2010-2011

ADVANCE-Nebraska Annual Report

For Period: June 1, 2010 to May 31, 2011

http://advance.unl.edu

The UNL ADVANCE Program is supported by a grant from the National Science Foundation.
Grant ID #0811250

University of Nebraska-Lincoln
21 Canfield
Lincoln, NE 68588-0433
Phone: 402-472-3304
FAX: 402-472-6276
Email: advance2@unl.edu

University of Nebraska Lincoln

VICE CHANCELLOR FOR RESEARCH AND ECONOMIC DEVELOPMENT

June 17, 2011

Dr. Kelly Mack
Program Director, ADVANCE
National Science Foundation
4201 Wilson Blvd., Suite 815
Arlington, VA 22230

Dear Dr. Mack:

Enclosed please find the ADVANCE-Nebraska annual report for the period covering June 1, 2010 through May 31, 2011.

If you have any questions, please feel free to contact me at 402-472-3123.

Sincerely,

Prem S. Paul
ADVANCE-Nebraska Principal Investigator
Vice Chancellor for Research &
Economic Development

Enclosure

c: Mary Anne Holmes
Evelyn Jacobson
Jill Hochstein

301 Canfield Administration Building / P.O. Box 880433 / Lincoln, NE 68588-0433 / (402) 472-3123 / FAX (402) 472-3834

SECTION I. SUMMARY OF PROJECT ACTIVITIES 1

A. 2010-2011 PROJECT SUMMARY 1
Activities that Support Goal 1: To Hire More STEM Women Tenure-Track Faculty 1
Activities that Support Goal 2: To increase Retention of UNL STEM Women Faculty 1
Activities that Support Goals 1 and 2 2
Activities that Support Goal 3: to Conduct Innovative Research on Faculty Networks 2
Progress Towards Institutionalization 2
Key Findings from Ongoing Research on UNL STEM Faculty 2

SECTION II. PROJECT PARTICIPANTS 3

2. Other Organizations as Partners 5
3. Other Collaborators and Contacts 5
a. Miscellaneous Collaborators and Contacts 5
b. Internal Advisory Board (IAB) 6
c. External Advisory Board (EAB) 7

SECTION III. ACTIVITIES AND FINDINGS 8

A. MAJOR RESEARCH AND EDUCATION ACTIVITIES OF THE PROJECT. 8
1. Activities that Promote Goal 1: to hire more women STEM faculty 8
a. Dual Career Program 8
b. Search Committee Visits 9
c. Meetings with Short-List Candidates 9
d. New Hire Interviews 10
e. Search Committee Chair & Department Chair Surveys 11
i. Cost of Advertising the Position 11
ii. Where Applicants Learned of the Position Opening 11
f. Showcase Visits 12
g. Departmental Diversity Grants 12
h. Recruitment Ambassadors 13
2. Activities that Promote Goal 2: increase retention and support women STEM faculty into positions of leadership 13
a. Writing Retreat, May, 2010 13
b. Hosted Informal Networking Opportunities 13
c. Professional Development (COACHE) Workshop 14
d. E-News and Website 14
e. Disseminate UNL Work-Life Policies 14
f. Associate and Full Professor Interviews 14
g. Cohort Analysis 14
h. Salary Study 15
3. Activities that Promote Goals 1 and 2: Activities that Address Goals 1 and 2: increase hiring and improve retention of women STEM faculty 15
a. Conversations Series 15
b. Meeting with Department Chairs (Chair Workshops) 15
c. ADVANCE Faculty Committee 15
d. Chancellor's STEM Award 16
4. Activities that Promote Goal 3: to conduct research on the formal and informal networks of STEM faculty. 17
a. On-going Research and Dissemination 17
b. Faculty Networks and Workload Study Data Collection 17
5. Additional Activities 18
a. Expansion of Program to IANR 18
b. Re-structured management 18
c. Planning meeting; Four Recommendations to PI 18
d. Developed rationale for the program 20
e. Conducted Departmental Visits 20

f. Progress Towards Institutionalization 20
g. External Evaluator 21
h. Program Management 21
i. Third Year Site Visit 22
j. Hired a Marketing student 22
B. MAJOR FINDINGS RESULTING FROM THESE ACTIVITIES 22
1. Findings from Activities that Promote Goal 1: to hire more women STEM faculty 22
a. Dual Career Program 22
Retention of Dual Career Hires: interviews 23
i. Job Search Process 23
ii. Job Offer Decision 24
iii. Perception of UNL 24
iv. Knowledge/Impact of ADVANCE-Nebraska 24
v. Interview Process 24
vi. Hiring Process 24
b. Search Committee Visits 25
c. New Hire Interviews 25
d. Search Committee Chair & Department Chair Surveys Following Searches 28
e. Showcase Visits 31
f. Departmental Diversity Grants 31
g. Recruitment Ambassadors 31
h. Case Studies of UNL STEM Searches 31
2. Findings from Activities that Promote Goal 2: increase retention and support women STEM faculty into positions of leadership 32
a. Writing Retreat, May, 2010 32
b. Hosted Informal Networking Opportunities 32
c. Professional Development (COACHE) Workshop 33
d. E-News and Website 34
e. Disseminate UNL Work-Life Policies 34
f. Dana Britton Interviews 35
g. Salary Study 35
3. Findings from Activities that Promote Goals 1 and 2: Activities that Address Goals 1 and 2: increase hiring and improve retention of women STEM faculty 36
a. Conversations Series 36
b. ADVANCE Faculty Committee 39
c. Long-Term Retention: Cohort Study 40
d. ADVANCE Toolkit: UNL Demographic Data for STEM Departments 43
i. Current STEM Faculty at UNL 43
ii. Faculty in Non-Tenure-Leading Positions 45
iii. Tenure Outcomes 46
iv. Promotion Outcomes 47
v. Voluntary Departures 48
vi. New Faculty Hires 49
vii. Applicant Pools 49
4. Findings from Activities that Promote Goal 3: to conduct research on the formal and informal networks of STEM faculty 55
a. On-going Research and Dissemination 55
b. Faculty Network and Workload Study Data Collection 56
c. Faculty Network and Workload Study Data Collection 56
5. Findings from Additional Activities 56
a. Conducted Departmental Visits 56
b. Hired a Marketing student 57
D. OUTREACH ACTIVITIES PROJECT HAS UNDERTAKEN. 57
SECTION IV. PUBLICATIONS AND PRODUCTS 57
SECTION V. CONTRIBUTIONS 58

A. CONTRIBUTIONS WITHIN DISCIPLINE 58
1. Dual Career process *58*
2. Improved communication among STEM departments on campus *59*
3. Gathered best practices for faculty searches from those extant across campus *59*
4. Improved Work-Life Balance policies and procedures website, the principal source on campus for information on this topic *59*
5. Changed faculty job advertisement language *59*
6. Held open positions in new daycare facility for new hires; communicated these openings to new faculty hires *59*
B. CONTRIBUTIONS TO OTHER DISCIPLINES 59
1. Dual Career procedure can serve as a model for other academic institutions *59*
2. Work-life balance policies and their dissemination can serve as a model for other academic institutions *60*
3. E-News can serve as a model for other academic institutions. *60*
C. CONTRIBUTIONS TO HUMAN RESOURCE DEVELOPMENT 60
1. Graduate Student Training *60*
2. Changes in data gathering by Institutional Research *60*
3. Changes in data gathering by the Office of Equity, Access and Diversity (EAD) *60*
4. ADVANCE Faculty Committee *60*
5. Professional Development Workshops *60*
D. CONTRIBUTIONS TO RESOURCES FOR RESEARCH AND EDUCATION 60
E. CONTRIBUTIONS BEYOND SCIENCE AND ENGINEERING 61

SECTION VI. OBJECTIVES AND SCOPE 61

SECTION VII. APPENDICES 61

A. REPORT ON NSF INDICATORS 61
B. EXTERNAL EVALUATOR REPORTS 83
C. FNSW QUESTIONNAIRE 93
D. FNWS SURVEY IMPLEMENTATION PLAN 101
E. FNWS CONCEPTUAL MODEL 102
F. HIGHLIGHTS OF RESEARCH FINDINGS 103
G. ADVANCE RATIONALE 118
H. LOGIC MODEL 118
H. CALENDAR OF EVENTS 119

SECTION I. SUMMARY OF PROJECT ACTIVITIES

A. 2010-2011 PROJECT SUMMARY

Much of our third year was spent disseminating information about ADVANCE-Nebraska to the campus, running a new program, "Conversations", a series of panel discussions on topics relevant to STEM faculty, and preparing for and executing our Third Year Site Visit. We added "visits to search committees" to take advantage of the lower number of searches conducted during a tight budget year, and "visits to department faculty meetings" to help disseminate information about the ADVANCE project across campus.

We re-structured our management in response to moving into the Office of Research and losing our connection with Academic Affairs. We expanded our efforts to include ten departments in the Institute for Agriculture and Natural Resources.

We have continued to conduct research on the status of women on campus, the search process for new hires, and the satisfaction and integration of new hires. Our Research Senior Personnel, Dr. Christina Falci, wrote and fielded the second wave of the Faculty Network and Workload Study Survey to learn what networks (informal/social or formal/research) lead to job satisfaction and productivity.

