Solvent
4/17/08	1	Department Head Training: A Free Wheeling Discussion for Department Heads
5/7/08	27	ADVANCING Leaders Recognition Luncheon with President Cruzado
5/21-22/08	12	Alliance for Diversity Training Session: NM Partnerships for Adaptation, Implementation and Dissemination (PAID) Department Head Retreat– **NMSU attendees**
6/17/08	12	Department Head Training: Audio Conference on Diversity: Promoting Faculty Careers for Women
8/15/08	18	ADVANCING Leaders Department Head Retreat
8/27/08	38	University-Wide Event: ADVANCE Open House honoring Dean Pamela Jansma, Arts and Sciences
9/5/08	20	ADVANCING Leaders Introductory Luncheon: Interim Provost Robert Moulton, Path to Leadership
9/5/08	26	Special Speaker: Finding Your Voice: An Introduction to Breath
9/15/08	13	Department Head Training: A Free Wheeling Discussion for Department Heads
9/17/08	48	Promotion and Tenure Workshop: Making the Transition from Assistant to Associate Professor with Provost Robert Moulton
9/29/08	12	Promotion & Tenure: The Scholarship of Engagement

9/30/08	42	Mentoring Orientation/Lunch: Mentoring Roles and Rewards with AFD Committee member Professor Rene Walterbos, Astronomy
10/3/08	15	ADVANCING Leaders Luncheon: Ricardo Rel, Legislative Issues and Procedures
10/14/08	26	Department Head Training: ADVANCE: Department Head Colloquia, Negotiating Allocation of Effort
10/16/08	27	Mentoring Program Sponsored University-Wide Workshop: Just Whelmed: Maintaining a Vibrant and Productive Work Life, with national speaker Meggin McIntosh
10/24/08	21	Mentoring Program Workshop/Lunch: Incorporating Research into Classes and Student Assignments with Associate Professor Shuguang Deng, Chemical Engineering
11/7/08	14	ADVANCING Leaders Luncheon: Ramon Dominguez, Associate Provost on Leadership
11/13/08	49	Mentoring Program Sponsored University-Wide Workshop: The Anatomy of Prejudice, with national speaker Jane Elliott
11/13/08	50	Special Speaker: The Anatomy of Prejudice
11/17/08	39	University-Wide Event: ADVANCE Recognition Reception and Poster Session
12/5/08	29	ADVANCING Leaders Mentors Luncheon: Patricia Sullivan and Patricia Conn, Fundraising
12/15/08	8	Department Head Training: Strategies for Junior Faculty Job Satisfaction

2007

Date	Attendees	Event
1/19/07	20	ADVANCING Leaders Luncheon: EVP/Provost Project Action Plan
2/1/07	35	Recruitment Workshop: The Fence (CRLT Players)
2/2/07	39	Department Head Training: The Faculty Meeting (CRLT Players)
2/9/07	20	ADVANCING Leaders Luncheon: Creating the Culture Panel: The Challenge of Leading a Department or Unit
2/10/07	14	Informational Session: New Mexico Network of Women in Science and Engineering
2/15/07	24	Department Head Training (Teaching Academy): Assessing General Ed Programs
2/16/07	25	Department Head Training (Teaching Academy): Developing Meaningful, Manageable, Sustainable Assessment
2/17/07	35	Promotion and Tenure Spring Session: Getting a Head Start for Tenure Review
3/1/07	29	Women's History Month Poster Session: Celebrating NMSU Women in Science and Engineering
3/7/07	37	Mentoring Program/Women's History Month Panel: Constructing the Future – Women Who Build (and Rebuild)
3/9/07	20	ADVANCING Leaders Luncheon: Civility, with Director, Employee Assistance Program Dario Silva
3/13/07	35	Women's History Month Lecture: Women, Healing and Medicinal Plants
3/30-31	10	Alliance for Diversity Training Session: NM Partnerships for Adaptation, Implementation and Dissemination (PAID) – NMSU attendees
4/19/07	n/a	Visiting Professor Program: Mary Jane West-Eberhardt public seminar: "Development and Evolution: A Darwinian Renaissance in Biology"
4/20/07	20	ADVANCING Leaders Luncheon: Budgeting, Bureaucracy and Leadership Panel
4/20/07	33	Visiting Professor Program: Mary Jane West-Eberhardt lunch talk: "Women in Science: A Cross-cultural Perspective"
5/3/07	13	Mentoring Program: Informal talk with visiting scientists Drs. Darleane and Maureane Hoffman, co-hosted with the Department of Chemistry/Biochemistry
5/10/07	20	ADVANCING Leaders Luncheon: Recognition Luncheon with President Martin
5/17-18	8	Alliance for Diversity Training Session: NM Partnerships for Adaptation, Implementation and Dissemination (PAID) Department Head Retreat – **NMSU attendees**
8/17/07	20	ADVANCING Leaders Retreat – The Organizational Day (Patricia Hynes) and Covey's Seven Habits of Effective Leadership
8/16/07	20	ADVANCING Leaders Retreat – Covey's Seven Habits of Effective Leadership (continued)

8/24/07	49	ADVANCE Open House
9/7/07	20	ADVANCING Leaders Inaugural Luncheon: Cynda Clary, Provost's Office, and MBI review session
9/14/07	52	Promotion and Tenure Fall Workshop: Provost Q&A period, P&T Timeline, Collegiality, Navigation and Strategies
9/18/07	3	Department Head Training (Teaching Academy): Freewheeling Discussion Series
9/27/08	30	Mentoring Orientation
10/5/07	20	ADVANCING Leaders Luncheon: McKinley Boston, Director of Athletics on Leadership
10/16/07	10	Department Head Training Teleconference: Mentoring Diverse Faculty
10/25/07	6	Department Head Training (Teaching Academy): Freewheeling Discussion Series
11/8/07	5	Department Head Training (Teaching Academy): Freewheeling Discussion Series
11/2/07	20	ADVANCING Leaders Luncheon: Greg Blanch on Leadership Styles
11/8/07	32	Mentoring Luncheon Talk: Peggy McIntosh on White Privilege, Male Privilege
11/30/07	11	Mentoring Program Winter Networking Session
12/7/07	20	ADVANCING Leaders Luncheon: James McKinney on University Advancement

2006

Date	Attendees	Event
1/20/06		ADVANCING Leaders Luncheon – Conflict Management – Patricia Witherspoon, Communications Department. Head, University of Texas – El Paso
2/10/06		ADVANCING Leaders Luncheon – Organizational Day Follow-up and Provost's Project – Patricia Hynes, Director, Space Grant
2/22/06	34	Visiting Professor Program: Breakfast Reception with Dr. Patricia Galloway and SWE students
2/25/06	45	Promotion and Tenure Workshop: Getting a Head Start for the Tenure Review
3/8/06	26	Mentoring Workshop: Managing and Mentoring Students
3/10/06		ADVANCING Leaders Luncheon – Provost's Project Planning by participants – Analysis Research Cluster and Faculty Input
3/30/06	20	Mentoring Program: Mixer
4/3/06	16	Visiting Professor Program: Dr. Melissa Gerald Research Lecture – Behind the Scenes: Theoretical and Empirical Examination of Ho Color Guides the Primate World
4/3/06	24	Visiting Professor Program: Roundtable with Dr. Melissa Gerald on Balance: Issues and Concerns of Women Pursuing STEM Careers
4/4/06	29	Visiting Professor Program: Dr. Melissa Gerald Public Lecture: How Color Guides the Primate World
4/4/06	29	Visiting Professor Program: Discussion with Dr. Melissa Gerald – Research Opportunities at the Caribbean Primate Research Center
4/5/06	4	Visiting Professor Program: Lunch with Dr. Melissa Gerald – Guiding Graduate Students through Field Research
4/20/06	33	Visiting Professor Program: Dr. Heidi Hammel Luncheon: Encouraging Young Women to Pursue Non-traditional Careers.
4/20/06	43	Visiting Professor Program: Dr. Heidi Hammel Public Lecture: Planets Around Stars.
4/21/06	32	Visiting Professor Program: Dr. Heidi Hammel Astronomy Colloquium: Uranus and Neptune: Understanding the Ice Giants.
4/21/06		ADVANCING Leaders Luncheon – Finance: How the Institution Works, Jennifer Taylor, Vice President for Business and Finance
5/6/06	24	End of Year Mentoring Event
5/11/06		ADVANCING Leaders Recognition Luncheon – President Martin
5/12/06		ADVANCING Leaders Luncheon – Seven Habits Mini-Course – Carter Campbell from Dona Ana Branch Community College
8/25/06	46	ADVANCE Open House
9/8/06		ADVANCING Leaders Retreat – The Organizational Day (Patricia Hynes) and Covey's Four Roles of Leadership (Carter Campbell)
9/9/06		ADVANCING Leaders Retreat – Covey's Four Roles (cont'd)

9/16/06	42	Promotion & Tenure Workshop – Provost Question/Answer period, P&T Revision, Collegiality, Meet with your College P&T Committee members
9/19/06	19	Academic Leader Conference Series: "Overview and Introduction"
9/26/06	23	Academic Leader Conference Series: "Budgeting and Financial Management"
9/28/06	29	Mentoring Program Orientation
10/3/06	23	Academic Leader Conference Series: "Managing Conflict in Higher Education"
10/10/06	24	Academic Leader Conference Series: "Creating a Campus Climate for Successful"
10/13/06		ADVANCING Leaders Luncheon – Introductory Luncheon What is Leadership? Ben Woods, Senior Vice President, Planning, Resources and University Relations Myers-Briggs Indicators – Pat McCoy, Learning Center
10/17/06	20	Academic Leader Conference Series: "Supporting Faculty"
10/23/06	30	Visiting Professor Program: Dr. Radia Perlman Research Colloquium: How to make it be there when you want it and make it go away when you want it gone.
10/24/06	7	Visiting Professor Program: Dr. Radia Perlman: Grad students and junior faculty outreach.
10/24/06	14	Visiting Professor Program: Dr. Radia Perlman: Lecture for the general public: 10 Things I Learned About Computer Networks and Life
10/25/06	8	Visiting Professor Program: Dr. Radia Perlman: Advisory Meeting on Outreach – Breakfast with K-12 Educators
10/25/06	24	Visiting Professor Program: Dr. Radia Perlman: Lunch with female students: 10 Things I Wish I'd Known When I Was Your Age: Computer Networks and Life
10/27/06	23	Mentoring Workshop: Research Clusters: Working Across Disciplines – Vimal Chaitanya, VP for Research
11/10/06		ADVANCING Leaders Luncheon Navigating the Legislative Process – Federal and State – Ricardo Rel, NMSU Legislative Liaison Provost Project Orientation – Robert Rhodes
12/8/06		ADVANCING Leaders Luncheon - Networking across administrative levels and shared governance issues; Greg Blanch, Professor of Leadership in School of Hotel, Restaurant & Tourism Management, and College of Agriculture's Omsbudsperson

2005

Date	Attendees	Event
1/20/05	31	Briefing dinner, Virginia Valian. Invited attendees: University leadership
1/21/05	20	ADVANCING Leaders Luncheon: Using One's Power to Change One's Institution. Invited speaker: Virginia Valian. Invited attendees: Administrative Council
1/21/05	33	Graduate Student Mentoring Workshop: Making Sure that Academica Includes You. Invited speaker: Virginia Valian. (Co-sponsor: AGEP)
1/21/05	35	Department Head/Recruitment Committee Chair Workshop: Addressing Gender Equity. Invited speaker: Virginia Valian.
1/21/05	15	Debriefing dinner, Virginia Valian. Invited attendees: University leadership
1/21/05	65	Campus-Wide Lecture: Why So Slow? The Advancement of Women. Invited speaker: Virginia Valian. (Co-sponsor: Women's Studies)
1/21/05	12	Women's Studies Steering Committee. Invited facilitator, Virginia Valian.
2/4/05	12	ADVANCING Leaders Luncheon: Conflict Resolution. Facilitator: Dr. Lisa Frehill.
2/19/05	50	Promotion and Tenure Workshop: Provost's Tenure Working Session. (Co-Sponsor: Provost)
3/11/05	12	ADVANCING Leaders Luncheon: Paths to Leadership. Invited speaker: Dr. Ruth Cantrell, Chair, Theatre Department and recipient, Governor's Award for Excellence and Achievement in the Arts
3/15/05	22	Mentoring Workshop: Faculty Job Stresses and How to Cope with Them. Invited speaker: Dr. Dario Silva, Director, Employee Assistance Program
4/4/05	10	Social Sciences Mentoring Program: Mentoring Orientation. (Presentations by Dr. Sonya Cooper, Interim Department Head, Engineering Technology and Dr. April Ulery, Associate Professor, Agronomy and Horticulture.) Inaugural event for new social science faculty mentoring program cohort.
4/8/05 & 5/6/05	14	ADVANCING Leaders Luncheons: Four Roles of Leadership Covey Training. Facilitator: Franklin Covey Trainer, Carter Campbell, Dona Ana Branch Community College Continuing Training.
4/19/05	11	Visiting Professor Program: Agriculture and Home Economics Female Faculty/Students Luncheon with ADVANCE/Lowenstein Lecturers.
4/21/05	21	Visiting Professor Program: ADVANCE/Lowenstein Lecture: 2Y is not Y X or Why Science Needs Women. (Co-Sponsor: Department of Agronomy and Horticulture)
4/22/05	30	Visiting Professor Program: ADVANCE/Lowenstein Lecture: How NMSU Develops Plant and Environmentall Scientists. (Co-Sponsor: Department of Agronomy and Horticulture)
4/28/05	21	Department Head Training: Working Across Colleges and Disciplines. Invited speaker: Vice Provost for Research, Donald Birx

4/30/05	19	Mentoring Program: End-of-Academic Year Potluck Picnic. Families and partners invited to informal outdoors event.
5/10/05	22	ADVANCING Leaders Luncheon: Recognition Luncheon. Invited speaker, NMSU President Michael Martin.
8/26/05	33	ADVANCE Program Open House
8/31/05	25	Visiting Professor Program, Dr. Lydia E. Kavraki: "Geometrics and Robotics"
9/1/05	12	Visiting Professor Program, Dr. Lydia E. Kavraki: "How I Became a Computer Scientist"
9/1/05	14	Visiting Professor Program, Dr. Lydia E. Kavraki: "How to Succeed in Graduate School and Research"
9/1/05	12	Visiting Professor Program, Dr. Lydia E. Kavraki: Meeting with CREST Collaborators
9/1/05	63	Visiting Professor Program, Dr. Lydia E. Kavraki: "From Robots to Biomolecules"
9/8/05	58	Mentoring Program: Mentoring Orientation
9/16/05	20	Advancing Leaders: Inaugural Luncheon with Provost Flores and MBTI Review
9/9/05	12	Program presented with Women's Studies: "Gender Equity in Australia," Joanne Sikora
9/17/05	48	Promotion & Tenure: Strategies for Promotion to Full Professor Workshop
10/14-15/05	20	ADVANCING Leaders Retreat, Cloudcroft, NM
10/21/05	20	Mentoring Program: "Navigating Professional Societies" ADVANCE
11/11/05	13	Mentoring Program: Mixer
11/11/05	33	Program presented with AGEP: Grant Proposal Development Workshop
12/2/05	32	ADVANCING Leaders Program: Luncheon with NM Rep. Andy Nuñez

2004

Date	Attendees	Event
1/28/04	30	Department Head Training: Mentoring and the Role of the Department Head
2/21/04	36	Promotion and Tenure Working Session: Preparing for Spring Review
3/11/04	22	Mentoring Workshop: Effective Use of Service Time
5/12/04	24	End-of-year mentoring program event. Invited speakers: Dr. Christina Lohn, Vice President White Sands Research Developers and Debbie Potter, New Mexico Network for Women in Science and Engineering.
8/25/04	60	Luncheon: Women's Studies and Programming at NMSU (Co-sponsors: Women's Studies Program and Teaching Academy)
9/11/04	14	Mentor Training Workshop, Speaker: Dr. Elba Serrano, Associate Professor of Biology
9/17/04	20	ADVANCING Leaders Luncheon (Presentations by Dr. William Flores, Provost, and Mr. Ben Woods, Vice President of Facilities and Support Services) and Training Session on the Myers-Briggs Inventory (Presentation by Patricia McCoy, NMSU Counseling Center)
9/23/04	36	Mentor/Mentee Orientation, Speaker: Dr. Linda Lacey, Dean NMSU Graduate School
9/30/04	25	"Building Community with Traditional Adobe Construction" talks by Dr. Sonya Cooper (Associate Professor, Engineering Technology), Jean Fulton, Assistant Coordinator of Cornerstones Partnership, and Nancy Binneweg, Licensed General Contractor and member, City of Las Cruces Planning and Zoning Commission (Co-sponsor: Women's Studies Program)
10/2/04	34	Promotion and Tenure Workshop (co-sponsors: Hispanic Faculty/Staff Caucus, Office of the Provost and the NMSU Teaching Academy)
10/8-10/9/04	19	ADVANCING Leaders Retreat, Facilitator: Mary Ancker
10/22/04	15	Distinguished Visiting Professor (DVP) Lecture: Women in Wilderness by Anne LaBastille
11/1/04	70	DVP Lecture: The Traveling Salesman Problem by Rekha Thomas
11/2/04	62	DVP Lecture: Polynomial Systems: Applications and Solutions by Rekha Thomas
11/3/04	20	DVP Lecture: Mathematics Colloquium by Rekha Thomas
11/4/04	11	DVP Specialists' Lecture: Polyhedral Geometry by Rekha Thomas
11/4/04	23	Pi Mu Epsilon/Society of Women Engineers Luncheon with DVP Rekha Thomas
11/12/04	20	ADVANCING Leaders Mentoring Luncheon
12/03/04	13	ADVANCING Leaders Luncheon: Dr. Gladys DeNecochea on Leadership Paths

2003

Date	Attendees	Event

1/3/03	12	Mentoring Program Spring Mixer (Early Semester Get-Together
3/14/03	30	Mentoring Program Lunch: Resident Alien – A Scientist in Women's Studies, presented by Ingrid Bartsch, co-editor of the Gender and Science Reader and University of South Florida assistant professor and director of women's studies
3/21/03	2	Mentoring Program: Informal Junior Faculty Luncheon
5/14/03	24	Mentoring Program: End of Year Event
8/29/03	33	Mentoring Program Fall Open House
9/6/03	23	Mentor Training, led by Dr. Christine Marlow, Co-PI and Associate Dean of Graduate School
9/18/03	47	Mentoring Orientation – Presentation by John Mexal, Assistant Department Head and April Ulery, Assistant Professor of Agronmy and Horticulture and leaders of departmental mentoring program
9/20/03	39	Promotion and Tenure Workshop, co- with the Hispanic Faculty/Staff Caucus and the Office of the Provost
10/0/03	31	Mentoring Workshop: How to Reduce Your Sense of Isolation and Enhance Your Productivity – Dr. Reta Beebe, Emerita Professor of Astronomy
11/3/03	28	Visiting Professor Wendy Lathrop: Lunch with SWE chapter students
11/3/03	17	Visiting Professor Wendy Lathrop: Open Lecture on Flooding and Environmental Issues
11/5/03	4	Visiting Professor Wendy Lathrop: Science Teachers Seminar: Constructing an Inquiry-Based Environmental Module
11/5/03	n/a	Visiting Professor Wendy Lathrop: Vista Middle School classroom visit – Flood Plains
11/13/03	10	Mentoring Program Workshop: Personnel Issues with Dean Titus, Library

2002

Date	Attendees	Event
8/12/02	30	Department Head Workshop: Diversity and Hiring with Lakesia Johnson (segment of Provost's training session)
9/4/02	28	Mentoring Orientation with Lindsey Stoddard-Cameron, Coordinator of the Women Faculty Mentoroing Program at the University of Wisconsin, Madison
9/6/02	19	Recruitment Workshop for faculty search committee members
9/21/02	42	Promotion and Tenure Workshop with Hispanic Caucus
10/16/02	26	Visiting Professor Deana Namuth: Seminar on building and supporting a distance education in the sciences
10/16/02	9	Visiting Professor Deana Namuth; Workshop for faculty on distance education
10/17/02	28	Visiting Professor Deana Namuth: Seminar on creating effective modules for web-based science teaching
10/17/02	9	Visiting Professor Deana Namuth; Workshop for faculty on distance education (repeat)
12/4/02	4	Visiting Professor Debbie Crans: Mini-workshop – A Strategy to Introduce Science at K-12
12/5/02	7	Visiting Professor Debbie Crans: Research Seminar – A Series of Transition Metal Dipicolinate Complexes and Their Effects on Diabetic Animals: Compound Profiles and DNA Analysis
12/5/02	13	Visiting Professor Debbie Crans: General Lecture – Diabetes: Combating One of America's Heavyweights
12/6/02	16	Visiting Professor Debbie Crans: Luncheon with women students: Mentoring Women in Science

APPENDIX V

ADVANCE SUBAWARD RECIPIENTS

START-UP PACKAGE ENHANCEMENT AWARD RECIPIENTS

ADVANCE at NMSU spent a total of $884,035 on start-up package enhancements for 24 women scientists/engineers, and $95,346 on dual-career accommodation enhancements for four. In addition as the final no-cost extension neared its end, ADVANCE met with three candidates who were successfully hired by NMSU, starting in the fall of 2009. All three candidates are in the College of Engineering. A list of candidates and the years of the hire follows. Abstracts of start-up fund awards are shown in the following pages.

Candidate's Name	**Department**	**Year**	**Amount**
Start-Up Funds			
Tiziana Giorgi	Mathematical Sciences	2002	11,935
Jing He	Computer Science	2002	33,000
Inna Pivkina	Computer Science	2002	34,500
Paola Bandini	CAGE	2002	40,000
Jeanine Cook	E&CE	2002	50,000
Maria Mariana	Mathematical Sciences	2003	27,400
Mary Ballyk	Mathematical Sciences	2003	31,500
Claudia Trevino	Chemistry/Biochemistry	2003	50,000
Julietta Valles	Industrial Engineering	2003	25,000
Erin Silva	Agronomy and Horticulture	2003	50,000
Kathy Hanley	Biology	2004	50000
Barbara Lyons	Chemistry and Biochemistry	2004	75,000
Wiebke Boeing	Fishery and Wildlife Sciences	2004	50,000
Shanna Ivey	Animal & Range Science	2004	30,000
Jennifer Curtiss	Biology	2005	50,000
Cynthia Zoski	Chemistry & Biochemistry	2005	40,000
Kanani K. M. Lee	Physics	2005	60,000
Carol Campbell	Geography	2005	6,000
Deborah Bathke	Agronomy and Horticulture	2005	20,500
Heather Throop	Biology	2006	40,000
Michele Shuster	Biology	2006	15,000
Shelley Lusetti	Chemistry & Biochemistry	2006	30,000
Maria Castillo	Biology (Immunology)	2007	50,000
Nancy Chanover	Astronomy	2008	9,200
Teresa Grasswitz	EPPWS/Extension	2008	5,000
Anastasia Dobrokski	Mechanical Engineering	2009	0
Jessica Houston	Chemical Engineering	2009	0
Longmei Luou	Chemical Engineering	2009	0
			884,035
Dual Career			
Antonia Casellas	Government	2005	1,254
Donghui Zhang	Chemistry & Biochemistry	2005	44,400
Nancy Chanover	Astronomy	2005	34,692
Kate Briggs	Women's Studies	2005	9,000
Leslie Morrell	Women's Studies	2006	6,000
			95,346

PROJECT ABSTRACTS: START-UP PACKAGE ENHANCEMENT AWARD RECIPIENTS

PI – Mary Ballyk
Title – Assistant Professor (promoted to Associate Professor)
Department – Mathematical Sciences
Type of Project – Start-Up Funds, 2003
Dr. Ballyk is interested in mathematical models motivated by questions in biology and ecology. In particular, my research involves the development and analysis of systems of differential equations that model species interaction under nutrient limitation. In addition to numerical techniques, she uses analytical methods to obtain information about the qualitative behavior of the models. In 2009 she won the Donald C. Roush Excellence in Teaching Award at NMSU.

PI – Paola Bandini
Title – Assistant Professor (promoted to Associate Professor)
Department – Civil and Geological Engineering
Type of Project – Start-Up Funds, 2002
As an assistant Professor, Dr. Bandini became the PI of a $1.27 million project funded by the New Mexico Department of Transportation to gather information which NMDOT engineers will use to determine if routine maintenance, rehabilitation or reconstruction is needed. Her research focuses on the application of numerical methods for the solution of various stability problems. In 2007 she was awarded the Patricia Christmore Teaching Award. The award recognizes and rewards superb junior tenure-track faculty members for excellence in teaching.

PI – Deborah J. Bathke
Title – Assistant Professor
Department – Plant and Environmental Science
Type of Project – Start-up Funds, 2005

Dr. Bathke was the first female assistant climatologist in the state of New Mexico. ADVANCE funds contributing to a start-up package enhancement assisted Dr. Bathke in producing a series of products in 2006. Newsletter articles included: Bathke, "CoCoRaHS Success in New Mexico," *New Mexico High Waters*, 13(3), p. 7, 2006; and "It finally rained: Are we out of the drought?" *The Nature Park News*, 15(4), p. , 2006. In addition she contributed to a report titled, "The impact of climate change on the State's water supply and the ability to manage its water resources." Drought Monitoring Workgroup Drought Status Reports and presentations: "The Community Collaborative Rain, Hail and Snow Network," New Mexico Chapter of the American Society of Agricultural and Biological Engineers, Bosque del Apache National Wildlife Refuge (3/31/06 and 6/13/06); "Rain Gauge Training Influences on Master Gardeners' Water Conservation Practices", UCOWR/NIWR Annual Conference, Santa Fe, NM (7/19/06); "New Mexico State Climate Office Initiatives," National Weather Service (NWS) Southern Region and Texas A&M University Climate Services Workshop, College Station, TX (8/1 – 8/3/06); "Group 4: Engaging the Preparedness Communities," National Integrated Drought Information System (NIDIS) Implementation Plan Workshop, Longmont, CO (9/22/06); "New Mexico Climate Issues," Southwest Turfgrass Conference, Ruidoso, NM (10/12/06).

PI – Wiebke Boeing
Title – Assistant Professor
Department – Fishery and Wildlife Sciences
Type of Project – Start-Up Funds, 2004
Dr. Boeing's research interests lie in the effects of climate change and anthropogenic activities on the aquatic community and on predator-prey interactions. Furthermore, she studies how various environmental parameters influence aquatic biodiversity and individual species. She studies the effects of broad climate change on the state's aquatic systems and teaches undergraduate courses on ichtyology and aquatic ecology.

PI – Carol Campbell
Title – Assistant Professor
Department – Geography
Type of Project – Start-up Funds, 2005
Title of Project – Tree canopy height data, Community ecology, ornithology and geography
Dr. Campbell, the first female tenure-track geologist hired by the NMSU Department of Geology, received ADVANCE support for summer research and international conference attendance. Summer salary enabled her to conduct two months of research in Yosemite National Park, California, where she collected tree canopy height data with which to test a model of canopy height derived from radar data (Shuttle Radar Topography Mission – SRTM). She is currently preparing a paper on the test of the canopy model using the data obtained over the summer, targeting the International Journal of Remote Sensing. In addition, she collected a third year of data on bird community composition to compliment data from her dissertation research conducted in 2003 and 2004. ADVANCE also supported travel to Veracruz, Mexico, and lodging expenses to attend the IV North American Ornithological Congress.

PI – Maria Castillo
Title – Assistant Professor
Department – Biology
Type of Project – Start-up Funds, 2007
The laboratory of Dr. Castillo focuses on the study of the immunological aspects of the relationship between the Hawaiian bobtail squid, Euprymna scolopes and its beneficial partner, the luminous bacteria Vibrio fischeri. Her research investigates the presence, diversity, and function of complement-like proteins in the squid E. scolopes and their potential role in beneficial symbiosis. The finding of complement molecules in invertebrates suggests a more primitive origin of these immune components than previously thought and presents an opportunity to study the changes of the immune system through evolution.