ACTIVITIES THAT SUPPORT GOAL 1: TO HIRE MORE STEM WOMEN TENURE-TRACK FACULTY

- **Dual Career Program**: Consistently, around 40% of our STEM short-list candidates have a partner seeking employment in Lincoln.
    - We assisted in hiring three STEM women tenure-track faculty this year: two assistant professors, in Chemistry and in the School of Natural Sciences, and the chair of the School of Biological Sciences, by placing their husbands in various academic positions.
    - We have assisted in three hires or retentions each year of the project.
    - We have used all of our funds for dual career assistance, with two years left for the project to proceed. We will be seeking creative ways to assist with STEM dual career hires as we move forward.
- **Search Process**: We visited each STEM search committee to provide Best Practices for increasing the number of women in the applicant pool.
    - Search Committees still require education on strategies to increase the number of women in their applicant pools, to be more proactive at recruiting.
    - Most women learn about UNL STEM positions through personal contact, whereas most men learn about UNL through the internet.
    - Slowly, more departments are beginning to use our Showcase Visits and Recruitment Ambassadors to attract more women to their applicant pools.
    - The interview process has improved at UNL as indicated by results of Search Committee Chair interviews. This improvement includes a more positive attitude towards the candidates, and a more positive presentation of UNL and of Lincoln.
    - Among the three target colleges, the Institute of Agriculture and Natural Resources has the highest proportion of women in their applicant pools relative to the national production rate of PhDs.

ACTIVITIES THAT SUPPORT GOAL 2: TO INCREASE RETENTION OF UNL STEM WOMEN FACULTY

- **Professional Development Opportunities**

- We hosted a Writing Retreat on campus that attracted twenty faculty. Half of these reported completing and submitting a research paper or proposal.
- We hosted informal networking opportunities for STEM faculty: a reception for all to get acquainted, and a luncheon for senior STEM women faculty.

ACTIVITIES THAT SUPPORT GOALS 1 AND 2

- We initiated a new program in response to faculty feedback, "Conversations", to serve as informal mentoring and networking opportunities. "Conversations" are a series of panel discussions on useful topics for STEM faculty, from "Starting Up and Managing a Lab" to "Nominating for the Good of All" and "Teaching to Attract STEM Majors".
- The Recruit and Promote Committees combined into the ADVANCE Faculty Committee to increase recruitment and retention of women STEM faculty. They are completing a series of Best Practices documents addressing this broad range of issues, to be completed and disseminated in our fourth year.

ACTIVITIES THAT SUPPORT GOAL 3: CONDUCT INNOVATIVE RESEARCH ON FACULTY NETWORKS

- We expanded this research project to include a comparison group, the Social and Behavioral Sciences departments.
- We attained a 72% response rate to the survey.

PROGRESS TOWARDS INSTITUTIONALIZATION

- A summary of the need and the success of the ADVANCE Dual Career program is being circulated among the administration.
- An outline of how ADVANCE efforts should be continued beyond the life of the grant is being formulated for circulation among the administration.
- Best Practices for increasing the number of women in the applicant pool, and for raising awareness of the impact of implicit bias on evaluation, is now provided to each search committee chair in their packet of information from the Office of Equity, Access and Diversity.

KEY FINDINGS FROM ONGOING RESEARCH ON UNL STEM FACULTY

- All faculty need to be more aware of the benefits of constantly being in "search mode" for new hires.
- As most new hires learn about jobs on the internet, departments should consider cost/benefits of their advertising venues.
- Information on the size of the applicant pool and Best Practices for the search are welcomed and useful to faculty.
- Panel Discussions are a useful way to reach more faculty with the ADVANCE message – both for participants and for panelists.
- Faculty need information on the routes to and benefits of promotion to the rank of Full Professor.
- There is no statistically significant difference between men's and women's salary at UNL, nor in tenure or promotion outcomes.
- Retention is more of an issue for male faculty than for female.
- Men may be promoted at slightly faster rates than women faculty.
- The proportion of STEM women in Assistant and Associate Professor positions has increased over the last three years; the proportion of women at Full Professor rank has not.
- We have added one woman STEM department chair, the School of Biological Sciences. Another woman will become chair of Mathematics in January, 2012.

- The proportion of women in the applicant pools has increased over the last three years, but we are not yet at our target of reaching national PhD production rates.

SECTION II. PROJECT PARTICIPANTS

Participant Name	Project Role	More than 160 Hours
Prem S. Paul	Principal investigator and Senior Vice Chancellor for Research and Economic Development. He is responsible for ADVANCE Project oversight. He represents the project to the larger University of Nebraska community, providing oversight and insights into campus implementation and resources to assist in achieving project goals, and foster coordination among colleges and units.	No
Mary Anne Holmes	Co-PI Holmes is the director of ADVANCE-Nebraska, directing all programming, establishing and implementing the dual-career program, responding to evaluation data. She plans and implements programs, liaises with evaluation, co-PIs, faculty, and department chairs and heads. She is responsible for report writing. Holmes has been a catalyst at the forefront of facilitating and delineating dual career arrangements up front, at the time of the letter of offer, in collaboration with department chairs, deans, and the SVCAA office that is responsible for academic appointments. In addition, she liaises with campus-wide constituents in her role as a member of the UNL's Chancellor's Commission on the Status of Women and the UN Gender Equity Advisory Committee.	Yes
Julia McQuillan	Co-PI and Director of the Bureau of Sociological Research and Associate Professor of Sociology. McQuillan serves as liaison among the co-PIs, the evaluation team, and the research component. She is head of the Bureau of Sociological Research.	Yes
Namas Chandra	Co-PI and College of Engineering Associate Dean for Research, serves as a lead representative from the College of Engineering to implement ADVANCE-Nebraska activities in the College and to disseminate project information.	No
David Manderscheid	Co-PI and Dean of the College of Arts & Sciences, serves as the lead representative from the College to implement ADVANCE-Nebraska activities in the College and to disseminate project information.	No
Jill Hochstein	Senior Personnel, Program Manager for ADVANCE-Nebraska. Jill is responsible for	Yes

	logistics, budget and finance, and day-to-day operation of the ADVANCE-Nebraska office. She manages and coordinates activities including committee meetings, programs, and presentations along with providing administrative support to the office and ADVANCE committees. She coordinates materials for the ADVANCE website and publications, and maintains the mailing list, and database for dual-career hires.	
Evelyn Jacobson	Senior Personnel, and ADVANCE-Nebraska Academic Administrative Director, serves as the day-to-day liaison between the ADVANCE-Nebraska office and the Office of the Senior Vice Chancellor for Academic Affairs (OSVCAA).	No
Nancy Busch	Senior Personnel, Associate Dean and Professor of University Libraries, directs the ADVANCE-Nebraska internal evaluation team by working with internal collaborators, UNL's Survey, Statistics, and Psychometric Core Facility (SSP), the Bureau of Sociological Research (BOSR), and Institutional Research and Planning (IRP) to coordinate evaluation for the program.	No
Mindy Anderson-Knott	Senior Personnel, Assistant Director of the Survey, Statistics and Psychometrics Core Facility, coordinates all data management and specific data collection of surveys, exit interviews, formative assessment, and all project evaluations and ongoing data collection used to evaluate the project's progress. She oversees the design and administration of surveys to evaluate the effectiveness of the activities and initiatives of ADVANCE-Nebraska and prepares reports. She also directed the collection, analysis, and write-up of data on the climate survey.	Yes
Christina Falci	Senior Personnel, and Assistant Professor of Sociology leading the research of a network analysis study to advance the basic understanding of the organizational structures influencing promotion and retention of women in STEM departments.	Yes
Dan Hoyt	Chair of Sociology, Director of UNL's Survey, Statistics, and Psychometric Core Facility (SSP); provides consultation to ADVANCE-Nebraska internal evaluation team on the quality and methods of social and behavioral science research.	No
Melissa Sinner	Technician, UNL Libraries, develops, updates, and maintains the ADVANCE-Nebraska website, creates graphics and provides technical support for external communication.	No
Anchalee Roberts	Technician, UNL Libraries; provides updates on new books and publications related to	No

	ADVANCE	
Patricia Hill	Technician, provides support to several different evaluation projects, checking and analyzing data and preparing reports.	No
Michelle Johnston	Technician, provides support to several different evaluation projects, checking and analyzing data and preparing reports.	No
McKenzie Wessling	Student worker, created monthly Advance e-news newsletter and publications for events on campus through the Advance office.	No

2. OTHER ORGANIZATIONS AS PARTNERS

Organization	Role
UNL Bureau of Sociological Research (BOSR)	A research division of the Department of Sociology, the BOSR provides ADVANCE-Nebraska methodological consulting and research survey services.
UNL Institutional Research and Planning (IRP)	IRP maintains, manages, and reports information on students, faculty and staff, academic programs, national and peer institutions, higher education trends, and agency data; helping ADVANCE-Nebraska collect and analyze institutional data.
UNL Survey, Statistics, and Psychometric Core Facility (SSP)	SSP provides consultation to ADVANCE-Nebraska on survey research, statistical, and psychometric applications to support their research initiatives.
UNL Equity, Access and Diversity (EAD)	Provides data on applicant pools. Provides the program with names of search committee members and of short lists for faculty positions.
UNL Office of the Senior Vice Chancellor of Academic Affairs (SVCAA)	Provides data on tenure and promotion; dual career hire facilitation; new hire letters of offer; exit data.
Institute of Agricultural and Natural Resources (IANR)	Provides data on tenure and promotion and new hire letters of offer.