PI – Nancy Chanover
Title – Assistant Professor
Department – Astronomy
Type of Project – Start-up Funds, 2008
Dr. Chanover was promoted from the "college-track" (not eligible for tenure) to the tenure track with the help of ADVANCE start-up funds. Her research involves the study of planetary atmospheres using visible and infrared imaging and spectroscopic techniques. She has worked on projects involving the upper atmospheric chemistry of Venus; measuring wind speeds on Venus, Jupiter, and Saturn; and studying the atmospheric vertical structure of Jupiter, Saturn, and Titan using radiative transfer modeling. Many of her ground-based observing efforts have been in support of and complementary to NASA spacecraft missions such as Galileo and Cassini. Dr. Chanover is also involved in the development

of new instrumentation for planetary science, primarily acousto-optic tunable filter cameras for high spectral resolution imaging polarimetry and/or spatially resolved spectroscopy. Dr. Chanover is the Deputy PI for NASA's Planetary Data System Atmospheres Discipline Node, which is located in the NMSU Astronomy Department. The PDS archives all data from planetary spacecraft missions. There are currently five graduate students working with Dr. Chanover.

PI – Jeanine Cook
Title – Assistant Professor (promoted to Associate Professor)
Department – Klipsch School of Electrical Engineering/Department of Electrical and Computer Engineering
Type of Project – Start-Up Funds, 2002
Dr. Cook specializes in microprocessor performance modeling, performance measurement and optimization and workload characterization. She currently directs the Advanced Computer Architecture Performance and Simulation Laboratory. She teaches courses in computer architecture and have research interests in the areas of microarchitecture simulation techniques, performance modeling and analysis, workload characterization, and microarchitectural power optimizations. In 2006, she was selected as one of the exclusive winners of the prestigious Presidential Early Career Award for Scientists and Engineers (PECASE).

PI – Jennifer Curtiss
Title – Assistant Professor
Department – Biology
Type of Project – Start-Up Funds, 2005
The matching start-up funds contribution from ADVANCE have enabled Dr. Curtiss to buy a Zeiss Axio Imager Z1 microscope, which will amply meet the microscopy needs of the lab to conduct research concerning a question in Developmental Biology: How the compound eye of the fruit fly *Drosophila melanogaster* becomes specified to be different from other structures such as the antenna or the wing. Studying eye specification requires extensive examination of individual eye precursor cells as they proceed through development, and hence involves a good deal of transmitted light and fluorescence microscopy.

PI- Tiziana Giorgi
Title – Assistant Professor (promoted to Associate Professor)
Department – Mathematical Sciences
Type of Project- Start-Up Funds, 2002
Dr. Giorgi specializes in applied mathematics, particularly in nonlinear partial differential equations. Her start-up funds supported personal research, course releases to provide the time for research, moving expenses, travel to professional conferences, and equipment necessary for research in her subject of interest.

PI – Teresa Grasswitz
Title – Assistant Professor
Department – Entomology, Plant Pathology and Weed Science/Extension
Type of Project – Start-up Funds, 2008
Dr. Grasswitz, a small farms integrated pest management specialist, is tasked with 25% research. She is located at the Agricultural Science Center at Los Lunas.

PI – Kathryn A. Hanley
Title – Assistant Professor
Department – Biology
Type of Project – Start-Up Funds, 2004
ADVANCE matching start-up funds contributed to the establishment of a research laboratory and a shared molecular genetics facility. In 2005, these funds supported summer salary which led to the successful application for the K22 grant and the preparation of a manuscript on chimeric flaviviruse, as well as contributing to the initiation of graduate training for students. In addition Hanley conducted research on the characterization of dengue virus type 3 lineages associated with mild and severe disease. Her major research activity was the phenotypic characterization of six isolates of dengue type 3 virus that have been shown to be associated with mild or severe disease in Sri Lanka.

Henley is currently representing NMSU on work being done for the National Institutes of Health and National Institute of Allergy and Infectious Diseases, partnering with researchers from the University of Texas Medical Branch, Johns Hopkins University and Institut Pasteur in Senegal to research how mosquito-borne viruses like dengue, chikungunya and yellow fever emerge from non-human primates and infect humans in Senegal, West Africa. Hanley said the institutes awarded a $2 million grant for this project, specifically to study the circulation of mosquito-transmitted viruses in non-human primate reservoir hosts and the emergence of these viruses into humans.

PI – Jing He (Computer Science)
Title – Assistant Professor (promoted to Associate Professor)
Department – Computer Science
Type of Project – Start-Up Funds, 2002
Dr. He specializes in developing computational methods to interpret high-resolution 3-D virus structures. Her start-up funds were used to partially support a graduate student to help with research and for traveling to three conferences, one of which He presented a paper at. He has worked on the development of a computational method to derive a 3-dimensional structure of proteins using constraints from a protein density map. Recent research on this topic has involved constraints extraction from the intermediate resolution structure, generation of a mapping library for secondary structure elements using constraints, and analysis of the individual accuracy of the secondary structure prediction method. Additionally, He succeeded in establishing a weekly Keck seminar broadcast at NMSU, which includes topics such as computational biology, biochemistry, and genetics. Moreover, He is working on a subproject in the “Center for Research Excellence in Bioinformatics and Computational Biology” called “Bridging the resolution gap: automatic sequence mapping for intermediate resolution macro-molecular structures from electron cryomicroscopy”.

PI – Shanna Ivey
Title – Assistant Professor
Department – Animal and Range Science
Type of Project – Start-Up Funds, 2004
Shanna Ivey is a rumen microbiologist within the Animal and Range Science Department. Her research program is focused on solving real world problems with high tech scientific methods. She is interested in discovering the relationship between a ruminant’s diet and the composition of microbial population focusing primarily on plants that are high in secondary metabolites and/or toxic. Additionally, her lab is investigating new methods to evaluate the effectiveness of protein supplementation programs to range livestock. Dr. Ivey is responsible for teaching three undergraduate classes (Introduction to Animal

Metabolism, Companion Animal Management and Animal Nutrition) and one graduate class (Rumen Microbiology). She conducts research at the 27,000-acre Corona Range and Livestock Research Center.

PI – Kanani Lee
Title – Assistant Professor
Department – Physics
Type of Project – Start-Up Funds, 2005
Dr. Lee was the first female tenure-track faculty member in physics at NMSU. She investigates the interior of the Earth as well as the interiors of other planets using a number of high-pressure techniques: laser-heated diamond anvil cell, laser-driven shockwaves on pre-compressed samples and ab-initio quantum-mechanical calculations.

PI – Shelley Lusetti
Title – Assistant Professor
Department – Chemistry and Biochemistry
Type of Project – Start-up Funds, 2006
Dr. Lusetti studies the cellular genome maintenance processes of DNA replication, recombination, and repair are highly interconnected, sharing multiple pathways and common enzymes. The broad interest of her lab, which was partially funded by her ADVANCE start-up funds, is to define the cellular processes underlying chromosomal maintenance by studying the enzymes and regulatory mechanisms that control it using biochemical methods.

PI – Barbara Lyons
Title – Assistant Professor
Department – Chemistry and Biochemistry
Type of Project – Start-Up Funds, 2004
The hiring of Dr. Lyons, the top candidate for a biochemistry position, was facilitated by ADVANCE matching start-up funds which helped the Department of Chemistry and Biochemistry refurbish existing equipment to make it useful for Dr. Lyon's research. ADVANCE start-up funds also allowed Dr. Lyons to hire a technician and allowed her to contribute monetarily to purchasing the Varian 500 MHz Unity Plus NMR spectrometer, and to buy supplies for initially setting up her laboratory.

PI – C. Maria Mariani
Title – Assistant Professor (promoted to Associate Professor, promoted to Full Professor)
Department – Mathematical Sciences
Type of Project- Start-Up Funds, 2003
During the summer, Mariani visited Dr. Paul Glasserman, Associate Dean of the Graduate School of Business at Columbia University using her funding. The visit allowed for the continuation of research work in the analysis of asset-price dynamics in models that capture the possibility of sudden, large changes in asset prices. As a result of the visit, Mariani developed a course in financial mathematics at NMSU, which will be taught for the first time in spring 2005. In addition, Mariani organized a special session in the Financial Mathematics in the American Mathematical Society's fall Western Sectional Meeting in October 2004. Currently, Mariani is working with a graduate student on numerical simulations and data fitting. A publication on the subject is being prepared for submission.

PI – Inna Pivkina
Title – Assistant Professor (promoted to Associate Professor)
Department – Computer Science
Type of Project – Start up Funds, 2002

Pinkina used her start up funds to purchase a computer and printer for her office, used regularly for research and teaching. Secondly, the funds were used for her summer salary, which allowed her to conduct research during the summer months. During this time a paper was finished and accepted to the CLIMA IV Conference (Computational Logic in Multi-Agent Systems). Post proceedings will be published by Springer-Verlag as a volume of the Lecture Notes on Artificial Intelligence Series. Additionally, funds were used to pay for a two-week visit to the University of Kentucky to collaborate with a former advisor on two projects.

PI – Michele Shuster
Title – Assistant Professor
Department – Biology
Type of Project – Start-up Funds, 2006
Dr. Shuster, whose background is in molecular genetics, was promoted from the "college-track" (ineligible for tenure) to Assistant Professor, with start-up funds enhancement provided by ADVANCE. Her focus is on undergraduate biology education/transforming teaching in the biomedical sciences, including intro bio, allied-health micro and cancer biology. In June 2008 she attended the National Academies Summer Institute on Undergraduate Education in Biology and received an Education Fellow in Life Sciences Award. Working with ADVANCE research subaward recipient, Biology associate professor Graciela Unguez who attended the National Academies Summer Institute at the same time, she hopes to share teaching idea with others in their department and across campus to transform the science education experience of students at the university level. Support for this summer institute is provided by the Howard Hughes Medical Institute, the Research Corporation for Science Advancement, the presidents' Committee of the National Research Council and the University of Wisconsin-Madison.

PI – Erin M. Silva
Title – Assistant Professor
Department -- Agronomy and Horticulture/Plant and Environmental sciences
Type of Project – Start-Up Funds, 2003
Silva has used the start-up funds to pay a laboratory technician's salary, not provided by the department, who helps gather data for research and publishing, which is necessary to Silva's academic development. Additional start-up funds went to equipment purchasing (a freezedryer, equipment for field experiments, computer and software equipment) necessary for research and teaching. Several research projects are underway involving viral diseases of chili peppers, carbohydrate partitioning in onion plants, analysis of the nutritional composition of onion and chili peppers, root growth of chili plants, and viral disease resistance in tomatoes.

PI – Heather Throop
Title – Assistant Professor
Department – Biology
Type of Project – Start-up Funds, 2006
Dr. Throop used her start-up funds to establish the Throop Lab on Ecosystem Ecology at NMSU. Currently the lab is staffed by three Ph.D. students, one Masters candidate and five undergraduates including Lisa Ebbs, a Howard Hughes Medical Institute Research Scholar. Most of Dr. Throop's work

explores the impacts of these human activities on plant-ecosystem links within two general themes: (1) the patterns and physiological mechanisms by which plants respond to perturbations in the carbon (C) and nitrogen (N) cycles and (2) the patterns and mechanisms by which individual plants affect C and N cycles. She addresses these questions through research that integrates manipulative field experiments with modeling techniques. Her experimental approach spans a broad a range of techniques, from the physiological level to the ecosystem level, allowing me to explore links among different levels of ecological organization.

PI – Claudia Trevino
Title – Assistant Professor
Department – Chemistry and Biochemistry
Type of Project – Start-Up Funds, 2003
Dr. Trevino's area of research was the participation of ion channels in sperm physiology. While at NMSU she served as a mentor for the NIH NIGMS grant, the MBRS-RISE Program (Minority Biomedical Research Support-Research Initiative for Scientific Enhancement NMSU RISE TO EXCELLENCE).

PI – Julieta Valles-Rosales
Title – Assistant Professor
Department – Industrial Engineering
Type of Project – Start-Up Funds, 2003
Dr. Valles hired a research assistant, purchased fixtures related to her research on injection molding and traveled to visit manufacturing labs and conferences. She visited Penn State and California Polytechnic at Pomona to observe their manufacturing laboratories and presented papers at conferences in Cancun and Houston. In addition, she was able to attend three NSF workshops in St. Louis, Atlanta and Albuquerque and to meet with NSF program officers in Arlington, VA, as a result, Dr. Valles-Rosales will seek an NSF Career Award for Young Faculty in 2005. She also visited Sandia National Labs in Albuquerque to meet with potential research partners. ADVANCE funding and connections have enabled Valles-Rosales to secure a research award with two other NMSU faculty (from the Department of Management) SCERP 2004 ($62,192) and to prepare another proposal for the same agency 2005 ($63,000). Her ADVANCE funding also enabled Dr. Valles-Rosales to seek funds from other NMSU organizations to support her research, specifically: College of Engineering ($10,000); support from AMP to hire undergraduate students to help in her research and also to benefit them from it; in spring 2005 she will hire a graduate assistant with funds from WERC to prepare a proposal to submit it to an appropriate agency that involves her research and environmental issues.

PI – Cynthia Zoski
Title – Associate Professor
Department – Chemistry and Biochemistry
Type of Project – Start-Up Funds, 2005

Dr. Zoski was a senior-level hire and it was very important to give her the best start possible. With the support of the College of Arts and Sciences, EPSCoR, and ADVANCE, NMSU was able to attract her despite a salary which was significantly less than that offered by a competing university. She received three years of credit towards her promotion to full professor and tenure, and will be up for tenure review in 2007. She has used the funds from ADVANCE to purchase equipment which is vital to her research at NMSU, in the NMSU NSF EPsCOR initiative in the area of nanosciences.

AWARD RECIPIENTS: RESEARCH AND TRAVEL AWARDS

Over the course of the grant, ADVANCE spent a total of 514,564 in support of research and research-related travel for tenure-track women STEM scientists at NMSU. A list of recipients and their awards is followed by abstracts.

Laurie Abbott	Animal and Range Sciences	2003	$15,000
" "	" "	2002	$7,576
Josefina Alvarez	Mathematical Sciences	2004	$15,000
Patricia Baggett	Mathematical Sciences	2002	$20,000
Mary Ballyk	Mathematical Sciences	2005	$7,030
Paola Bandini	Civil and Gelogical Engineering	2004	$$12,725
" "	" "	2003	$1,980
Nancy Chanover	Astronomy	2004	$2,500
Jeanine Cook	Electrical and Computer Engineering	2003	$15,000
Rebecca Creamer	EPPWS	2002	$20,000
" "	" "	2002	$1,230
Martha Desmond	Fishery & Wildlife Sciences	2005	$7,000
" "	" "	2003	$1,725
" "	" "	2002	$17,292
" "	" "	2002	$1,943
Nancy Flores	Food Sciences	2005	$14,000
" "	" "	2003	$897
" "	" "	2002	$2,141
" "	" "	2002	$1,200
Elizabeth Gasparim	Mathematical Sciences	2005	$14,713
" "	" "	2003	$15,000
Mai Gehrke	Mathematical Sciences	2004	$10,570
" "	" "	2004	$2,500
" "	" "	2003	$2,000
" "	" "	2002	$19,940
Tiziana Giorgi	Mathematical Sciences	2004	$8,202
" "	" "	2004	$1,145
Kathryn Hanley	Biology	2005	$8,485
Jing He	Computer Science	2004	$14,946
" "	" "	2003	$2,500
Colleen Jonsson	Chemistry and Biochemistry	2002	$19,118
" "	" "	2002	$2,600
Maria Cristina Mariani	Mathematical Sciences	2005	$2,500
" "	" "	2004	$10,100
Lisa McKee	Food Science	2002	$17,034
" "	" "	2002	$2,141
Nancy McMillan	Geological Sciences	2005	$13,144
Martha Mitchell	Chemical Engineering	2004	$1,600
Michele Nishiguchi	Biology	2003	$1,213
" "	" "	2002	$11,800

" "	" "	2002	$2,400
Jane Pierce	EPPWS/Artesia	2003	$1,283
" "	" "	2002	$11,000
Inna Pivkina	Computer Science	2005	$12,504
Linda Riley	Industrial Engineering	2002	$20,000
Susana Salamanca-Riba	Mathematical Sciences	2002	$12,297
" "	" "	2002	$2,900
Jill Schroeder	EPPWS	2003	$1,731
Elba Serrano	Biology	2004	$15,000
Erin Silva	Fishery & Wildlife Sciences	2005	$1,025
Tracy Sterling	EPPWS	2004	$15,000
" "	" "	2002	$3,283
Irena Swanson	Mathematical Sciences	2005	$9,635
Caroline Sweezy	Mathematical Sciences	2005	$14,721
Graciela Unguez	Biology	2003	$14,564
Julieta Valles-Rosales	Industrial Engineering	2005	$15,000
Nicole Vogt	Astronomy	2004	$15,000
" "	" "	2003	$1,731
			$514,564

PROJECT ABSTRACTS: RESEARCH AND TRAVEL AWARDS

PI – Josefina Alvarez
Title – Professor
Department – Mathematical Sciences
Type of Project – Research, 2004
Title of Project – Two Writing Projects in Mathematics, Research and Education
Alvarez, with coeditors Carlos Cabrelli and Maria Amelia Muschietti, coedited three monographs written by Alberto P. Calderon, professor emeritus at the University of Chicago to be published by Walter de Gruyter, Berlin. Additionally, Alvarez completed a book proposal submitted by invitation to Princeton University Press which has received very good reviews. Alvarez has also presented at numerous events for the Mathematical Association of America, the University of La Laguna, Spain, and at the Joint Meeting of the Southwestern Section of the Mathematical Association of America. Because of one of these presentations, Alvarez was invited to submit a Prospectus to the Mathematical Association of America to write a collection for teaching activities.

PI – Mary Ballyk
Title – Assistant Professor (promoted to Associate Professor)
Department – Mathematical Sciences
Type of Project – Research, 2005
Title of Project – Competition in an Unstirred Chemostat
After completing her research, Dr. Ballyk gave four presentations, entitled "Enrichment thresholds for growth and predation," "Adventures in Mathematical Ecology," "Enrichment thresholds for growth and predation," and "UBM: A training program for research on the interface of Mathematics and Biology at New Mexico State University." She also attended the workshop "Modeling the Rapid Evolution of Infectious Diseases: Epidemiology and Treatment Strategies" and the International Workshop on Differential Equations and Mathematical Biology. Two journal publications and one paper resulted from completion of her research. Co-authors of the project included C. Connell McCluskey from Wilfrid Laurier University, Gail S.K. Wolkowicz from McMaster University, and Dr. Ernest Barany from New Mexico State University. Ballyk's completed projects will contribute to her tenure review, and she was able to buy release from one course. Ballyk and a colleague will be submitting a proposal for another grant application on the basis of the research conducted.

PI – Paola Bandini (Civil and Geological Engineering)
Title – Assistant Professor (promoted to Associate Professor)
Type of Project – Research , 2004
Title of Project – Purchase, Installation, and Calibration of Triaxial Equipment and Accessories for Soil Testing with Automatic Data Acquisition System
Dr. Bandini used funds to purchase licenses for specialized software and computers and to start the first phase of an experimental program to determine the shear strength and liquefaction resistance of silty sands. Following approval of the ADVANCE grant, Bandini's department agreed to significantly increase its initial contribution so that more and better laboratory equipment can be acquired for the project. Bandini also traveled to meet collaborators at Purdue University, which resulted in two paper submissions and a new project idea for 2005.
Travel, 2003
Dr. Bandini received travel funds that allowed her to attend various NSF workshops on funding opportunities in the field of Civil and Geological Engineering. These workshops provided networking opportunities with program directors and managers in the area of civil and geological engineering. A

visit to Purdue University resulted in a slightly new research direction, and the PI is currently working in the generation of results and preparation of a new journal paper with collaborators at Purdue University.

PI – Nancy Chanover (Astronomy)
Type of Project – Travel, 2004
Title of Project – Vertical Structure of Haze in Titan's Atmosphere
Dr. Chanover used funding to acquire telescopic data in January 2004 of Saturn's largest moon, Titan, using the Air Force Advanced Electro-Optic System telescope on Maui. An NMSU-built camera that incorporates a tunable filter, enabling observations in many different colors, was successfully used to image Titan at colors corresponding to different altitudes in the atmosphere. The travel award paid for Chanover's observing trip, which allowed her to use existing grant funds to pay for travel for an Astronomy Ph.D. graduate student working on the project. It also provided support for travel for one graduate student to attend a meeting to present results from the project. Additionally, the project provided Chanover the opportunity for cross-college collaboration and this, in conjunction with new opportunities for publication, may increase her chances for securing a tenure-track position within the Astronomy department.

PI – Jeanine Cook
Title – Assistant Professor (promoted to Associate Professor)
Type of Project – Research, 2003
Title of Project – "Expansion of the Advanced Computer Architecture Performance and Simulation Laboratory"
The grant supported the purchase of a 9-node, 18 processor, Beowulf cluster for research and teaching. Three graduate students, in addition to the PI, have been the primary users of this machine. The PI also taught two courses in which the machine was used. The students in one of these classes assembled the machine, installed the operating system and related software, and verified correction operation as a class assignment. Findings included a parallel implementation of the Simple Scalar micro-architecture simulator; a dynamic phase detector and predictor that enables significantly decreased simulation time while maintaining accuracy of simulation; a new algorithm and implementation to feasibly compute the intrinsic locality of large, realistic workloads which allowed the study of the intrinsic locality a suite of scientific/floating point and multimedia workloads, both of which had not been studied previously; and an algorithm that significantly increases the accuracy of performance counters that are used in multiplexed mode. Four papers were published in conference proceedings as a result.

PI – Rebecca Creamer
Title – Assistant Professor (promoted to Associate)
Type of Project – Research, 2002
Title of Project – "Association of a fungal endophyte with locoweed toxicity."
This research studies the role of fungal endophytes of locoweed in production of a toxin, swainsonine, which causes locoism of grazing animals. To conduct the research, the researchers developed a system of culturing locoweed plants with and without the fungus, and the fungus alone on plant tissue culture media. The baseline levels of toxin production for plants and fungus growth under specific conditions were determined. Preliminary experiments suggest that toxin production is increased in plants with fungus that are under drought stress. The pH optima for the fungus have also been determined. Currently, other environmental parameters including temperature, nitrogen, phosphorus, and potassium levels are being tested.

PI – Martha Desmond
Title – Assistant Professor (promoted to Associate Professor)
Type of Project – Research, 2002
Title of Project – Proposal for Release Time from Classes for the Fall of 2002 to Focus on Manuscript Preparation and the Development of Competitive Grant Proposals
Manuscript preparation and submission was the main focus of release time from classes during the fall semester of 2002. During this period, five manuscripts to peer reviewed scientific journals, and one chapter to be published in a book were submitted. Six additional manuscripts are in preparation and are to be submitted at the end of the spring semester. A competitive grant proposal was submitted to the USDA National Research Initiative. Additionally, Desmond organized and chaired the Scientific Session of the New Mexico/Arizona Joint Meetings of the Wildlife Society and American Fisheries Society on February 6-8, 2003 in Gallup, New Mexico.Desmond also hosted a meeting with several faculty from the Universidad Autonoma de Chihuahua, facultad Zootecnia in February, 2003. Finally, one website was created.

PI – Martha Desmond (Fishery and Wildlife Sciences)
Type of Project – Travel, 2003
Title of Project – Influence of Seed Production and Habitat Associations on a Chihuahuan Desert Avifauna

Desmond used the travel award to support travel to two research projects. One location traveled to was Gray Ranch in southwest New Mexico to conduct a pilot study to examine winter avian diet and seed selection in relation to availability. The other location was in Janos, Chihuahua to work on locating and mapping burrowing owl nest site selection in relation to local and landscape scale factors in 26 prairie dog colonies. Four manuscripts related to both research projects are in progress. Based on this research, Desmond plans on applying for a research sabbatical to continue this work with collaborators in the U.S., Canada, and Mexico which will be funded by a USDA National Research Initiative (NRI) grant.

PI – Nancy Flores
Title – Assistant Professor
Department – Family and Consumer Sciences, Food Technology
Type of Project – Research Award, 2005
Title of Project – The effects of salt in chile pepper mash fermentation
Flores conducted the first of a planned series of more detailed studies designed to lead to the understanding of the fermentation process in chile pepper mash and other vegetables. The fermentation of chile pepper mash is a natural process that has never been fully characterized. The data collected will be presented to the regional food producers association and contribute to USDA CREES grant proposals. Her research will also help other commodity groups, including soybean breeders in Indiana and chile processors in Missouri. This work contributes to Dr. Flore's tenure process, by providing research, publication and networking opportunities.

PI – Elizabeth Gasparim
Title – Assistant Professor (promoted to Associate Professor; left NMSU)
Department – Mathematical Sciences
Research, 2003 – Topology of Moduli of Vector Bundles, 2003
The result of this research was an answer to the Atiyah Jones Conjecture, which had been open for over thirty years in the field of geometry/topology/mathematical physics. The research resulted in three publications and four talks to which the PI was invited and at which results were presented.

Research, 2005 – Collaborative research in algebraic geometry and topology, 2005
Gasparim and Christophe Eyral were able to provide proof of Zariski's multiplicity conjecture, which is a fundamental problem about singularities, in certain cases. As a result, a joint paper entitled "Multiplicity of complex hypersurface singularities, Rouche satellites and Zariski's multiplicity conjecture" was submitted for publication in the Proceedings of the American Mathematical Society. Also, she discovered a new phenomenon in physics, called the Gauge Theory. Gasparim and Brian Hannafious, a research collaborator, are currently writing a paper that describes the new findings. Steklov Institute for Mathematics in Moscow and Max Planck Institute for Mathematics in Bonn were both involved as partners in the project. The papers resulting from this research are crucial to improve Gasparim's chance for a promotion to full professor. Also, the research conducted will be the basis for a grant application to the mathematical sciences division at the National Science Foundation.

PI – Mai Gehrke
Title – Professor
Department – Mathematical Sciences
Type – Research, 2003-2005
Type – Interdisciplinary research collaborations in problems of logic and computer science
In the period 2003-2005 Gehrke received funding through the NSF ADVANCE Institutional Transformation Award at New Mexico State University, amounting to an approximate total of $40,000 in all. The funding was been made through a number of subawards for various specific purposes, though most of them have been targeted at allowing Gehrke to develop interdisciplinary research collaborations in order to take her work in pure algebra and relate it to various areas of logic and computer science. We believe that this research proposal is in itself a testimonial to the successful effect of this funding through NSF ADVANCE. Gehrke has moved from a researcher in pure algebra to an interdisciplinary researcher working on problems in logic and computer science. The funding resulted in 15 papers. The awards have also sponsored work on a book on canonical extension. As a result, H. A. Priestley of the University of Oxford, an accomplished book author, and Gehrke are under contract to write an approximately 800 page book in the Oxford University Press Logic Guides Series, to be completed by December 2006.

In addition, the funding resulted in Gehrke's attendance at numerous conferences, workshops, and a panel of the AWM on planning a career in mathematics (as panelist). The ability to travel, and to have time to work in the summer is what has allowed Gehrke to build new research collaborations, among others with Y. Venema, J. van Benthem, M. Dunn, J.F.
Nilsson, H. Bruun, M. Erne, and A. Pultr.

PI – Tiziana Giorgi
Title – Assistant Professor (promoted to Associate Professor)
Department – Mathematical Sciences
Type of Project –Travel, 2004
Title of Project – Surface Nucleation in Superconductors Surrounded by Normal Materials
In 2004, Giorgi was the recipient of an award, which supported both personal research and the hosting of a visiting female researcher, Dr. Jadallah, for the project "Surface Nucleation in Superconductors Surrounded by Normal Materials". As a result, Dr. Jadallah invited Giorgi to Purdue University in June. This visit gave Giorgi and Jadallah time to work on their research and they obtained preliminary results that are the basis of a paper, which is currently in preparation. In addition, Giorgi used funds to attend a workshop, "Singularities in Materials" held at the Institute for Mathematics and its Applications (IMA) in October where Giorgi presented a poster, "Superconductors Surrounded by Normal Materials", related

to the project research. The conference provided an excellent opportunity for constructive feedback and collaboration.