3. OTHER COLLABORATORS AND CONTACTS

A. MISCELLANEOUS COLLABORATORS AND CONTACTS	
Participant	**Role**

Susan Fritz	Associate Vice Chancellor for Planning and Academic Development, and Interim Dean of Research, Institute of Agriculture and Natural Resources, represents the perspective of the institute and the field of agriculture and natural resources and oversees implementation of the project in the institute and its allied units.
Linda Crump	Assistant to the Chancellor, and Director of the Equity, Access & Diversity Programs at UNL; consults on appropriate policy for faculty searches and procedures.
Judy Joy	Representative from Institutional Research and Planning, serve as liaison between IRP, the ADVANCE Evaluation Team, and the IAB and provides quick and efficient data access.
William J. Nunez	Associate to the Chancellor and Director of the Office of Institutional Research and Planning; assisted with salary and space studies.
B. INTERNAL ADVISORY BOARD (IAB)	
Participant	**Role**
Jim Lewis	IAB Chair, Director of the Center for Science & Mathematics Education, Professor and former chair of the Department of Mathematics; provides Information on successful local experience fostering departmental change to increase women faculty and women PhDs and helps to facilitate transformation in other units.
Margaret Jacobs	IAB Member, Professor of History and Director of Women's and Gender Studies, serves as liaison with broader women's focus on campus; Women's and Gender Studies was instrumental in promoting on-campus communication during proposal preparation and continues in this role. Women's and Gender Studies' new strategic plan includes expanding "Women in STEM" as an area of specialization.
Judy Walker	IAB Member, Professor of Mathematics; offers a campus perspective as a key STEM woman faculty campus leader and encourages ADVANCE-Nebraska activities within her department and college.
Sherilyn Fritz	IAB Member, Professor of Geosciences; offers a campus perspective as a key STEM female faculty campus leader and encourage ADVANCE-Nebraska activities within her

	department and college.
Jerry Hudgins	IAB Member, Professor and Chair of the Department of Electrical Engineering; provides information on successful local experience fostering departmental change to increase women faculty and women PhDs to facilitate transformation in other units in the college.
Greg Snow	IAB Member, Associate Dean in the College of Arts & Science; represent the perspective of the college and oversee implementation of the project in the college and units.
C. EXTERNAL ADVISORY BOARD (EAB)	
Participant	**Role**
Joyce Yen	Program/Research Manager of the University of Washington's ADVANCE Center for Institutional Change; provides guidance to the PI and input on the evaluation process.
Donald Tomaskovic-Devey	Professor and Chair, Department of Sociology, University of Massachusetts; provides guidance to the PI and input on the evaluation process.
Carol Muller	Founder of MentorNet and consulting Associate Professor of Mechanical Engineering, Stanford University; provides guidance to the PI and input on the institutionalization process.
Laura Kramer	Professor Emerita of Sociology at Montclair State University, where she chaired her department, served as a Special Assistant to the Vice President for Academic Affairs, worked with the New Faculty Program, and participated in the governance of interdisciplinary programs (Women's Studies and Honors Programs). She is a past NSF Advance program officer. She provides guidance to the PI and input on the institutionalization process.
Cheryl Schrader	Dean of the College of Engineering and Professor of Electrical and Computer Engineering, Boise State University. Dr. Schrader provides guidance to the PI and input on the institutionalization process.
Karan Watson	Interim Provost and Executive Vice President Texas A&M University. She provides guidance to the PI and input on the institutionalization process.

SECTION III. ACTIVITIES AND FINDINGS

A. MAJOR RESEARCH AND EDUCATION ACTIVITIES OF THE PROJECT.

1. ACTIVITIES THAT PROMOTE GOAL 1: TO HIRE MORE WOMEN STEM FACULTY

a. DUAL CAREER PROGRAM

Thirteen dual career opportunities passed through the ADVANCE-Nebraska office between July 1, 2010 and April 30, 2011. Nine were short-list candidates for seven different open STEM positions. One candidate was being recruited for a tenured position. Three opportunities were for partners of existing faculty.

There were seventeen positions open among our 26 target departments this academic year. Seven (41%) of these yielded a dual career opportunity among the short-list candidates. Two of these received offers for positions.

We brought five partners of short-list candidates to UNL to interview. Of these, two yielded hires of women into tenure-track positions: Marilyne Stains in Chemistry and Amy Burgin in the School of Natural Resources. Cliff Stains will be an Assistant Professor in Chemistry, and Terrence Loecke (Burgin's husband) will be a Research Assistant Professor in the School of Natural Resources.

We assisted in the hiring of Valery Forbes, the first woman to chair a STEM department in the College of Arts & Sciences, by providing the typical bridge funding for her husband, Peter Callow, in the Office of Research.

This activity has brought our dual career hires through the ADVANCE grant to a total of nine. Two have since left this academic year: one woman engineer returned to industry after only three months in the Electrical Engineering department, and one engineering couple accepted an offer elsewhere in the Big 10 Conference.

Thus, we are currently funding seven dual career hires. Our funding for this program is now fully committed.

It should be noted that when the three-year bridge funding for the partner has expired, permanent funding (or the usual term contracts leading to tenure) is in place. That is, the department and college have worked out a consistent funding stream for whatever term usually applies to the position at the time that the first contract is made.

Retention: Two of our dual career hires have subsequently left UNL. In the first case, the dual career hire is the wife of a faculty member in Engineering, and she entered an Engineering department in February. In May of the same year, she tendered her resignation and returned to industry. As far as we have been able to ascertain, she preferred working in industry and the company she left made her a generous offer to return. In the second case, the dual career hire is also the wife of an Engineering faculty member and entered an Engineering department. Shortly after her arrival, they accepted an offer at a Big 10 institution. We do feel that everything was done to retain both women, but attractive offers from outside of UNL made retention impossible in these two cases.

Table 11-01. Summary of Dual Career Hires made with ADVANCE-Nebraska funds.

Received Offer	Department	Partner, Department (ADVANCE)
2008-09		

Table 11-01. Summary of Dual Career Hires made with ADVANCE-Nebraska funds.

Received Offer	Department	Partner, Department (ADVANCE)
Zhigang Shen (♂)	Construction Management (hired 2007)	Linxia Gu (♀), Mechanical Engineering
Xue Liu (♂)	Computer Science & Engineering	Wenbo He (♀), Electrical Engineering
Carina Curto (♀)	Mathematics	Vladimir Itskov (♂), Mathematics
2009-10		
Li Tan (♂)	Engineering Mechanics (hired pre-ADVANCE)	Jianing Sun (♀), Mechanical Engineering
Cheryl Bailey (♀)	Biochemistry (hired 2006)	Gary Bailey (♂), SNR / Classics and Religion / Graduate Studies
Nicole Buan (♀)	Biochemistry	Kevin Murphy (♂), IS
2010-11		
Valery Forbes	Chair of the School of Biological Sciences	Peter Calow, Office of Research
Marilyne Stains	Chemistry / Science Ed POE	Cliff Stains, Chemistry
Amy Burgin	SNR (limnologist)	Terrence D. Loecke, Geography

B. Search Committee Visits

During the current fiscal year, the number of searches in STEM departments declined from a typical 30-40 to 15. We took advantage of this situation to meet with each search committee and/or department chair (except for one search that began in July; visits began in September) to disseminate the Recruit Committee's Best Practices for Recruitment document, data on the applicant pool in that discipline, sample letters to potential applicants inviting them to apply to UNL, and to listen to concerns and offer help. We visited 9 search committees or department chairs covering all 15 searches. We learned from one committee that they did not know that they could invite people to apply; another committee heard about these visits and proactively called to schedule a visit. In addition, a non-STEM department learned of the visits, asked for one, and was visited.

C. Meetings with Short-List Candidates

Director Holmes met with several short-list candidates to discuss the ADVANCE program and the family leave/tenure interruption policies. The Chemistry department requested Holmes to meet with two women candidates; an offer went to both women, but unfortunately, they took offers elsewhere.

Holmes met with two of six short-list candidates for two tenure-track Science Education positions. These positions are partially funded through a campus Program of

Excellence (the Center for Science, Mathematics and Computer Education) and partially through the STEM department that will serve as the tenure home for the candidate. Two of these candidates presented us with a dual career opportunity. Of these two, one received and accepted an offer in the Chemistry department. Her husband was flown to UNL using ADVANCE funds, interviewed, and also received and accepted an offer from Chemistry.

In addition, Holmes met with seven candidates for two positions in Earth & Atmospheric Sciences. We believe that these meetings, when the candidate has been hired, have led to new hires feeling comfortable asking for tenure interruptions. Two hired since the ADVANCE program began have already done so.

D. New Hire Interviews

Twenty-seven new UNL hires were interviewed by telephone in the spring (N=3) and fall (N=24) of 2010 about the job search and hiring process so that we can continue to improve these processes. Spring interviews were conducted only with STEM dual career hires, while fall interviews were conducted with all STEM new hires. Of the 27 respondents, 6 were dual career hires. The response rate for both men (N=18) and women (N=9) respondents was 90%.

We found that more women learn about the job ad by word of mouth (33%) than men (6%); women are less likely to learn about the ad from online sources (22%) than men (50%). Many women (33%) accepted the offer because they found a collegial/supportive faculty for conducting their research; most men (50%) accepted because they felt they received a good compensation and start-up package.

Most (78%) new hires have a working partner; for 20%, their partner's job situation had a major influence on whether to accept the position at UNL.

Table 11-02. How department and search committee chairs seek job applicants.

Activity	Department Chair	Search Committee Chair
Wrote a broadly defined job advertisement	100%	31%
encouraged post-docs already at UNL to apply	60%	12%

e-mailed listservs with the job ad	100%	38%
talked to potential candidates at professional conferences or meetings	100%	50%

Four out of the nine women respondents said that having ADVANCE on campus made a difference in their positive impression of UNL. Almost half (43%) of women new hires learned about work-life balance policies from ADVANCE rather than from the departments that they were interviewing in. This will be crucial in future hiring of STEM women faculty: 86% of women respondents said that the work-life policies positively influenced their decision to come to UNL.

E. SEARCH COMMITTEE CHAIR & DEPARTMENT CHAIR SURVEYS

We surveyed chairs of departments that ran searches in 2009 and the chairs of their search committees to determine what Best Practices recommended by ADVANCE are being adopted. The first batch of the "Chair Perspectives on Faculty Searches" survey was mailed on April 21, 2010 with a second mailed on April 30, 2010 and a third and final batch mailed on July 16, 2010. There were 33 possible respondents: 11 department chairs and 23 search committee chairs. There was an overall response rate of 64% (N=21). For respondents who were department chairs the response rate was 45% (N=5) and for respondents who were search committee chairs the response rate was 70% (N=16).