PI – Kathryn Hanley
Title – Assistant professor
Department – Biology
Type of Project – Research, 2005
Title of Project – Chimeric flaviviruses provide insight into genetic determinants of virus specificity and infectificity for their anthropod vectors
ADVANCE matching start-up funds contributed to the establishment of a research laboratory and a shared molecular genetics facility. In 2005, these funds supported summer salary which led to the successful application for the K22 grant and the preparation of a manuscript on chimeric flaviviruse, as well as contributing to the initiation of graduate training for students.

PI – Jing He
Title – Assistant Professor (promoted to Associate Professor)
Department – Computer Science
Type of Project – Research
Title of Project – Improving Protein Secondary Structure Prediction Using 3-Dimensional Spatial Constraints of the Protein
He and her research assistants have developed a computational method to identify the bad secondary structure predictions of proteins using the length distribution of helices. This method has been tested on two sources of datasets for the PHD method, a commonly used secondary structure prediction method. He is in the process of applying the detection method to improve the secondary structure prediction. He's award supported a course release and partial salary for two graduate students, which allowed her to write and conduct research more vigorously. Four published conference proceeding papers resulted.

PI – Lisa McKee
Title – Assistant Professor (promoted to Associate Professor)
Type of Project – Research, 2002
Title of Project – Consumer Rinsing Methods for Reducing Microbial Loads on Pork Chops

The study evaluated the effect of ten consumable products used as rinsing agents and two cooking methods on microbial loads of retail pork loin chops. No differences were found in initial microbial loads. After rinsing aerobic counts for VN were lower than after rinsing aerobic counts for all other treatments. No differences were detected in after rinsing loads for the remaining treatments. All after cooking loads were zero. Several graduate and undergraduate students have participated in various studies to date, giving them hands-on experience in microbiological analysis procedures. One paper was published in conference proceedings
Travel, 2002 – Dr. McKee traveled to Anaheim, CA to attend the Institute of Food Technologists Annual Meeting and Pre-Conference Workshop to present a poster entitled " Peels and Seeds from Hot Sauce Production as a Dietary Fiber Source," which was the result of a Masters Thesis. The PI attended oral and poster presentations, and received an offer of a new probe for texture analysis of foods as a result of a meeting with employees of Texture Technology, Inc. A two day workshop was completed titled "Making Measurements for Sensory and Consumer Testing." One publication resulted.

PI – Nancy J. McMillan
Title – Professor
Department – Geological Sciences
Type of Project – Research, 2005
Title of Project – Trace element signatures of gem beryls: Tracing geologic processes and terrorist trading
The PI was able to travel to the Army Research Laboratory in Aberdeen, MD, to collect chemical data on specimens of the gemstone beryl. The goal was to determine what chemical parameters could be used to deduce the provenance of a gem specimen. The results were inconclusive, but McMillan was able to develop a chemical database for beryl analysis by three different analytical techniques. Palermo Mines, the Army Research Lab, and the Smithsonian Institution were involved as partners. The PI also consulted with Dr. David Daniel of the New Mexico State University Experimental Statistics Department. One journal publication resulted from the research. Also, two papers were published and presented. This project allowed the PI to explore links with anti-terrorist researchers. Finally, she was awarded a grant from the Army Research Laboratory because of the research she conducted: Department of Defense, Development of Laser-Induced Breakdown Spectroscopy: Application to Terrorist Trade Patterns of Gem Minerals and Integration into Geology Curriculum, $188,000 (2005-2007).

PI – Maria Cristina Mariani
Title – Assistant Professor
Department – Mathematical Sciences
Type of Project – Travel, 2005
Title of Project – Numerical solutions to nonlinear problems arising in Finance and Physics

The PI received travel funds that allowed her to visit Columbia University and present her research in four workshops over the course of the trip. This provided networking opportunities with other professors. One interaction resulted in several presentations in international conferences, as well as publications. The American Mathematical Society and the Mathematical Association of America sponsored the conferences Mariani attended. As a result of her travel, the PI had four journal publications and a paper published, entitled, “Truncated Levy walks applied to the study of the behavior of Market Indices.” Mariani was also able to develop several computational programs for the analysis of intermittence and scale invariance in the behavior of Major Financial Indices near a Crash. The publications resulting from this travel will help Mariani to be more successful in the tenure process. Also, the research
Research, 2004 –Nonlinear Problems Arising in Physics and Finance
During the summer, Mariani visited Dr. Paul Glasserman, Associate Dean of the Graduate School of Business at Columbia University using her funding. The visit allowed for the continuation of research work in the analysis of asset-price dynamics in models that capture the possibility of sudden, large changes in asset prices. As a result of the visit and encouragement from Dr. Glasserman, Mariani developed a course in financial mathematics at NMSU, which will be taught for the first time in spring 2005. In addition, Mariani organized a special session in Financial Mathematics in the American Mathematical Society’s fall Western Sectional Meeting in October 2004. Currently, Mariani is working with a graduate student on numerical simulations and data fitting. A publication on the subject is being prepared for submission.

PI – Martha C. Mitchell
Title – Associate Professor (promoted to Full Professor, promoted to Academic Department Head)
Department – Chemical Engineering
Type of Project – Travel, 2004
Title of Project – Travel to attend the International Adsorption Society's 8th International Conference on Fundamentals of Adsorption in Sedona, AZ from May 23-28, 2004
Mitchell attended the International Conference on Fundamentals of Adsorption, which brought in representatives from the U.S., Europe, and Asia. She was able to network with other experimentalists and researchers interested in adsorption modeling and presented a poster, "Evaluating Possible Materials for Light Gas Separations Using Computer Simulations". The results presented in the poster were published as a journal article.

PI – Michele Nishiguchi
Title – Assistant Professor (promoted to Associate Professor)
Department – Biology, 2003
Type of Project – Travel, 2003
Title of Project – Evolutionary dynamics of a sepiolid squid-vibrio mutualism
Travel funds were awarded to start collaborations with Dr. Gonzales Giribet, an Assistant Professor of Biology in the Department of Organismal and Evolutionary Biology at Harvard University. Information from this work has led to several new projects on systematics of invertebrates. Four journal publications have resulted from this research, as well as the creation of a website.
2002 Research – Environmental and ecological monitoring of symbiotic vibrio populations
The project allows the investigators to examine the mechanisms that drive host-symbiont recognition, and assesses whether environmental factors or inherent genetic characters affect speciation and diversity among Vibrio bacteria. State of the art techniques, including fluorescent microscopy, molecular biology, and bioluminescence emission have been developed and used in our system. Central to this study was determining whether the genetic architecture of host-symbiont pairs was different between geographically isolated squid populations, and whether speciation among vibrio bacteria is driven by the differences among these distant populations. The project helped to shed light on whether the environment or host has greater selection for bacterial fitness. Additionally, a key element of the proposal was the study of the hosts and vibrio symbionts through several international and collaborative efforts that have previously been established by our laboratory. Results will be disseminated through various publications, meetings, websites and courses. This program of study has also provided unique research opportunities for graduate and undergraduate students at NMSU. Three journal publications, one book, and one website resulted from this research.

PI – Jane Pierce
Title – Associate Professor
Department – Entomology, Plant Pathology and Weed Science
Type of Project – Research, 2003
Title of Project – Biological control in pecan/alfalfa cropping systems
The results of the project will save alfalfa growers in NM over $1.2 Million per year when the project is completed.

PI – Inna Pivkina
Title – Assistant Professor (promoted to Associate Professor)
Department – Computer Science
Type of Project – Research, 2005
Title of Project – Revision programming with cardinality atoms
Pivkina's research focused on the properties of justified revisions semantics of revision programs. Three different approximations of answer sets of unitary Lifschitz-Woo programs were developed and compared. V. Marek and M. Truszczynski from the University of Kentucky participated in the project. Pivkina presented the approximations and their comparison at the 8th International Conference on Logic Programming and Nonmonotonic Reasoning. The results were published in the peer-reviewed Proceeding of the conference. The project gave Pivkina an idea for a possible next publication on developing an even better approximation of answer sets of unitary Lifschitz-Woo programs. The publication that resulted from this project will contribute to Pivkina's opportunity to become tenured.

PI – Elba Serrano
Title – Associate Professor (promoted to Full Professor)
Department – Biology
Title of Project – Nanobiotechnology research initiative in multi-photon imaging of quantum dots and neural tissue engineering.
Dr. Serrano's award allowed her to expand the biophysical components of her research by establishing collaborations with colleagues at SANDIA and LANL in the area of nanobioscience. Outcomes include publications, presentations, and most recently a joint R01 award with LANL chemist, Jennifer Hollingsworth. Graduate students Blue Knight and Desarae Gutierrez earned MS degrees through participation in this research project.

PI – Erin Silva
Title – Assistant Professor
Department – Agronomy/Horticulture – now Plant and Environmental Sciences
Type of Project – Travel Award, 2005
Title of Project – Travel to Ecological Farming Conference in Monterey, CA for Curriculum and Professional Development
The primary purpose for Silva's attendance to the Ecological Farming Conference was to develop the curriculum for her course, Spring Organic Vegetable Production. Low student enrollment necessitated an overhaul of the course curriculum, and Silva addressed this challenge by attending panels and short courses sponsored by the Ecological Farming Association, Organic Farming Research Foundation, and the University of California-Santa Cruz Center for Sustainable Agriculture. At the conference, she learned what other universities are including in their sustainable agriculture curriculum, how they are recruiting students into their program, and how they are obtaining funds and support for their program. She used the ideas that developed from attending this January conference in the applications that she submitted in May 2005 for USDA Organic Research grants.

PI – Tracy Sterling
Title – Professor
Department – Entomology, Plant Pathology and Weed Science
Type of Project – Research, 2004
Title of Project- Oxidative Stress Tolerance Mechanisms in Plants
Sterling was able to use research funding to continue research on ecophysiological and biochemical responses to plant stress in a model system using herbicide-tolerant cotton. Sterling completed the

analytical work for greenhouse experiments (nutrient and herbicide stress) and for a field study (spurred anoda competition in cotton). Two research papers and two abstracts were submitted based on this research. In addition, the work funded through this grant has helped capitalize on unique technical expertise, positioning Sterling's program for approaching larger, more prestigious funding sources. The research funding also provided Sterling with the opportunity to develop a novel area of expertise and transform her career achievements into a new research area.

PI – Irena Swanson
Title – Associate Professor
Department – Mathematical Science
Type of Project – Research Award, 2005
Title of Project – Integral Closure of Ideals
Swanson used the course release time provided by her ADVANCE research funds to work on finishing the core parts of a graduate-level textbook on integral closure which she is writing with Craig Huneke, a mathematics professor at the University of Kansas. Dr. Huneke will work intensively on his sections of the book this summer and the final version of the book is anticipated in December 2005 and has received preliminary approval for publication by Cambridge University Press. The book will provide a much-needed textbook integral closure of ideals, summarizing existing knowledge and providing extensions of the theory to more general contexts, as well as material on the modern computational aspects of the theory. In addition to her work on this textbook, Swanson also took advantage of the time provided by her course release to research adjoints of ideals with Reinhold Huebl of Universitaet Regensburg, Regensburg, Germany and worked with her Ph.D. student Trung Dinh on Artin approximation and primary decompositions.

PI – Caroline Sweezy
Title – Associate Professor
Department – Mathematical Sciences
Type of Project – Research, 2005
Title of Project – Weights and parabolic gradients
Sweezy's research focused on how the temperature of a region, such as a metal plate or a room, is changing and how it can be controlled. She also completed work on higher order integrability for gradients of general temperature functions. Sweezy wrote three papers on the research she did. She also jointly wrote a paper with J. Michael Wilson on their results on parabolic gradients for solutions to a homogeneous equation and submitted the paper to the International Journal of Pure and Applied Mathematics. Sweezy gave a talk on the elliptic gradient results, chaired the special session on Advanced Simulation, Modeling and Systems II at the WSEAS International Conference on Dynamical Systems and Control, and gave a talk at the WSEAS Conference on her paper on higher order intelligibility. She also gave three hour length talks on her research at the Department of Mathematical Sciences Applied Analysis seminar. The papers she published will contribute to her consideration for promotion to full professor. As a result of the grant, Sweezy was also given two course releases so she could concentrate on research. She has been invited to contribute a paper to an AMS Conference Proceedings of the Prairie Analysis Seminar, and she has been invited to participate in two conferences in 2006. Sweezy will use the results of her research to submit a proposal to the National Science Foundation for funding to complete the research.

PI – Delia J. Valles-Rosales
Title – Assistant Professor
Department – Industrial Engineering
Type of Project – Research, 2005
Title of Project – Human Performance Modeling to Improve the Decision Making Process in Manufacturing Cells
Valles-Rosales worked with her CoPI, Jeanine Cook, Ph.D., to propose a novel method to measure human performance metrics and to understand how environmental factors such as lighting and noise level, ambient temperature, physical body postures required for working, as well as scheduled breaks for stress relieving and eating affected dexterity of operators performing repetitive tasks at a local company. From the resulting analysis, it was found that dexterity degradation fluctuated during the day significantly in most operators. They were then able to prepare a scheduling plan to monitor dexterity on real time to help management take immediate action to maintain stable levels of performance during the day. This research contributed to Valles-Rosales' opportunity to become tenured. Also, the team was assigned laboratory space with the option to grow in the future. This project was a crucial element to enhance their chances for getting funding during summer time. The University of Texas at El Paso and Johnson Controls, Inc. were involved as partners in the project.

PI – Nicole Vogt
Title – Assistant Professor (promoted to Associate Professor)
Department – Astronomy
Type of Project – Research, 2004
Title of Project- The Formation of Disk Galleries
Vogt is conducting a long-term observational and modeling program using the Keck Observatory of 10-meter telescopes and the Hubble Space Telescope to quantify the degree and the form of evolution in the spiral galaxy population. The research grant allowed Vogt, peers at the California Institute for Technology and the University of California, Santa Cruz, and three students to spend the summer doing data reduction and data analysis of local and distant galaxy images and spectra. The research gave way to five manuscripts. Additionally, the collaborations with peers in California are important given their leadership in the field and access to large private telescopes, which NMSU cannot access. Vogt is the winner of an NSF Career Award for Young Faculty.