Table 11-03. Where our job candidates learn about UNL.

Source	Short-Listed	Short-Listed

The survey explored the advertising and search process (Table 11-02). Respondents were asked to indicate from a list all of the activities they engaged in for the last search that they chaired. Answers that were selected by 50% or more of both search committee chairs and department chairs included:

- talked to potential candidates at professional conferences or meetings,
- contacted potential candidates directly through letters, phone calls, emails, etc.,
- asked colleagues from other institutions to encourage their students to apply.

Department chairs and search committee chairs reported engaging in different types of activities to different degrees (Table 11-02).

i. Cost of Advertising the Position

Out of both search committee chairs (N=6) and department chairs (N=3) who reported advertising costs, 67% said they spent between $1,000-$4,000, 22% spent between $4,000-$8,000, and 11% spent over $13,000 on advertising the position. Three search committee chairs and two department chairs provided additional information on cost by outlet. The least amount of money was spent to advertise in outlets directed to women and ethnic minorities ($0-$200); the largest amount was spent to advertise in prestigious journals ($3500-$6800).

ii. Where Applicants Learned of the Position Opening

From the results of these interviews as well as 2010-11 data from our online job application software (People Admin), most short-list candidates and new hires hear about the job ad from the web or by word-of-mouth. A far greater proportion of women short-list candidates hear about the job by word-of-mouth: by networks and referrals. Most men learn about the job from the web.

	Women	Men
Professional periodical or its website	33%	40%
Word-of-Mouth	25%	12%
UNL Website	21%	26%
Professional Society's listserv	13%	2%
Other websites	8%	17%

The percentages differed slightly between the interviews and data collected by our online application system, PeopleAdmin. The most common way for the interviewed women to find out about the position is by word-of-mouth (33% of interviewees). The most common way for all short-list women candidates to learn about the ad is from a professional society's website (33% of short-listed women, (Table 11-03). The next most common way for short-listed women to learn of the job is by word-of-mouth (25% of all short-listed women). The remainder of short-listed women learned of the job from several types of web sources: 21% from the UNL website, 13% from a professional society's listserv, and 8% from other web sources.

Most interviewed men learn about the position from a website (50% of interviewees). An even greater proportion of short-listed men used the web to job search: 80%. Only 12% learned of the job by word-of-mouth. Only one short-listed candidate, a man, learned about UNL from a professional society's conference.

It is clear from our data that the most effective way to attract women to our applicant pools is by some sort of personal contact.

F. Showcase Visits

We had three requests for Showcase Visits this academic year. Two were hosted by the Chemistry Department: Dr. Melanie Sanford of the University of Michigan, hosted by Chemistry Department Chair James Takacs, visited in February, 2011 and Dr. Jacqueline Barton of the California Institute of Technology, hosted by Dr. Rebecca Lai of the Chemistry Department, visited in April, 2011. The third visitor, Huihui Xu, was hosted by Ron Yoder, Chair of the Biological Systems Engineering Department.

Dr. Sanford visited during our external evaluator's visit and we did not plan additional programming with her. ADVANCE-Nebraska hosted a breakfast meeting for any interested STEM faculty with Dr. Barton. Five people in addition to the host and ADVANCE co-PI Julia McQuillan, attended, including two post-docs, two non T-T women in Chemistry, and a professor in Chemical & Biomolecular Engineering. The discussion included the need for career counseling for chemistry students, the ADVANCE program (particularly our dual career program), and how much fun it is to be a research chemist.

G. Departmental Diversity Grants

The goal of this program is to provide funds to departments to try innovative ideas to increase the number of women in applicant pools. We have had no applications for this program. When we asked department chairs why they were not using this program they said they could not imagine ideas beyond what they were already doing.

H. Recruitment Ambassadors

We learned from Social Science departments that sending faculty members and department chairs to professional meetings to find qualified women to invite to apply for UNL positions increases the quality and quantity of applications. Therefore, we designed this program to actively recruit STEM women to apply. Initially we asked Ambassadors to travel for the sole purpose of recruiting, but we learned from faculty that they wish to continue their professional work at meetings. We eliminated this requirement. We have since had three requests for a Recruitment Ambassador. However, there are departments that are simply beginning to recruit at conferences on their own, without using ADVANCE funds. Unspent funds have also been used for Evelyn Jacobson's salary.

2. Activities that Promote Goal 2: increase retention and support women STEM faculty into positions of leadership

A. Writing Retreat, May, 2010

We held our second writing retreat in May 2010. We are experimenting with dates and durations that would work for a variety of faculty. Last year's retreat was held just before fall semester; this year's retreat just after spring semester. Attendance was improved this year over last, but this may be due to the word getting out. Nearly all (92%) learned about the retreat from an e-mail announcement.

Sixteen faculty/staff attended this year's retreat:

- 9 women and 7 men
- 8 Assistant professors; 2 Associate professors; 2 Full professors
- 1 Department head
- 1 Lecturer; 1 Post Doc; 1 Graduate student (co-authors with faculty)
- The following UNL departments were represented:
    - Agronomy and Horticulture
    - Chemical and Biomolecular Engineering
    - Community and Regional Planning
    - Computer Science and Engineering
    - Construction Systems
    - Mathematics
    - Mechanical Engineering
    - School of Biological Sciences
    - School of Natural Resources
    - Sociology
    - Statistics
    - University Libraries

B. Hosted Informal Networking Opportunities

Members of the Recruit Committee wished to initiate informal networking opportunities for STEM women on campus. To that end, we held a reception for STEM women on campus in the Natural History Museum's Elephant Hall. Dr. Prem Paul, our PI, opened the reception with welcoming remarks. Thirty-five people attended. There were faculty from each of our target colleges and several new faces.

The ADVANCE Faculty Committee hosted a luncheon for STEM women of full professor rank. 15 of 19 invitees attended. We were able to meet and have a frank discussion with the senior women faculty. We learned of many dual career couples and

heard each woman's personal history at UNL. Most indicated they would be very interested in further get-togethers to discuss STEM women's issues at UNL.

C. Professional Development (COACHE) Workshop

Nancy Houfek and Lee Warren of COACHE presented a workshop on Strategic Performance and Strategies for Leading Change. Twenty-nine people attended. These workshops are always rated very highly by the participants. They provide strategies for moving an agenda forward in productive ways.

D. E-News and Website

We continue to disseminate information on new studies relating to women in STEM via E-News. At least a dozen different people on campus, and about half a dozen off campus, send us articles that they would like to see featured in E-News. E-News is released one-two times per month. We hired a marketing major, Mackenzie Wessling, to format and write up our E-News, particularly during this third year.

We continue to keep our website current with monthly meetings between Project Manager Jill Hochstein and webmaster, Melissa Sinner, whose time is donated to us by UNL Libraries. We migrated to the Liferay system this year, which eases updating of files across the website. The website averages about 58 visits per week, with an average of four minutes per visit. Forty percent of visits are direct traffic visitors, 38% are from referring sites, and 22% are from search engines.

E. Disseminate UNL Work-Life Policies

We partnered with the Office of Academic Affairs to print 1,000 copies of our revamped (thanks to ADVANCE-Nebraska efforts in Years 1 and 2 of the cooperative agreement) brochure on UNL's Work-Life Policies. These are distributed to faculty at every ADVANCE event and at New Faculty Orientation provided by Academic Affairs at the beginning of the year. The brochures are distributed to every short-list candidate. When Director Holmes meets with short-list candidates, she goes over the policies in the brochure with the candidate. We will be partnering with the Office of Research and Economic Development to mail paper copies to every STEM faculty member in the next academic year.

F. Associate and Full Professor Interviews

Dr. Dana Britton, Professor of Sociology, Kansas State University, included UNL in her NSF-ADVANCE-PAID grant ("PROMOTE – Improving the promotion to full processes at Western public universities", Award #: HRD-0820273) to interview faculty nationwide on the process of promotion to full professor. Interviews were conducted in Spring, 2010 by Dr. Britton with 14 UNL faculty members (8 women and 6 men) about their tenure and promotion experiences and their satisfaction with their academic career at UNL. Half of the faculty members interviewed were associate professors and half were full professors. The results of these interviews will be provided during the summer, 2011.

G. Cohort Analysis

A cohort analysis was completed using data from 2001 through 2009 to follow faculty to learn about retention and promotion rates by gender. Faculty were grouped into cohorts as they entered a new rank and were followed over subsequent years to determine if they stayed at the same rank, were promoted, or left UNL. Detailed results are provided in "Findings".

In general, a higher proportion of men leave UNL at the Assistant Professor rank than women do. Assistant Professor men tend to be tenured and promoted sooner than women,

and Associate Professor men tend to be promoted to Full Professor sooner than women in the same cohort. We will further analyze the data to learn whether this is a result of tenure interruptions, a difference in length at post-doc, and/or a difference in pre-hire experience applied toward tenure.

The earlier-hired cohort ('01-03) appears to have been promoted sooner and retained in greater numbers than the cohort hired later ('04-06). We will further analyze the data to determine possible causes for this trend.

H. Salary Study

We obtained salary data from Institutional Research and Planning and conducted an Analysis of Covariance on the data. The detailed analyses and results are provided in "Findings". The results showed no statistically significant difference for faculty by gender.

3. Activities that Promote Goals 1 and 2: Activities that Address Goals 1 and 2: increase hiring and improve retention of women STEM faculty

A. Conversations Series

We launched a new series, "Conversations", to replace "Paths to Success Luncheons". Open-ended comments on the "Paths" evaluations called for topics that were not being addressed through the Luncheons, so we decided that a new program would answer faculty needs better.

"Conversations" is a series of panel discussions on topics that faculty have requested. Each Conversation targets either a particular rank or all faculty. Panelists are typically UNL faculty; Joyce Yen from the University of Washington conducted one Conversation.

Although attendance is good to moderate, we are not always reaching our target audience. For the December panel, there were 2 assistant professors in STEM and one associate professor. There were five post-docs. Participants have found the Conversations very useful. Evaluation results are given in "Findings".

B. Meeting with Department Chairs (Chair Workshops)

We offered a free breakfast to STEM chairs to meet with the Evaluation Team (Julia McQuillan, Nancy Busch, Mindy Anderson-Knott, Mary Anne Holmes, Evelyn Jacobson) to review data that ADVANCE-Nebraska has collected on the applicant pools, short lists, and hiring for the last several years. We supplied ten years' worth of data; the chairs mostly commented on the last three to five years, the approximate extent of institutional memory in the room.

Thirteen of 26 department chairs and heads attended, with 4-5 from each of our three target colleges. Chairs were grouped by college and exchanged practices that they found useful for increasing the diversity of their applicant pools.

C. ADVANCE Faculty Committee

The members of our two committees, Recruit and Promote, indicated a desire to combine into a single body that will consist of two subcommittees: a) one that focuses on recruitment issues; 2) one that focuses on retention issues. The committee members felt that there was enough overlap between their two charges that they needed to meet together more often. In addition, a few committee members indicated a wish to work on the other committee's focus. We discussed having a third subcommittee on "culture change" and decided that this piece could not really be separated from the other two. Committee members further indicated that they would be willing to help run the program

more, and consequently, have hosted two of the panel discussions this semester when Holmes was traveling.

The combined committee, the ADVANCE Faculty Committee, meets together monthly. The two subcommittees "meet" via email and communicate via a Blackboard site. They meet face-to-face once or twice between full committee meetings.

Because of the success of Recruit's Best Practices for Recruitment to UNL document (its institutionalization and distribution to all search committee chairs as of fall semester, 2010), the subcommittees will be working to produce additional one- to multi-page documents to guide both recruitment and retention for UNL STEM faculty. The Recruitment subcommittee is working on a "roadmap" for search committee chairs, to serve as both a guide to the UNL system (who gets notified of what, in what sequence; simple pointers for using the online job system, PeopleAdmin), and also as a menu of suggestions, "Best Practices", culled from the literature and the results of the focus groups of UNL search committee chairs that we conducted of ADVANCE-Nebraska, as well as evaluation data from the ADVANCE-Nebraska program.

The Retention subcommittee is working to develop a "Best Practices" document on evaluation of faculty (for annual evaluation, evaluation for promotion/tenure, etc.) to reduce the impact of implicit bias. We discussed dividing up such a document into subcategories for research, teaching, service (and other – e.g., extension service), and are in the process of collecting material from the literature on what the best practices are and are not (e.g. numerical student evaluations of teachers are well known to be biased - we need to collect less biased practices) to use in creating the document.

In addition, Retention (with help from Recruitment) hosted our two informal networking events this year.

D. CHANCELLOR'S STEM AWARD

In his letter of support for the ADVANCE proposal, Chancellor Harvey Perlman pledged a $1,000 award for the department that makes the most progress towards ADVANCE goals. This is the first year that we felt that we had sufficient data to evaluate track records.

We formed a committee to select a STEM department to receive the Chancellor's ADVANCE Award that included the co-PIs, Evelyn Jacobson (ADVANCE Academic Administrative Director), Susan Fritz (Associate Vice Chancellor for the Institute of Agricultural and Natural Resources), Pat Dussault (former chair of the Chemistry Department), Anne Vidaver (emeritus chair of Plant Pathology) and Kim Espy (Associate Vice Chancellor for Research and Interim Dean of Graduate Studies).

The committee met on January 6 to review five strong applications from the School of Biological Sciences, the Departments of Biochemistry, of Electrical Engineering, of Mathematics and of Mechanical Engineering. All committee members submitted comments and a score on a grading rubric that Susan Fritz and Julia McQuillan devised. The committee members present at the meeting (Espy, Jacobson, Vidaver, Dussault, McQuillan and Holmes) reached a consensus that the Department of Electrical Engineering has improved the most by implementing best practices advocated by ADVANCE to achieve our goals. These include: to increase the number of STEM women faculty hired by increasing their representation in applicant pools to meet national levels, and to implement programs to increase retention of women STEM faculty.

Electrical Engineering proactively and creatively recruited women to their applicant pools by courting women in industry and became more pro-active at national and regional conferences. To increase retention, EE instituted a formal mentoring program for their

entire faculty, and strongly encourages faculty to avail themselves of UNL's family-friendly policies (such as tenure interruption policies).

4. Activities that Promote Goal 3: to conduct research on the formal and informal networks of STEM faculty.

a. On-going Research and Dissemination

Drawing on the strengths of the 2008 Faculty Network and UNL COACHE surveys, the network research team (Falci, Watanabe and McQuillan) has submitted one research manuscript this past year entitled "Disconnected in the Ivory Tower: An Exploratory Study of Gender and Race Differences in STEM Faculty Networks." This manuscript is currently being revised for resubmission to *Social Problems*. The research team has three additional research manuscripts in progress listed below:

- Falci, Christina and Julia, McQuillan. "Tenure Process Clarity and Climate among STEM faculty: Differences by Race and Gender"
- McQuillan, Julia, Christina Falci, and Megumi Watanabe. "Network Structure and Academic Climates: A Department Level of Analysis."
- Watanabe, Megumi and Christina Falci. "Gender and Race Differences in STEM Faculty Job Satisfaction: The Role of Departmental Climate"

Material from the above research manuscripts has been presented at various academic conferences (see "Dissemination", Part III.A). Each year we present at the American Sociological Association (ASA) and the NSF-ADVANCE annual PI meetings. This past year Dr. Falci gave an invited panel presentation at the ADVANCE PI meeting. This summer Megumi Watanabe, the graduate student on the project, will present a paper based on her master's at the 2011 ASA meetings. In the future, we plan on also submitting papers to the International Network of Social Network Analysis (INSNA) annual conferences. Results from the network research were also presented locally to UNL faculty, staff and administrators. This past year one presentation was given to the RECRUIT and PROMOTE Committees (January, 2010).

b. Faculty Networks and Workload Study Data Collection

While analysis of the 2008 data allowed us to learn much about faculty networks, it has also revealed the following limitations to our research: a) no comparison group of non-STEM faculty, b) very few women – especially ethnic minorities – in our sample, and c) having a separate network and climate survey posed problems for exploring the associations between faculty network structure and academic climate perceptions. Dr. Falci thus designed the *Faculty Networks and Workload Study* (FNWS), the second wave of data collected on faculty networks for ADVANCE-Nebraska, to overcome these limitations. The UNL administration allowed us to add fourteen social science departments to the survey sample as a comparison group: Accountancy, Agricultural Leadership, Education & Communication, Anthropology, Children, Youth & Family Studies, Communications Studies, Economics, Finance, Psychology, Political Science, Nutrition & Health Sciences, Marketing, Management, Sociology, and Special Education & Communication. Dr. Falci developed a new survey instrument (see Appendix VII-C, FNWS Questionnaire) that collected both network and climate data. We now have considerably more women in our sample (n=170) due to the new women STEM hires through ADVANCE-Nebraska and the additional fourteen departments.

The FNWS data collection was fielded in spring, 2011 and was more successful in achieving our response rate goal. Working in consultation with experts in survey research methodology (Jolene Smyth and Kristen Olsen) at UNL, the research team had an

extensive protocol for encouraging faculty participation (see Appendix VII-D, FNWS Survey Implementation plan). After a year of planning and disseminating information on the upcoming survey throughout UNL, we attained a 72% individual level response rate overall (551 out of 765 faculty). Furthermore, 35 out of 42 departments attained departmental response rates above 60%, which will be high enough to conduct social network analysis. One key project will be to conduct a multi-level analysis to jointly explore the effect of network structure characteristics at the individual and department level on key faculty outcomes, such as climate perceptions, research productivity and organizational commitment (see Appendix VII-C, FNWS Conceptual Model).

5. Additional Activities

a. Expansion of Program to IANR

Beginning September 1, the resources for the Dual Career program expanded to ten departments in the Institute of Agricultural and Natural Resources. Programs and committee membership already included faculty from the Institute. We have been inviting IANR faculty to ADVANCE events all along, and have IANR faculty participate on the ADVANCE faculty committee and Internal Advisory Board. We visited several departments to inform them of what services and activities ADVANCE provides.

b. Re-structured management

ADVANCE-Nebraska's administration was re-structured by hiring Dr. Evelyn Jacobson as Academic-Administrative Director. This new structure provides a link between the ADVANCE office and the Office of the Senior Vice Chancellor for Academic Affairs. The new organization is provided at the end of this report.

We developed a Rationale for ADVANCE-Nebraska goals to disseminate across campus. See Appendix VII-G of this report.

c. Planning meeting; Four Recommendations to PI

We held a planning retreat for AY 2010-11 and produced Four Recommendations to the PI. These are provided below.

Recommendations:

Clearly articulate the rationale behind ADVANCE-Nebraska and plan for dissemination across campus.

The rationale developed at the meeting is attached.

- As a first step, the rationale will be sent to all STEM administrators and faculty. We will also send to STEM leaders [deans, chairs/heads, Center directors, and the Life Sciences Executive Council] information developed by ADVANCE team members, e.g. department specific data, a summary of past ADVANCE successes, and plans for the coming year. We will ask STEM leaders to share the information with unit faculty prior to meetings of ADVANCE team members with individual STEM units to be scheduled for the fall semester. At those meetings, the goal is not only to provide information, but also to listen to ideas about the ADVANCE goals, and how the ADVANCE office and the University can best support reaching those goals.