In the fall of 2008 Dr. Vogt built a complex simulator that reproduced the spatially resolved spectrum of a spiral galaxy at an arbitrary redshift, taking into account the instrumentation and atmospheric conditions at a specific observatory and projected galaxy evolution to "the cosmology of your choice. And ADVANCE definitely had a hand (with building blocks) in getting me there!" she reports.

ADVANCE UNDERGRADUATE RESEARCH SCHOLARSHIPS

ADVANCE Undergraduate Research Scholarships were designed to permit ADVANCE recipients of internal awards (start-up fund enhancements or research grants) and other female STEM faculty to work with female undergraduate students on research projects. A total of 18 students were paired with women STEM faculty members who oversaw their independent research projects. The students received a total of $32,000 in scholarship support to conduct this research. Scholarships provided $1,000 per semester for up to two semesters, including summer terms.

A list of Undergraduate Research Scholarship recipients is followed by abstracts.

Scholar's Name	**Faculty Advisor's Department**	**Year**	**Amount**
Robin Boyle	Fishery & Wildlife Sciences	2005	$2,000
Robin Boyle	Fishery and Wildlife Sciences	2006	$1,500
Layne Dylla	Biology	2005	$2,000
Tori Gomez	Geological Sciences	2006	$2,000
Valerie Greif	Fishery and Wildlife Sciences	2007	$2,000
Catherine Howard	Fishery and Wildlife Sciences	2006	$1,000
Mikala Johnson	Industrial Engineering	2005	$2,000
Samantha Kilroy	Mathematics	2005	$2,000
Kalli Lambeth	Biology	2005	$2,000
Megan Lockwood	Mathematics	2005	$2,000
Jeni Petersen	Animal and Range Science	2007	$2,000
Megan Richardson	Industrial Engineering	2006	$1,000
Jennifer Runnels	Fishery and Wildlife Sciences	2006	$1,500
Arely Torres	Chemical Engineering	2007	$2,000
Shelley Vigil	Industrial Engineering	2006	$1,000
Lee Virginia	Plant and Environmental Sciences	2007	$1,000
Milagra Weiss	Agronomy & Horticulture	2005	$1,000
Allison White	Mathematics	2006	$2,000
Victoria Zamora	Fishery & Wildlife Sciences	2005	$2,000
19 awards			$32,000

ABSTRACTS: ADVANCE UNDERGRADUATE RESEARCH SCHOLARSHIPS

PI – Robin Boyle
Title – Undergraduate Research Scholar, 2005 and 2006
Department – Fishery and Wildlife Sciences
Type of Project – Research under direction of Faculty Mentor, Martha Desmond
Title of Project – Urban burrowing owl population dynamics (2005); Burrowing owl nest site study in urban and agriculture areas (2006)

Report submitted to ADVANCE. Faculty Mentor was recipient of ADVANCE research subaward.

Subsequent to completing her research project for Dr. Desmond, Ms. Boyle participated in a project led by Faculty Mentor Dr. Desmond, that brought together NMSU, the U.S. Forest Service and the University of Chihuahua in an effort to examine the status of burrowing owls in New Mexico, Oklahoma, Texas, Colorado and South Dakota. The three-year, $350,000 Hispanic-Serving Institutions grant was provided by the U.S. Department of Agriculture's Cooperative State Research, Education and Extension Service. After participating in a training session in Janos, Mexico with seven other students, Ms. Boyle was stationed at a research site where she helped monitored nests. A total of350 nests were monitored across the four sites. Students documented nest locations, reproductive success and nest site fidelity. The project was intended to create a better understanding of factors influencing nesting ecology across the Great Plains and range retraction of this owl in its native habitats. It also trained and mentored young biologists while providing a tremendous amount of information for Forest Service biologists managing this sensitive species.

PI – Layne Dylla
Title – Undergraduate Research Scholar, 2005
Department – Biology
Type of Project – Research under direction of Faculty Mentor, Jennifer Curtiss
Title of Project – Genetic study of *Drosophila*
Report submitted to ADVANCE. Faculty Mentor was Jennifer Curtiss, recipient of ADVANCE start-up enhancement subaward.

In the Fall of 2006 Dr. Curtiss carried on her mentoring of students through her participation in the HHMI-NMSU Undergraduate Research Scholars Program, which provides research opportunities for undergraduates in life science fields.. By February 2009 there were 52 students participating in the program during the academic year. These undergraduate students perform research in various departments in the College of Arts and Sciences and the College of Agriculture, Consumer and Environmental Sciences.

PI – Tori Gomez
Title – Undergraduate Research Scholar, 2006
Department – Geological Sciences
Type of Project – Research under direction of Faculty Mentor, Nancy McMillan
Title of Project – Use of portable X-Ray Fluoresence Spectrometry to determine the provenance of gem beryls
Tori Gomez presented a poster at the October 2006 Geological Society of America national conference in Philadelphia. She worked with Dr. Nancy McMillan on the use of portable X-Ray Fluoresence Spectrometry to determine the provenance of gem beryls. Dr. McMillan's research had initially been

funded by an ADVANCE research subaward. She subsequently received funding to continue this research from the U.S. Army.

PI – Valerie Greif
Title – Undergraduate Research Scholar, 2007
Department – Fishery, Wildlife and Conservation Ecology
Type of Project – Research under direction of Faculty Mentor, Wiebke Boeing
Title of Project -- Does UV light facilitate fish predation?
Ms. Greif delivered a presentation on her research at the April 2008 NMSU Undergraduate Research and Creative Arts Symposium (URCAS). Her Faculty Advisor was a recipient of an ADVANCE start-up fund enhancement.

PI – Catherine Howard
Title – Undergraduate Research Scholar, 2006
Department – Fishery and Wildlife Sciences
Type of Project – Research under direction of Faculty Mentor, Martha Desmond
Title of Project – Burrowing owl nest site study in urban and agriculture areas (2006)

Report submitted to ADVANCE. Faculty Mentor was recipient of ADVANCE research subaward.

PI – Megan Lockwood
Title – Undergraduate Research Scholar, 2005
Department – Industrial Engineering
Type of Project – Research under direction of Faculty Mentor, Julieta Valles-Rosales
Title of Project – Understanding accelerated testing models available for MEMS packaging.
Report submitted to ADVANCE Program. The Faculty Advisor was a recipient of an ADVANCE research subaward.

PI – Samantha Kilroy
Title – Undergraduate Research Scholar, 2005
Department – Mathematical Sciences
Type of Project – Research under direction of Faculty Mentor, Elizabeth Gasparim
Title of Project – Differential equations relevant to chemical engineering
Report submitted to ADVANCE Program. Her Faculty Advisor was a recipient of an ADVANCE research subaward.

PI – Kalli Lambeth
Title – Undergraduate Research Scholar, 2005
Department – Biology
Type of Project – Research under direction of Faculty Mentor, Kathryn Hanley
Title of Project – Patterns of inter-seotypic competition in dengue virus
Working with Dr. Kathryn Hanley, Ms. Lambeth conducted research on dengue virus serotypes. Future research involves infecting mosquito cells in culture under the same treatments to determine serotype interactions during co- and superinfection in the absence of barriers existing inside the mosquito.
Report submitted to ADVANCE Program. Her Faculty Advisor was a recipient of an ADVANCE start-up fund enhancement.

Ms. Lambeth now holds an NSF-REU research fellowship and is a Masters student in the laboratory of Dr. Kathy Hanley, her ADVANCE advisor who is a recipient of ADVANCE start-up enhancement funds. Her 2008 journal publication with Drs. Hanley and K.M. Pepin is listed in the Journal Publications section of this report.

PI –Virginia Lee
Title -- Undergraduate Research Scholar, 2007
Department – Plant and Environmental Sciences
Type of Project – Research under direction of Faculty Mentor, Champa Sengupta-Gopalan
Title of Project – Analysis of Transcript Abundance and Amino Acid Levels in Nitrogen-Deficient and Nitrogen-Sufficient Alfalfa
Ms. Lee presented at the 2008 NMSU Undergraduate Research and Creative Arts Symposium (URCAS). Report submitted to ADVANCE Program. Her Faculty Advisor serves as a mentor in the ADVANCE Mentoring Program and sat on the Committee on the Status of Women in STEM.

PI – Megan Lockwood
Title – Undergraduate Research Scholar, 2005
Department – Mathematical Sciences
Type of Project – Research under direction of Faculty Mentor, Elizabeth Gasparim
Title of Project – String Theory
Working with Dr. Elizabeth Gasparim, Ms. Lockwood studied string physics – work which she has found helpful as she continues her studies in physics. Report submitted to ADVANCE Program. Her Faculty Advisor was a recipient of an ADVANCE research subaward.

PI – Jeni Petersen
Title – Undergraduate Research Scholar, 2007
Department – Animal and Range Science
Type of Project – Research under direction of Faculty Advisor Shanna Ivey
Title of Project – Extract from *Larrea* Influences Rumen Fermentation
Ms. Petersen presented at the April 2008 URCAS: Her Faculty Advisor is a recipient of an ADVANCE start-up package subaward.

PI – Megan Richardson
Title – Undergraduate Research Scholar, 2006
Department – Mathematical Sciences
Type of Project – Research under direction of Faculty Mentor, Julieta Vales-Rosales
Title of Project – Human performance modeling to improve the decision making process in manufacturing cells.
Report submitted to ADVANCE Program. Faculty Advisor was a recipient of an ADVANCE start-up package enhancement subaward.

PI – Jennifer Runnels
Title – Undergraduate Research Scholar, 2006
Department – Fishery and Wildlife Sciences
Type of Project – Research under direction of Faculty Mentor, Martha Desmond
Title of Project – Burrowing owls nest-site study in urban and agriculture areas
Report submitted to ADVANCE Program. Faculty Advisor was a recipient of an ADVANCE research subaward.

PI – Susana Salamanca-Ribas
Title – Assistant Professor
Department – Mathematical Sciences
Type of Project – Research Award
Title of Project – Representation Theory of Lie Groups
Lie groups have connections in many applications of mathematics, engineering, materials science, quantum field theory, particle physics, control theory, robotics, as well as such areas of pure math as differential equations, harmonic analysis, topology, geometry, and ergodic theory. Dr. Salamanca-Riba's work concentrates on the old problem of classifying those representations of a Lie group G which are unitary. As a result of her work with David Vogan of M.I.T., funded by ADVANCE, she has become involved in the Atlas of Lie groups and Representations project which seeks to make available information about representations of non-compact semi-simple Lie groups and related groups over local fields. She has presented as an invited speaker at several conferences.

PI – Arely Torres
Title – Undergraduate Research Scholar, 2008
Department – Chemical Engineering
Type of Project – Research under Faculty Advisors Martha Mitchell and Shuguang Deng
Title of Project – Drinking Water Purification for USA-Mexico Border Region
Ms. Torres received a scholarship to conduct research as a member of an NMSU water-purification student team. Her team was one of 42 funded by the U.S. Environmental Protection Agency to participate in the People, Prosperity and the Planet National Student Design Competition. Their project, Drinking Water Purification for USA-Mexico Border Region, was awarded $10,000. Ms. Torres' ADVANCE advisors were Dr. Martha Mitchell, Academic Department Head of Chemical Engineering, and Dr. Shuguang Deng, Chemical Engineering associate professor and head of the research team.

In 2008, Ms. Torres was honored by the Center for International Programs as an outstanding International Student and Engineering Honors Student. Ms. Torres, of Chihuahua, Mexico, was a chemical engineering major with a 4.0 GPA who was on the National Dean's List and received the Rotary Youth Leadership Award. She also received the AIChE Minority Affairs Committee Scholarship, the AIChE Donald F. and Mildred Topp Othmer National Scholarship and the Dr. Edward Groth Jr. Endowed Memorial Scholarship. An actively involved student, Torres was a member of the Society of Hispanic Professional Engineers as well as Omega Chi Epsilon, a chemical engineering honor society. She served as Engineering Council Vice-President of Affairs and Student President of AIChE. Torres is currently pursuing graduate studies at the University of Kansas, where she was accepted into the doctoral program and will specialize in catalysis.

PI – Shelly Vigil
Title – Undergraduate Research Scholar, 2006
Department – Industrial Engineering
Type of Project – Research under direction of Faculty Mentor, Julieta Valles-Rosales
Title of Project – PERformance modeling to improve the decision making process in manufacturing cells
Report submitted to ADVANCE Program. Faculty Advisor was a recipient of an ADVANCE research subaward and an ADVANCE start-up package enhancement.

PI – Milagra Weiss

Title – Undergraduate Research Scholar, 2005
Department – Agronomy and Horticulture/Plant and Environmental Sciences
Type of Project – Research under direction of Faculty Mentor, Erin Silva
Title of Project – Pollination dynamics of chili peppers
Report submitted to ADVANCE Program. Faculty Advisor was a recipient of an ADVANCE start-up package enhancement subaward.

Upon her graduation, Ms. Weiss was honored by the College of Agriculture and Home Economics. Ms. Weiss of Taos, a horticulture major in the Department of Plant and Environmental Sciences. Earned a 3.95 grade point average and was on the dean's list every semester while attending NMSU. She received the Roy Nakayama and the Noble T. Jones scholarships and the American Society for Horticultural Science Scholars Award in 2006. She is now a master's student in the Department of Entomology at the University of Arizona.

PI – Allison White
Title – Undergraduate Research Scholar, 2006
Department – Mathematical Sciences
Type of Project – Research under direction of Faculty Mentor, Maria Cristina Mariani
Title of Project – Nonlinear problems arising in finance and physics
Report submitted to ADVANCE Program. Faculty Advisor was a recipient of an ADVANCE start-up package enhancement subaward.

PI – Victoria Zamora
Title – Undergraduate Research Scholar, 2005
Department – Fishery and Wildlife Sciences
Type of Project – Research under direction of Faculty Mentor, Wiebke Boeing
Title of Project – Chemical communication between male and female daphnia
Report submitted to ADVANCE Program. Faculty Advisor was a recipient of an ADVANCE start-up package enhancement subaward.