We see this outreach to and conversation with STEM unit administrators and faculty as necessary preparation for the NSF site visit in March, by which time we need to have a committed, aware, and engaged STEM faculty.

Focus on the ADVANCE goal of recruitment through outreach to those with primary responsibility for faculty recruitment at UNL. Strategies recommended:

- The Academic Administrative Director, the Project Director, and the relevant STEM deans [David Manderscheid, Jim O'Hanlon, Susan Fritz] have identified the departments with active searches, and will schedule meetings with those department chairs/heads, their search committee chairs, and members of the search committee. The goal of these meetings is to emphasize the importance of active recruitment in achieving a representative candidate pool.
- The Dual Career Program has been one of the program's successes, having facilitated the recruitment of 6 women STEM faculty.

We recommend continuing the process currently in place, including funding travel costs of dual career partner's campus visit. We will enhance these efforts by having the Academic-Administrative Director directly facilitate conversations between department chairs/heads and deans, especially when dual career hiring requires cross college collaboration.

- Continue to support Showcase Visits. ADVANCE currently has requests from three departments to bring in women STEM faculty to present a disciplinary talk and to meet with other women STEM faculty. Departments have felt that this program is highly effective in raising the awareness among our faculty of the accomplishments of women scientists and in introducing women colleagues to UNL as an institution focused on excellence. A challenge facing ADVANCE is to promote women without making gender more salient than professional identity. The Showcase visits are specifically targeted at bringing in women STEM faculty to help change the image of who does STEM work.

Focus on the ADVANCE goal of retention and promotion of women STEM faculty into leadership roles through outreach to those primarily responsible for retention and promotion. Strategies recommended:

- The ADVANCE team will maintain a list of women STEM faculty at all ranks; identify rank-appropriate opportunities for career advancement and/or leadership; We will inform deans-chairs/heads, and Center Directors of the opportunities and work with them to identify women STEM faculty as possible candidates for leadership positions and academic awards.

Information about leadership and award opportunities will also be included in the ADVANCE Newsletter. The ADVANCE office will explore how it can provide support to women STEM faculty in developing an application file. Note that leadership refers both to disciplinary status and to administrative leadership.

- ADVANCE should continue the highly successful writing summer writing retreat for STEM faculty. The Project Director will meet with Noah Clayton in the Office of the VCR about possible synergy between the ADVANCE Writing Retreat and the Research Fellows Program.

Institute the ADVANCE CONVERSATION SERIES

The ADVANCE office will host a series of bi-weekly or monthly short and focused conversations on recruitment, retention, promotion, and leadership topics, that will involve both faculty leaders (e.g. Jim Lewis, Sheri Fritz, Jerry Hudgins, Jim Van Etten, Don Wilhite) and the members of the ADVANCE Recruit and Promote committees as facilitators/presenters. These will be open to all, but targeted audiences will be identified for advertising each conversation. The three STEM deans have agreed to assist the

ADVANCE office in promoting this series. The conversations will alternate between city and east campus.

Possible topics identified thus far [the IAB will be asked for input]: *Best practices for recruiting a diverse faculty; What the on-campus interview should look like - recruit, don't scare away; Now I have tenure – what is next?; The path to promotion to full professor, Opportunities to be a campus leader; Sustaining a consistent stream of research publications; Nominating for the good of all – putting colleagues forward for prestigious national awards.*

D. DEVELOPED RATIONALE FOR THE PROGRAM

At the planning meeting in August, 2010, a rationale, a consistent message for ADVANCE, was developed and appears on all of our printed matter:

America's future prosperity requires talented men and women in Science, Technology, Engineering and Math (STEM) fields.

The University of Nebraska-Lincoln endorses the vital goal of recruiting, retaining, and promoting more women in STEM fields because:

- To grow Nebraska's economy and compete for talented workers, UNL must support all potential and existing employees.
- Having women faculty attracts more women students into STEM fields.
- A competitive UNL creates a workplace that welcomes and supports all potential faculty regardless of gender.
- National funding agencies require and reward diverse research teams and efforts to reach diverse student and general populations.
- The quality of research and creative solutions are enriched by diverse views, perspectives, and critical analyses.

"The fact that women are capable of contributing to the nation's scientific and engineering enterprise but are impeded in doing so because of gender and racial/ethnic bias and outmoded 'rules' governing academic success is deeply troubling and embarrassing. It is also a call to action. Faculty, university leaders…must unite to ensure that all of our nation's people are welcomed and encouraged to excel in science and engineering in our research universities. Our nation's future depends on it."

Committee on Maximizing the Potential of Women in Academic Science and Engineering. 2006. *Beyond Bias and Barriers: Fulfilling the Potential of Women in Academic Science and Engineering.* Washington DC: National Academies Press.

E. CONDUCTED DEPARTMENTAL VISITS

Evelyn Jacobson (ADVANCE Academic Administrative Director), Susan Fritz (Associate Vice Chancellor for the Institute of Agricultural and Natural Sciences), and in some instances, Mary Anne Holmes (Director), have begun a series of meetings with 1) each STEM search committee, and 2) departments at departmental faculty meetings to disseminate information about ADVANCE-Nebraska.

We have attended three faculty meetings. Evelyn Jacobson, Susan Fritz, and ADVANCE Director Holmes visited three departments on the UNL campus and all of the Engineering departments housed in Omaha by visiting the departments during faculty meetings. Jacobson attended all meetings; Fritz attended meetings with the School of Natural Resources and the Engineering departments in Omaha. Holmes attended the meeting with the School of Biological Sciences.

F. PROGRESS TOWARDS INSTITUTIONALIZATION

The Recruit Committee has created a one-page handout for search committees on Best Practices for recruiting and hiring new faculty. The original intention was to distribute this document to all STEM search committee members. The document is thought so useful by Linda Crump, Assistant to the Chancellor for Equity, Access and Diversity Programs, that her office now includes a copy in the packet of information sent to each search committee chair in every department on campus.

The Dean of the College of Arts & Sciences has published a draft of its strategic plan and includes ADVANCE initiatives:

Goal 4. Increase Diversity: A core value of the university is diversity. It is critical that we prepare our students for an increasingly diverse Nebraska and world. This is just one of the reasons that our college motto is "Diverse paths, shared excellence". Through diversity we achieve greater excellence and the best possible education for all students.

Objective 4.1: Increase excellence through diversity of staff and faculty.
- *Work with search committees to ensure diverse pools of applicants.*
- *Work with faculty and staff to promote an inclusive work environment.*
- *Work with the ADVANCE program to recruit and retain more women faculty in STEM disciplines.*
- *Work to institutionalize ADVANCE initiatives to benefit all hiring, recruiting and retention.*

Evelyn Jacobson, Susan Fritz, co-PI's Julia McQuillan and Mary Anne Holmes, Jill Hochstein and Nancy Busch met and created a document outlining a plan to continue an ADVANCE program at UNL after the cooperative agreement has expired. Jim Lewis (chair of the IAB), Jacobson, Fritz, and Hochstein met and created a written rationale and potential mechanisms for continuing our successful dual career program. Both documents are still being edited.

G. External Evaluator

Our external evaluator, Dr. Ann Austin of Michigan State, visited in January, 2011 to evaluate the program and help us with third-year site visit preparations. In addition, we held an in-depth discussion of how to institutionalize the ADVANCE program at UNL with the co-PI's, the ADVANCE management team, and Dr. Lance Perez, the Associate Vice Chancellor for Academic Affairs. Dr. Austin's report is provided in Appendix VII-B.

H. Program Management

We held an Internal Advisory Board meeting in early September and again in early December. Our principal topic for the September discussion evolved to discuss what parts of the ADVANCE program are working best and should be continued beyond the life of the grant and in what form, given that the Chancellor has pledged $90,000 per year for five years beyond the life of the grant. The Dual Career Program had strong support. Faculty development programs also had strong support.

Our principal topic for the December discussion was "Institutionalization of ADVANCE-Nebraska". We discussed at length what activities seem the most successful, based on evaluation data provided by the evaluation team. The board members agreed unanimously that some form of the dual career program should be institutionalized. To that end, Board Chair Jim Lewis, Evelyn Jacobson, and Susan Fritz met to formulate an outline to present to the administration (see following section, I.E.).

In addition, board members agreed that some sort of ADVANCE office or formal program should continue beyond the life of the cooperative agreement. An additional

meeting was held with Evelyn Jacobson, Susan Fritz, (see following section, I.E.) to formulate a plan for this program.

Our co-PIs meet once per month with Administrative co-Directors Jacobson and Fritz. Head of Internal Evaluation, Nancy Busch, and chair of the Internal Advisory Board, Jim Lewis, also attend these meetings when their input will be deemed useful by either co-PIs or Administrative co-Directors. At these meetings, we make decisions on program enactment and fund disbursement and review preliminary evaluation results.

The Evaluation Team (Nancy Busch and Mindy Anderson-Knott) meet bi-weekly with co-PIs Holmes and McQuillan, Administrative co-Director Jacobson, and Project Manager Jill Hochstein. When research needs to be discussed, Christina Falci meets with this group as well. We plan evaluation for upcoming events, review past evaluations, and provide formative evaluative feedback for the co-PIs and the Internal Advisory Board. We find these frequent meetings most helpful in keeping key players in the program informed of activities and their evaluation.

We have held, in addition, a variety of "Management" meetings, usually with the Director and the Administrative Director, plus or minus other key players including the PI, Prem Paul, and/or other persons in the Administration.

I. Third Year Site Visit

As the NSF Program Director will appreciate, this took up a considerable amount of our efforts this year. The site visit took place March 8-9 and we received the report from the site visit team promptly, April 13. A response from UNL was sent to the NSF Program Director by May 15.

J. Hired a Marketing student

We hired a student in Marketing, MacKenzie Wesling, to help (part-time) with writing, advertising, and disseminating information. She produced a template for one to two E-News issues per month.