APPENDIX VI

VISITING PROFESSOR PROGRAMS

2007

Dr. Mary Jane West-Eberhard

Dr. West-Eberhard is a senior scientist at the Smithsonian Tropical Research Institute. Her work in evolutionary biology led to her election to the National Academy of Sciences and the American Academy of Arts and Sciences. Her ideas on the role of development in evolution are discussed in her 2003 book, Developmental Plasticity and Evolution, which was awarded the Hawkins Award from the American Association of Publishers for the best scholarly book of 2003. West-Eberhardt's schedule follows:

Date/Time	Event	Location	Target Group
Wednesday 4/18/07			
10:30 AM -2:00 PM	Meet with Biology 550 seminar class for discussion of Developmental Plasticity and Evolution and lunch	Biology 550 Seminar	Graduate students
2:30-5:00PM	Meetings with Biology faculty, students and staff	Biology Department	Biology faculty, students and staff
Thursday 4/19/07			
12:30-2:00 PM	Slideshow and questions and answer session, "Natural History of Tropical Wasps"	Elementary	1st and 3rd grade students
4:00 – 5:00 PM	Public Seminar: "Development and Evolution: a Darwinian Renaissance in Biology"	Hardman 208	General public, NMSU faculty, students and staff
Friday 4/20/07			
12:00-1:30PM	Luncheon talk: "Women in Science: A Cross-cultural Perspective"	Dona Ana Room, Corbett Center	Faculty and students

In addition to Dr. West-Eberhard, the ADVANCE Program arranged an informal meeting/discussion with one of the nation's leading nuclear chemists, Dr. Darleane Hoffman, who was speaking at the Chemistry/Biochemistry Colloquium. Dr. Hoffman and her daughter, the pathologist Dr. Maureane Hoffman, met with female faculty to discuss their careers in science.

2006

Dr. Melissa Gerald

Gerald, is Scientific Director of the Cayo Santiago Caribbean Primate Research Center, Puerto Rico. Her research focuses on the functions of color in primates as it relates to social behavior and reproductive outcome. Gerald's schedule follows:

Date/Time	Event	Location	Target Group
Monday 4/3/06			
9-10AM	3 rd grade lecture/workshop: *Who are the Primates?*	Hillrise Elementary	Third-grade students
11:30-1:30PM Lunch provided	Roundtable: *Balance: Issues and Concerns of Women pursuing STEM careers*	Breland Hall, Room 333	Faculty and graduate students
4-5PM	Research Lecture: *Behind the Scenes: Theoretical and Empirical Examination of How Color Guides the Primate World*	Hardman Hall, Room 208	Researchers, students and interested public
Tuesday 4/4/06			
10-11AM	Discussion: *Research Opportunities at the Caribbean Primate Research Center*	Breland Hall, Room 333	Students, faculty
3-4pm	Public Lecture: *How Color Guides the Primate World*	Jornada ARS Building, Wooten Hall, Room 105	General public, NMSU community
Wednesday 4/5/06			
11:30-1:30PM	Brown Bag: *Guiding Graduate Students through Field Research*	Breland Hall, Room 333	Interested faculty

Dr. Heidi Hammel

Dr. Hammel is a senior research scientist with the Space Science Institute, is a member of the science team for NASA's Terrestrial Planet Finder mission, which has the goal of finding earth-like planets around other stars. An acknowledged expert on the planet Neptune, she was a member of the Imaging Science Team for the Voyager 2 encounter with that planet in 1989. Hammel's schedule follows:

Date/Time	Event	Location	Target Group
Wednesday 4/19			
Astronomy Department and SEMAA activities			
Thursday 4/20			
Astronomy Department and SEMAA activities			
12:00 – 1:30 Lunch provided Please register by 4/17/05 by emailing adv-prog@nmsu.edu	ADVANCE Luncheon -- *Encouraging young women to pursue non-traditional careers*	Science Hall 124	Faculty (male and female) and female science students, grad and undergrad are invited.
7:00 PM – 8:00 PM	Public talk: *Planets Around Stars*	Gerald Thomas Hall Auditorium Rm 194, 1st floor	General public and NMSU community
Friday 4/21			
Astronomy Department activities. Contact Dr. Chanover for details: 505-646-2576 or nchanove@nmsu.edu			
3:45 PM - 5:00 PM	Astronomy Colloquium, *Uranus and Neptune: Understanding the Ice Giants*	Room 102, Biology Annex	NMSU community -- faculty and students -- and interested parties

Dr. Radia Perlman

Dr. Perlman is an engineer with Sun Microsystems. She designed the spanning tree used by bridges and modern day Ethernet, fundamental algorithms that make today's network routing algorithms scalable and robust, as well as other contributions in routing, security, and even programming languages for kids. She's also written and co-written two influential computer networking books, Interconnections (on routing protocol) and Network Security (on network security protocols) that are used by many engineers and academics. Holding over 80 patents, she was named Silicon Valley's Intellectual Property Law Association's inventor of the year. This year she was given a lifetime achievement award by Usenix Association. She has a Ph.D. in computer science from MIT and an honorary doctorate from KTH of the Royal Institute of Sweden. Dr. Perlman's schedule follows:

Date/Time	Event	Location	Target Group
October 23 (Monday)	**Computer Science Departmental Colloquium, Computer Class and Teaching Academy**		
4:00 PM - 5:00 PM	**Research Colloquium:** *Data: How to make it be there when you want it, and make it go away when you want it gone*	Science Hall Rm 107	Faculty, students, and interested specialists
October 24 (Tuesday)	**Meetings with students and potential collaborators** **Lecture for the general public**		
9:30 – 11:30 AM	Open office hours for interested students and staff	SH 155	Undergrad and grad students in Computer Science, Electrical and Computer Engineering, Accounting and Information Systems, ICT etc.
11:45 AM - 1:30 PM	Round table Discussion: *How to succeed in research – research grant writing, industry sponsorship and taking innovation from research to product*	SH 286A	Faculty and graduate students in STEM and social sciences. Registration requested by Oct. 20. Box-lunch provided. Please register on-line at the
4:30 - 5:30 PM	**Lecture for the general public**: *10 things I learned about computer networks and life*	Thomas & Brown 104	Faculty, students and the general public
October 25 (Wednesday)	**Programs for K-12 Educators and Female NMSU students**		

Date/Time	Event	Location	Target Group
12:30 - 2:00 PM	**Lunch with female students**: *10 things I wish I'd known when I was your age: Computer networks and life*		

2005

Distinguished Visiting Professor – ADVANCE/Lowenstein Lecture

In April, the ADVANCE Distinguished Visiting Professors Program co-sponsored the Department of Agronomy and Horticulture's annual Lowenstein Lecture, hosted by Dr. John Mexal, Professor, Agronomy and Horticulture. Lecture Panelists were: Dr. Jennifer Ryder Fox, Head, Horticulture and Crop science Department at California Polytechnic State University at San Obispo, CA; Dr. Anne Wagner, Manager of Environmental and Health Service for Molycorp, Inc.; Dr. Ellen Peffley, Professor of Horticulture at Texas Tech University; and Dr. Virginia Lohr, Professor of Horticulture at Washington State University. All panelists are graduates of the NMSU Department of Agronomy and Horticulture.

Schedule – Agronomy and Horticulture Visiting Professors, April 2005:
ADVANCE/Lowenstein Lectures
• "2Y is not Y X or Why Science Needs Women" Thursday, April 21
• "How NMSU Develops Plant and Environmental Scientists" Friday, April 22, 2005
Other Activities
• Luncheon with female faculty and students from College of Agriculture and Home Economics
• Radio interview, "Women in Science," Tuesday, April 19, 2005
• Lynn Middle School Engineering Magnet School: Six presentations to 300 female students in 6th, 7th and 8th grades, Wednesday, April 20, 2005
• Hillrise Elementary School: Visited with 140 4th and 5th graders, Thursday, April 21, 2005

Dr. Lydia E. Kavraki

Dr. Kavraki is Noah Harding Professor of Computer Science at Rice University. Dr. Kavraki has pioneered an algorithmic framework for modeling receptor-ligand interactions, and has worked on computer-assisted drug design and the large-scale functional annotation of proteins. She was included in the list of Top 100 Young Innovators of the MIT Technology Review Magazine in 2002. She was inducted to the College of Fellows of the American Institute for Medical and Biological Engineering (AIMBE) in 2004. Dr. Kavraki's visit was hosted by Dr. Karen Villaverde, College Assistant Professor of Computer Science and Graduate Faculty Member, and supported by the Department of Computer Science, and the College of Arts and Sciences.

Schedule – Lydia Kavraki, Visiting Professor, September 2005
"Geometry and Robotics Inspired Approaches in Structural Biology," Computer Science Departmental Colloquium, Wednesday, August 31, 2005
"From Robots to Biomolecules: Designing Amazing New Medicines", Lecture for the general public, Thursday, September 1, 2005
Round Table Discussion with Graduate Students: How to Succeed in Graduate School and Research, September 1, 2005
"Bioinformatics and the Design of Amazing New Medicines," Onate High School, Friday, September 2, 2005

2004

Anne LaBastille

Ms. Bastille is a renowned author and ecologist, hosted by Dr. Philip Alkon, Adjunct Professor of Fishery and Wildlife Science with various events October 16-22, 2004 (14 total, including K-12, public, multiple campus audiences). Schedule:

Date/Time	Event	Location	Target Group
10/16 (Saturday)	**Bookstore Signing and Radio Interview**		
10:00 AM – 12:00 PM	Book Signing	COAS: My Bookstore, Las Cruces Downtown Mall	Las Cruces Community
5:30 PM - 6:00 PM	Radio Interview	KRWG Radio, NMSU Campus	Las Cruces Community
10/18 (Monday)	**Presentations to Local School Children and Las Cruces Community**		
10:00 AM – 11:00 AM	*Living Alone in the Wilderness*	Vista Middle School Assembly	Las Cruces Middle School Children
2:00 - 4:00 PM	*Wilderness Writing* and *Wilderness Guiding in the Adirondacks*	Branigan Cultural Center, Shannon Room	Las Cruces Community, local conservationists and writers
10/19 (Tuesday)	**Presentations to Fishery and Wildlife Sciences Department**		
8:30 - 9:30 AM	Informal meeting with faculty	Knox 116	FWS faculty and female faculty from Ag College
10:30 – 11:30 AM	Meeting with undergraduate students	Knox 116	FWS undergrads
11:30 AM – 12:30 PM	Lunch with graduate students: Pizza	Knox 116	FWS grad students
4:00 - 5:00 PM	Seminar: "Acid Rain Impacts on the Adirondack Park and Selected Critical Ecosystems around the World	GT 200	FWS and NMSU faculty and students

10/20, Wednesday	**Presentations to English Department and Center for Latin American and Border Studies (CLAB)**		
10:00 – 11:15 AM	*Inside Nature Writing*	Tba	English Dept. -- Creative writing students and faculty
2:00 - 4:000 PM	*Researching the Ecology of Lake Atitlan*	Nason House	CLAB, NMSU community
10/21, Thursday	**Activities with CLAB, SWEC and Biology Presentation**		
7:00 - 8:30 AM	Breakfast at with students and CLAB members	Old Mesilla Pastry Café/ The Shed, 810 S. Valley Drive	Students and CLAB members
9:00 - 11:00 AM	Field trip	Mesilla Valley Bosque Reserve, led by SWEC Director	CLAB, students, SWEC members
4:00 - 5:00	Seminar: *Ecology and Politics at Lake Atitlan, Guatemala: A Dangerous Case Study*	Foster Hall Room 201	Biology Dept., NMSU faculty and students
October 22, Friday	**Women's Studies/ADVANCE Program**		
2:00 -4:00 PM	Lecture/Booksigning *Women and Wilderness*	Isabel M. Crouch Reader's Theatre	General Audience -- NMSU and Las Cruces

Dr. Rekha Thomas

Dr. Rekha Thomas (University of Washington) was hosted by Ross Staffeldt (Department Head, Mathematical Sciences) and Irena Swanson (Associate Professor, Mathematical Sciences). Six events November 1-4, 2004 were very well attended by faculty, students, members of the Las Cruces community, and K-12 students. Schedule:

Date/Time	Event	Location	Target Group
Monday, November 1			
4:00 PM	Public Lecture - The **Traveling Salesman Problem**	Science Hall 102	General public and NMSU students and faculty
Tuesday, November 2			
4:00 PM	Lecture - **Polynomial Systems: Applications and Solutions**	Science Hall 107	Scientists and engineers
Wednesday, November 3			
4:00 PM	Mathematics. Colloquium - **Lattice Point Free Polytopes in Integer Programming**	Science Hall 106	Mathematics department faculty and students
Thursday, November 4, 2004			
10:30 AM	K-12 Talk - **The traveling Salesman Problem**	Lynn Middle School	7th grad honors math
1:10 PM	Specialist's Talk - **Polyhedral Geometry in McKay Correspondence**	Science Hall 107	
Friday, November 5, 2004			
12:00 PM	Luncheon - Pi Mu Epsilon and Society of Women Engineers (SWE) Please register -- click **here** for form	Otero Room, Corbett Ctr.	Pi Mu Epsilon and

2003

Wendy Lathrop

Professional Land Surveyor and Planner Wendy Lathrop has served on an advisory council to the Federal Emergency Management Agency. Her plain language "Primer on Floodplains and Floodplain Management," available to participants of this session, has previously been used by the International Right of Way Association, the Delaware Riverkeepers Network, the Arizona Professional Land Surveyors Association, and various Pennsylvania community groups.

11/3/2003 Luncheon with SWE chapter: Mapping Your Career as a Woman in Engineering

Ms. Lathrop will share her experiences and insights on:

- The challenges and rewards for women engineers
- How to find support and a place on the map in engineering
- Charting your engineering career path
- Balancing life and work as an engineer

11/4/2003 General Lecture: Floodplains Management 101

Rain may not be a common occurrence in New Mexico, but even a short event can cause a watery disaster. Too few people understand the complex factors that cause flooding to occur.