B. Major findings resulting from these activities.

1. Findings from Activities that Promote Goal 1: to hire more women STEM faculty

A. Dual Career Program

Tables 11-04 and 11-05 summarize the numbers of STEM and non-STEM searches at UNL since the ADVANCE-Nebraska Dual Career program began.

Table 11-04. Summary of Dual Career data from 2008 - 2011

Year	Number of Tenure-Track Searches	Number of STEM Tenure-Track Searches	Number of STEM Searches with Dual Career	Total STEM Short List Candidates with Dual Career	Offers to Candidates with Dual Career	Number of Dual Career Hires
2008-09	91	32	8 (25%)	13	6	1 new hire 2 on-campus
2009-10	43	16	4 (25%)	4	3	2 new hires 1 on-campus

2010-11 Added IANR	26	15	5 (33%)	7	3	3 new hires

Table 11-05. Summary of Dual Career Data for 2010 - 2011

Item	All Departments	STEM Departments	A&S STEM	Engineering	IANR STEM
Number of Positions Advertised	69	15	6	3	6
Responded to ADVANCE request for short list	NA	NA	NA	NA	NA
# Positions Paused	NA	NA	NA	NA	NA
# Paused, non-responders	NA	NA	NA	NA	NA
# of people on short lists	55	33	18	8	12
# Women on Short Lists	16	15	11	2	4
# Men on Short Lists	30	23	12	12	8

From May 5, 2011

RETENTION OF DUAL CAREER HIRES: INTERVIEWS

i. Job Search Process

Dual career hires were asked in the spring of 2010 (N=3) how they searched for job opportunities. One learned about the opening at UNL from their department head at their previous institution, one learned about the position from the website "mathjobs.org," and one "just applied" (they had been working part-time at UNL for a few years and decided to apply for a full-time position).

When asked why they applied for jobs at UNL two respondents said they could be together with their family, and one respondent said that they just apply to whatever jobs are available and then sort things out later.

Respondents were asked what factors were the most important to them when looking for a job. Two respondents said academic reputation or department rank. Other answers included quality of k-12 schools, safety of neighborhoods, geographic area and the cost of living.

Two out of the three respondents were considering other job opportunities when they interviewed at UNL. One respondent had applied for three different positions, had interviewed at one other school besides UNL, and had received two offers. The other respondent had applied for more than 20 positions, had interviewed at three, and had received one offer.

ii. Job Offer Decision

When asked what the main reasons were for accepting the offer at UNL, two respondents said it was to be in the same place as their family. One respondent said they accepted because they wanted to be in the United States (they had received another offer in a different country). Another said they accepted because they were offered the type of research faculty position that they wanted. Respondents were also asked whether there were any factors that made them consider declining the offer at UNL. One respondent said "not really", one laughingly said the weather, and one declined answering the question.

All of the three new dual career hires had spouses, and each said that their spouse's employment status influenced their decision to accept the offer at UNL.

iii. Perception of UNL

Respondents were asked to describe their perception of UNL at the time they accepted the offer. One respondent said they thought UNL was a good school and that people were nice. Another respondent said they thought UNL was a good school in the Midwest, was active with research, and that the department was supportive to new faculty. The remaining respondent had never heard of UNL before the interview so they had no preconceived perception of it. None of the respondents said that there was anything particular that really stood out about UNL.

iv. Knowledge/Impact of ADVANCE-Nebraska

When asked whether they knew about ADVANCE-Nebraska at the time they accepted the offer, two respondents said no and one said yes. The respondent who did know about ADVANCE-Nebraska was asked how that influenced their decision to accept the offer. They said that they viewed the ADVANCE program as more or less another way to recruit faculty members, but that it is a little bit more helpful than regular faculty recruitment means because of the community of ADVANCE faculty and other programs it offers.

v. Interview Process

Respondents were asked several questions about the interview process. None of the respondents said that there was a specific meeting during their interview that was most influential. One respondent had already made up their mind that if they were given an offer they would accept it (because their spouse had received a good offer already), and another noted that they had been at UNL for several years so they were already familiar with the place and people. When asked whether there was anything negative about the interview that was really influential, only two of the three respondents provided an answer. One respondent said no. The other respondent said "student quality" (the ability to find good students so that research work can progress well).

When asked for some aspects of the job search and interview process that they felt worked well, none of the respondents reported anything specific. Two respondents said in general they thought everything went pretty well, and one said they had nothing to compare it to so they couldn't give an answer. When asked if there was anything specific about the application process, interview process, or timeliness of the search process that worked well, one respondent said that the strict deadline they were working under (of accepting or rejecting the offer) made them make up their mind very quickly. None of the respondents said that there was anything about the job search or interview process with UNL that they would like to see changed.

vi. Hiring Process

Respondents were also asked how the hiring process at UNL could be improved to better meet their needs. One respondent said that while UNL does a pretty good job with hiring couples, they didn't know about that before they came to interview at UNL. The

respondent suggested that the university should make it very clear somewhere (for example, on the website) that UNL provides assistance for dual career hires. Another respondent said that UNL's decision-making process should be sped up a bit, although they noted that it could just be a bit slow because of all of the budget cuts. They also said that completing all of the paperwork (paperwork both before and after being hired) takes a very long time and could be made more efficient. They stated that it took about a month for their email to get set up.

The Evaluation Team surveyed search committee chairs and department chairs in the spring, 2010, asking about searches from the past year. When answering an open-ended question about what issues make recruiting women a challenge, several respondents reported the issue of dual careers. Perceptions of past dual career hires suggest promise for furthering this programmatic element, with over half of all respondents agreeing that spouse/partner hires have worked out well for their department in the past. However, there were mixed results regarding the perception of spouse/partner hires as an opportunity or as a burden. While slightly over half of respondents agreed that spouse/partner hires are viewed as an opportunity among department colleagues, about half also strongly agreed or agreed that spouse/partner hires are generally viewed as a burden.

In 2010, 27 newly hired faculty were interviewed to gather their perspective on the hiring process. When asked the main reasons for accepting the offer at UNL, four respondents said it was to be in the same place as family. Of the 21 respondents with a spouse/partner, four respondents reported that their spouse/partner's employment status was a major influence in their decision to accept the UNL offer.

B. Search Committee Visits

Search Committee visits were added in year three. Evelyn Jacobson, Susan Fritz, and/or Mary Anne Holmes met with 9 search committees (covering all 15 searches) in the fall of 2010. All 15 STEM searches for 2010-11 plus one non-STEM search were addressed in these meetings. Most meetings included the department chair and/or the search committee chair, with one meeting including the Interim Dean regarding their dual career (the three "pending") and search situation. In addition, there was a meeting with one non-STEM department because the chair of that search committee had heard about this resource to committees and thought her committee would benefit from a visit/discussion.

C. New Hire Interviews

Listed below are some key findings from the interviews conducted with new UNL hires in the spring (N=3) and fall (N=24) of 2010 about the job search and hiring process.

Finding: Respondents were asked how they learned about the job opportunity at UNL. The most common answers were: online (41%), from a colleague or friend (15%), from a hard copy journal or magazine (11%), and from an advisor or department chair (11%). Men were more likely to learn about the job online (50%) then women (22%). Women were more likely to learn about the job from a friend or colleague (33%) compared to men (6%). There was no difference by gender for hard copy journal, magazine or advisor/department chair.

Finding: Half (50%) of the new hire respondents originally applied because the position description fit their background/interests, and 31% because the university/department is "good." 15% applied at UNL because of the geographic location, 15% because of the type of position, 15% to be with spouse/family, and 12% personal connection to people here.

Findings re: push/pull factors: A majority of those interviewed (78%) reported that they were considering other job opportunities when they interviewed at UNL (including four dual career hires). 58% considered declining the offer. The most common factor that made them (31% of respondents) consider declining was the start-up package, followed by geographic location (23%). Women were particularly concerned about the ability to recruit quality graduate students, with four women reporting this (no men reported this concern). Two individuals who initially declined UNL's offer were able to discuss and negotiate their concerns with a faculty member. In the end they did decided to accept the offer.

> *"I declined it and the head of department telephoned me and wanted to know why, which is a fair question. And we talked through some of my concerns…my biggest concern was that the expectations were actually unreasonable and that I wasn't going to be able to do it without falling to pieces and… I talked it through with the head of department, and the expectations have been modified and he's doing his best to protect me from too many demands, which is great." (Woman)*

Respondents were asked to describe the main reasons they accepted the offer at UNL, and the compensation package was the most common answer given (by 41% of respondents). Twenty-six percent of respondents indicated that the research environment or quality of research done at UNL was a major reason they accepted the offer.

> *"The very high level of research that was done here, the amount of research I'd be able to do in the position, the salary and start-up were very competitive, but the chance really to be in a research 1 university." (Woman))*

The feeling that there were collegial and supportive faculty at UNL was also very influential, with 22% of respondents saying it affected their decision to accept.

> *"The main reasons was because the faculty was very collaborative, because I know that it can be very stressful and difficult for an assistant professor and I felt that all of the faculty here were very supportive of new faculty. They were especially supportive of new female faculty." (Woman)*

On a similar note, 22% of respondents said the feel of the department was a major reason they decided to come to UNL.

> *"I was impressed with the faculty and, and the environment of the, the [department] and campus in general." (Man)*

Regarding differences by gender, 50% of all male respondents and 22% of female respondents reported that the main reason they accepted the offer was because of the compensation package. 33% of female respondents indicated collegial/supportive faculty was a main reason compared to 17% of male respondents.

Findings: Respondents were asked to describe their perception of UNL. A common answer was that the faculty and staff were very friendly. Several faculty members stated that they felt that UNL was an advancing university or one that was focused on improving. Some respondents indicated that faculty members or administrators seemed genuinely interested in their academic success and were willing to provide all of the support that they could.