In this session **Wendy Lathrop, PLS, PP** will offer an opportunity to learn about floodplains, how they function, and how our land use may be making flooding worse. Those attending Floodplains 101 will also learn how to read floodplain maps and what role citizens can play in community planning and floodplain management, the regulatory aspects of floodplain management and the National Flood Insurance Program, and the benefits of preserving floodplains in sound land use planning

11/5/2003 Teacher's Seminar: Inquiry-Based Enviroonmental Modules for Middle School and High School

With this module, students learn to:

- Differentiate between floodplains and wetlands
- Identify the distinguishing features of each: soil, hydrology, vegetation, topography
- Understand the values of floodplains and wetlands, or --Why do people live near water?
- Understand the hazards of floodplains and wetlands, or -- What is the downside of living near water?
- Kinds of flooding, and the concept of probability (frequency):
- Why a surveyor needs to know about environmental land use factors:
- NFIP basics: mapping, insurance, regulations

11/6/2003 Middle School Program: Floodplains and Wetlands

2002

Dr. Deana Namuth

University of Nebraska-Lincoln

The NSF-ADVANCE Program at New Mexico State University is inaugurating its Visiting Professors Program this month with a series of seminars and workshops on distance education in the sciences led by Dr. Deana Namuth of the University of Nebraska-Lincoln. Dr. Namuth, who leads the development of a new distance education program for Agronomy and Horticulture at UN-L, will offer programs for college-level instructors as well as high school and middle school science teachers from October 15-17.

DATE/TIME	**ACTIVITY**
October 15, 2002	
Noon - 1:30 pm§	Students
4:00 - 5:00 pm	Biotechnology Seminar
5:00 - 8:30 pm	Biotechnology Workshop
October 16, 2002	
10:30 - 11:20 am	"Genetic Engineering vs. Breeding for Pest Resistance" (lecture)
2:30 - 3:30 pm§	"Building and Supporting a Distance Education Program in the Sciences" (seminar)
3:45 - 6:00 pm	"Distance Education in the Sciences" (workshop)
October 17, 2002	
9:00 - 10:00 am§	"Creating Effective Modules for Web-Based Science Teaching" (seminar)
10:00 - Noon	Discussion Group - Considerations when Teaching Science at a Distance
2:00 - 4:30 pm	"Distance Education in the Sciences" (repeat workshop)

Dr. Debbie C. Crans

Department of Chemistry, Colorado State University- Fort Collins

Debbie C. Crans was born August 13, 1955, in Denmark. She did her undergraduate studies at the University of Copenhagen and Ph. D. from Harvard University in 1985. She was a postdoctoral fellow at the University of California, Los Angeles from 1985-1986 and became a member of the faculty in the Department of Chemistry, Colorado State University in 1987. She was promoted in 1991 to Associate Professor, and in 1998 to Full Professor, a position she currently holds.

She received Fellowship from Washington State University (1976-77), a Scholarstipendium from the University of Copenhagen, Denmark (1979-80), an Egmond H. Petersens Fund Fellowship (1980), an American Heart Junior Fellowship (1986-87), a NIH FIRST award in (1989-94), the Eli Lilly Young Investigator Award (1990-92), the Alberta Heritage Foundation Award in 1994, the Alfred P. Sloan Award in 1993-1995, a Senior Humbold Research Award in 2001 and a Japan Society for Promotion of Science in 2001. Professional Services and Honors include Program Chair of the Division of Inorganic Chemistry, American Chemical Society (1999-present), Biophysical Biochemistry Study Section Member (1996-00), Advisory Board for Chemical and Engineering News (1996-98), Ad hoc Reviewer NIH Study Sections and NSF-panels (1995-91), International Faculty, Danish Research Academy (1991-95).

She is a member of the American Chemical Society, the Federation for American Society of Experimental, the Society for Bioinorganic Chemists, the American Association for Advancement of Science, and the EPR society. She teaches organic and inorganic chemistry, spectroscopy and biological chemistry to undergraduate and graduate students at Colorado State University.

In 1993-96 she was the Director of a program to encourage female students in science. She continues to mentor many students in the sciences, and is involved in various outreach programs. She has published 80 papers in peer-reviewed journals. Her research area is biological chemistry and thus includes bioinorganic and bioorganic chemistry. Specifically she is interested in problems at the interphase between chemistry and biology. Current research problems in her laboratory include development and understanding compounds with antidiabetic properties, which thus far have focussed on studies in the area of vanadium and other transition metal chemistry and biochemistry.

Date/Time	***Event***	***Location***	***Target Group***
Wednesday Dec. 4 4:30-5:30 p.m.	Mini-Workshop: **"A Strategy to INTRODUCE Science at K-12"**	Chemistry 153	K-12 science teachers
Thursday Dec. 5 TBD	Meetings with Research Faculty	TBA	Research faculty with potential collaborative projects
Thursday 4:00 p.m. Dec. 5	Research Seminar: **"A Series of Transition Metal Dipicolinate Complexes and**	Chemistry 153	Research faculty and students

	Their Effects on Diabetic Animals: Compound Profiles and DNA Microarray Analysis"		
Thursday Dec. 5 7:00 p.m.	General Lecture, **"Diabetes: Combating One of America's Heavyweights"** **Followed by Reception/Q&A**	Chemistry 153	General audience interested in Diabetes
Friday Dec. 6 TBD	Meetings with Faculty with general interests in diabetes	TBD	Faculty, post-docs, students interested in the general area of diabetes
Friday Dec. 6 12:00-2:00	Buffet luncheon and Mini-Workshop (pregistration required) **Mentoring Women in Science**	New Mexico Room, Corbett Center	Women students interested in scientific, math and engineering disciplines
Friday Dec. 6 2:30-3:30	Individual Meetings	Chemistry 288A	Interested Individuals

Wednsday, December 4, 2002
4:30 p.m., Chemistry 153, NMSU Campus

Mini-Workshop, **"A Strategy to INTRODUCE Science at K-12"**

In the increasingly demanding curriculum in K-12 new approaches to excite the future generations about math and science are needed. As scientist, educator and mother of three daughters, Dr. Crans discovered that action was necessary!

Several approaches will be described to make "science fun" as well as informative. Experiments done at the pre-school level and at the elementary school level at Berthoud Elementary in Colorado will be demonstrated. Two or three hands-on experiments can be done as part of the curriculum and as after school programs. How experiments are adjusted suitable for Kindergarden and higher grade levels will be discussed.

Hand-outs with ideas for experiments will be provided. Handout on how these advanced experiments are presented to second graders will also be distributed.

Recommended resources for K-12 science teachers:

1. "Book of Magic" by Rae Inafuku, Dept. Chemistry, Colorado State University, 2000.
2. "Kids & Chemistry: Hands-on Activities and Demonstrations." American Chemical Society Publication (and Outreach Program)
3. "Fun Science Club" by Mrs. Sipes and Crans, Berthoud Elementary, Berthoud, Colorado, 2002

Thursday, December 5, 2002
4:00 p.m., Chemistry 153, NMSU Campus

Research Seminar, **"A Series of Transition Metal Dipicolinate Complexes and Their Effects on Diabetic Animals: Compound Profiles and DNA Microarray Analysis"**

In this research-level seminar in the Department of Chemistry and Biochemistry, Dr. Crans will describe her current work in the field of developing vanadium and other transition metal complexes for treatment of diabetes.

Thursday, December 5, 2002
7:00 p.m., Chemistry 153, NMSU Campus

General Lecture, **"Diabetes: Combating One of America's Heavyweights"**

Diabetes is the fourth leading cause of death by disease in the U.S. resulting in an estimated $105B in health care costs annually. There are approximately 16 million diabetics in the United States. The most common form of diabetes mellitus is type 2 diabetes, also referred to as non-insulin-dependent diabetes mellitus (NIDDM). It affects an estimated 15.3 million people, half of which are undiagnosed! Type 1 diabetes, also known as insulin-dependent diabetes mellitus (IDDM) is an autoimmune disorder that affects ~700,000 people in the United States.

To date, variety of drugs including sulfonylureas, biguanides, alpha-glucosidase inhibitors, thiazolidinedione and transition metal salts and compounds have been used to treat human beings and animals. Most of these drugs are potent compounds with some levels of toxicity associated with treatment as evidenced by the recent death of a participating subject in a clinical trial with a thiazolidinedione.

The need for alternative treatments is obvious; maximizing efficacy and reducing the toxicity which seem to exist at some level for all these drugs, is the key for progress in this area. Dr. Crans's research group and that of hercollaborator Gail Willsky's, is investigating the possible use of transition metal complexes as potential treatment of diabetes. The advantages and disadvantages will be described and discussed along with the problems associated with development of new therapeutic agents.

Topics include:

- Diabetes

- Metabolic Diseases
- When is someone diabetic?
- Current treatment of Diabetes
- Steps in development of new treatments
- Regulatory aspects
- Animal Studies
- Human Studies
- What can you do?

This seminar will be followed by a working reception during which attendees may address individual questions to Dr. Crans.

Friday, December 5, 2002
12:00-2:00, New Mexico Room, Corbett Center

This mini-workshop and luncheon will address issues that female students encounter when entering scientific endeavors at NMSU. Topics include:

- Choosing careers
- Areas of science

Individual meetings with Dr. Crans and interested students will also be arranged.

APPENDIX VII:

PUBLICATIONS

Journal Publications:

Abazajian, K. N.P. Vogt, et al. "The Second Data Release of the Sloan Digital Sky Survey", *Astronomical Journal*, vol. 128, (2004), p. 502.Published

Abazajian, K. N.P. Vogt, et al. "The Third Data Release of the Sloan Digital Sky Survey", *Astronomical Journal* , vol.129: (2005), pp. 1755-1759

Al Nasr, K.; He, J. "An Effective Convergence Independent Loop Closure Method using Forward-backward Cyclic Coordinate Descent", *International Journal of Data Mining and Bioinformatics*, vol. , (2009), 3 (4). In Press.

Alsleben, M.W.; Cook, J. "Toward Dynamic Recognition of Workload Phases", *Proceedings of the 4th Annual IBM Austin Center for Advanced Studies Conference, Austin, Texas*, vol. , (2003), .Published

Alvarez, J. and C. Varsavsky. 2005. . 28, Part 4, 2005. "Impossible Tilings", *Function*, vol. 28, (2005), p. 94-102.Published

Alvarez, J. "La Geometria de los Espacios de Hilbert", *Material Didactico*, vol. 10, (2005), 39 pages .Published

Alvarez, J.; Guzman-Partida, M.; Perez-Esteva, S. "N-harmonic extensions of weighted integrable distributions", *Journal of Function Spaces and Applications 4*, vol. 3, (2007), p. 269.Published

Alvarez, J.; Obiedat, H. "Characterizations of the Schwartz space S and the Beurling-Bjorck space S_{w}", *Cubo 6*, vol. , (2004), p. 167.Published

Alvarez, J; Guzman-Partida, M; Perez-Esteva, S, "Harmonic extensions of distributions", *MATHEMATISCHE NACHRICHTEN*, vol. 280, (2007), p. 1443. "10.1002/mana.20051055 " Published

Alvarez, J; Moyo, LES, "Optimal codomains for the Laplace operator and the product Laplace operator", *JOURNAL OF FUNCTION SPACES AND APPLICATIONS*, vol. 5, (2007), p. 269.Published

Amster, P, P. DeNapoli and M.C. Mariani, "An n-dimensional pendulum-like equation via topological methods", *Nonlinear Analysis, Theory, Methods and Applications*, vol. 60, 2, (2005), p. 389.Published

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Amster, P. M.C. Mariani, "Oscillating solutions of a nonlinear fourth order ordinary differential equation", *Journal of Mathematical Analysis and Applications*, vol. 325, (2007), p. 1133.Published

Amster, P. M.C. Mariani, C. Rogers and C. Tiddell, "On two-point boundary value problems in multi-ion electrodiffusion", *Journal of Mathematical Analysis and Applications*, vol. 289, (2005), p. 721.Published

Amster, P. P. DeNapoli and M.C. Mariani, "An n-dimensional pendulum-like equation", *Electronic Journal of Differential Equations*, vol. 2004, (2005), p. 1.Published

Amster, P. P. DeNapoli and M.C. Mariani, "Boundary nonlinearities for a one dimensional p-Laplacian-like equation", *Revista de la Union Matematica Argentina*, vol. 45, 2, (2005), p. 1.Published

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ADVANCE FINAL BUDGET

Appendix VIII

Final Budget	Direct Cost & Cost/Share as of April 30, 2009	Total NSF	NMSU
PERSONNEL	Program Director: Research Time plus Admin Overload	210,495	20,454
	Associate Director/Program Coordinator	159,250	126,667
	Co-PIs	0	111,332
	Co-PI Marlow	4,067	8,570
	Exit Interviews Course Buy-Out	19,045	0
	Research Analyst/Program Coord.	125,065	1,735
	Graduate Student	91,997	117
	Records Specialist	0	50,388
	Student Workers	10,630	0
	Fringes	128,448	49,749
TRAVEL	NSF PI Meeting	26,947	0
	Other related travel	12,395	0
	Conference Travel (WEPAN, AAAS, SWE, etc.)	34,127	0
	PAID Trainers from ADVANCE staff and faculty	3,143	0
	Grace Hopper/SWE Team Travel	35,063	0
	Teaching Academy Workshop Leaders	12,204	0
	Visiting Professor Program	10,340	0
	Focus Groups	960	0
PARTICIPANT Support	Alliance for Faculty Diversity Participants	4,500	0
	Undergaduate Researcher Scholarships	38,000	0
	Stipends: Faculty Development	35,175	0
CONSULTANT	Evaluator	45,795	0
	Exit Interviews	1,208	0
START-UP FUNDS	Start-Up Funds for new STEM female tenure-track faculty	884,036	994,274
RESEARCH FUNDS	Research/Travel Awards for female STEM faculty	514,654	0
	Dual Career Accommodations	95,346	0
	Research Materials	4,068	0
FACULTY DEVELOPMENT	Mentoring Workishop	12,283	1,661
	Promotion & Tenure Workshop Co-Sponsorship	3,682	951
	Teaching Academy Workshop Leaders	50,650	6,711
	Mini-Grants	12,134	0
	Department Head Training	5,746	0
ADVANCING LEADERS	Retreat, Luncheons, Books and Supplies*	51,947	0
RECRUITMENT	Recruitment Activities and Products/Advertisements	22,830	0
VISITING PROF	Speakers Fees and Publicity	53,756	0
OUTREACH	On-Campus Collaborations	13,533	0
COMMUNICATIONS	Communications	24,015	0
	Total	2,810,189	1,382,690