> *"My perception of UNL…I was certainly impressed by the sense that the university generally and the, the administration were very committed to …..helping their faculty be as successful as they could. I'd never got the impression that there was any sort of adversarial interaction between…faculty and department heads or senior administration and … that was very attractive." (Man)*

"….actually there was one other thing, there's a person who… there's a [field of study] initiative on campus, and the person who runs that just really convinced me that they were gonna work really hard to make me successful and help me however they could. And that person …probably kind of… turned the ball around. A little. Yeah. Cause I kind of felt like, this is kind of a torturous process and, you know all of these negotiations and she really made it more of a we want you to come, what do we need to do?" (Woman)

Additionally, some respondents indicated that it seemed like there was a strong collaborative spirit among faculty.

"The collaboration, …. I would talk to several people before I had my interview to try … and understand … how people worked at Nebraska and just was impressed with people's willingness to work together and…it was different than what I'd been exposed to at other universities." (Man)

Findings: At the time they accepted the offer, 78% of both men and women new faculty had a spouse or partner. When asked how that person's employment status influenced their decision to accept the offer, 19% said it was a major influence (3 of the 4 respondents who selected this answer were dual career hires, and only 1 of the 4 were women). On the other hand, spouse/partner considerations did not influence 57% of the new hires.

"Of course it, it was definitely a major factor. We of course had considered… applied and she had also applied for jobs… in her specialty in places to begin with that we thought we had a good chance of both getting a job. And it turned out that she actually did get a position, although I kind of…given the timing I needed to make a decision about the position that I wanted to accept before she had a firm answer, so we did it a little bit based on ***a really good interaction that she had with people when she interviewed but****, partly it was kind of a leap of faith, but she did end up getting a position."*

Findings: How important was ADVANCE? It was not broadly important, but it did matter for a few new hires. At the time they accepted the offer, 31% of respondents knew about ADVANCE Nebraska (50% of the women and 22% of the men). Of the 8 people that did know about ADVANCE-Nebraska, 4 said the program at least somewhat influenced their decision and 4 said it had no effect. One new hire said that ADVANCE was a major factor:

"That really was a big factor, as I mentioned, not only providing a job for my spouse but also in showing me that the administration of the university is committed to making the university a more diverse place, a more inclusive place." (Woman)

Findings: How important were the work/life policies? All 24 fall interviewees were aware of at least some work-life balance policies (this issue was not asked about in the spring interviews). When asked how they learned about these policies, 42% said from the new employee orientation (14% of the women and 53% of the men). More women (43%) than men (6%) learned about the policies from ADVANCE-Nebraska. More than half (64%) said work-life balance policies affected their decision to come to UNL at least to some degree

"It wasn't an enormous factor, … I was aware of the fact that it was a family-friendly place. I think that if I was… if I had a partner, or I had kids it probably would have played a bigger role because I would have, …. thought well, … if it's going to be immediately helpful to me to have this… but,… without kids …I don't have as many of the….work-life balance issues. It's all work pretty

much. But, but I still thought it was nice to know that it was a campus that tried to have their faculty lead a balanced life and try to… find ways to improve it especially for women on campus." (Woman)

Additionally, 46% (14% of the women and 59% of the men) did not know of the policies at the time they accepted their offer and therefore did not consider them in their decision to come to UNL.

D. SEARCH COMMITTEE CHAIR & DEPARTMENT CHAIR SURVEYS FOLLOWING SEARCHES

The Bureau of Sociological Research (BOSR) conducted mail surveys with department chairs and search chairs who had completed faculty searches in 2009-2010. Listed below are some key findings.

Findings: The survey asked a variety of questions about the advertising and search process. First, respondents were asked to indicate all of the activities they engaged in for the last search that they chaired. Answers that were selected by 50% or more of both search committee chairs and department chairs included: talked to potential candidates at professional conferences or meetings, contacted potential candidates directly through letters, phone calls, emails, etc., and asked colleagues from other institutions to encourage their students to apply. Comparing the responses of department chairs and search committee chairs shows some marked differences in the types of activities they engaged in. A higher percentage of department chairs indicated that they wrote a job advertisement that was broadly defined (100% of department chairs compared to 31.3% of search committee chairs), encouraged post docs already at UNL to apply (60% compared to 12.5%), that they e-mailed listserv with the job add (100% compared to 37.5%), and that they talked to potential candidates at professional conferences or meetings (100% compared to 50%).

Findings. When asked where the position was advertised, the most common outlets reported were discipline-specific journals or newsletters (selected by 62% of search committee & department chairs), prestigious journals (57%), and internet sites (57%). The most commonly listed journal was *Science*, and the most commonly listed internet site was *Academic Keys*. No department chairs, and only 12.5% of search chairs, reported advertising in outlets directed to women or racial/ethnic minorities.

Findings: The survey also asked respondents to report how much money was spent on advertising. Only 6 search committee chairs (37.5%) and 3 department chairs (60%) provided an answer. Out of both search committee chairs and department chairs (N=9), 66.7% said they spent between $1,000-$4,000, 22.2% spent between $4,000-$8,000, and 11.1% spent over $13,000. Respondents were then asked to provide a breakdown of the advertising cost by outlet. Three search committee chairs and two department chairs provided this additional information. Costs varied significantly by outlet. In general the least amount of money was spent to advertise in outlets directed to women and ethnic minorities (anywhere from $0-$200), and the largest amount of money was spent to advertise in prestigious journals (anywhere from $3500-$6800).

Findings: For every job posting, UNL collects information from applicants about where they found the job listing. Looking at the data collected from short list applicants applying for STEM positions from October 2009 through June 2010, it appears that in general the largest number of short list applicants learned about the job opening from a newspaper or professional periodical or their web site. Of the 74 referral sources reported by all short list candidates, 35% were from this source. Other outlets that were accessed by a significant number of short list candidates were the UNL website (12%) and word of mouth (9%). Some disciplines have their own sources, such as mathematics, where most applicants learned of the position from mathjobs.org. Gender differences were found with word of

mouth and *Science*. While only 4% of the 48 sources reported by men were word of mouth, 18% of the 22 sources reported by women were word of mouth (25% of the 4 sources reported by an applicant with undisclosed gender were this source). No women reported finding out about the job from Science Careers, *Science* October issue, or Science/Jobs/Magazine, compared to 10% of the men's referrals being from these sources (25% of the undisclosed gender reported these referral sources).

Findings: Over half of all respondents were satisfied with training on the legalities associated with searches, training received from Equity, Access, and Diversity (EAD), and the search process time line. All (100%) of the department chairs were satisfied with the ease of using PeopleAdmin, but only 33.4% of search committee chairs said that they were either very satisfied or satisfied.

Findings: Satisfaction with the number of women in the applicant pool was higher among search committee chairs than among department chairs. Nearly three-quarters of the 15 search committee chairs (73.3%) that answered this question were very satisfied or somewhat satisfied. In contrast, of the 5 department chairs that answered this question, 40% were somewhat satisfied, while 60% were not very satisfied or not at all satisfied. Department chairs were less likely to think that the proportion of women in the applicant pool accurately reflected the proportion of women eligible for the job position. 60% of department chairs and 12.5% of search committee chairs said that the number of women in the applicant pool did not accurately reflect the proportion of women eligible. A total of 37.5% of search committee chairs and 20% of department chairs did not know. Unfortunately due to a flaw in the survey design, we do not know if they think the applicant pool was higher or lower than the proportion available.

Findings: When asked whether the search committee specifically discussed how to recruit women into the applicant pool, the majority of search committee and department chairs said yes (56.3% and 60% respectively). All department chairs and 93.8% of search committee chairs said that their committee used a written set of criteria to distinguish among acceptable candidates.

Findings: The survey asked respondents to describe which strategies they think helped the most to increase the number of women in the applicant pool for the last search they chaired. Responses provided by both search committee chairs and department chairs were very similar. Answers provided by both included: writing a broad advertisement, having direct contact with candidates, and approaching potential candidates at conferences. Additional answers provided by search committee chairs only included: inviting women post docs to apply, targeting contacts to key graduate mentors around the U.S., and writing letters to departments to advertise the position. Additional answers provided by department chairs only included making sure the search committee gave special attention to women candidates, and having women on the search committee.

Findings: Respondents were asked to describe any strategies for increasing women applicants that they wanted to use but could not. While most of the search committee chairs that responded said there were none, one respondent said there could have possibly been more advertisement, and another said they would have liked to have had more time to devote to actively searching. Another search committee chair noted that state law creates a barrier. The most common strategy provided by department chairs was having personal contacts with candidates. Other answers included: being attentive to dual career couples, having more notice of the position being released, and having sufficient funds to bring in candidates for seminars.

Findings: Next, respondents were asked to describe any issues that they perceive make recruiting women particularly challenging for their field. The most common answers were: the small number of women in the field (including availability of qualified

applicants), dual career opportunities (particularly if both want tenure-track lines in the same narrow field), the strong competition with industry positions, and the geographic location of UNL. Additional answers provided included: the quality of schools and childcare, difficulty balancing work and family in science fields, the demands required to earn tenure, and the culture surrounding the field not being particularly inviting to women.

Findings: The survey also asked respondents to assess how well several statements reflect the overall position of their department. Over half of all respondents (68.8% of search committee chairs and 60% of department chairs) strongly agreed or agreed that overall, spouse/partner hires have worked out well for their department in the past, but about one-fifth were not sure. There was less agreement on statements regarding the perception of spouse/partner hires as an opportunity or as a burden. Most notably, 60% of department chairs agreed that in general spouse/partner hires are viewed as an opportunity among department colleagues, 60% also agreed that spouse/partner hires are generally viewed as a burden. The same trend is also evident among search committee chairs.

Findings: Another topic addressed in the survey was how ADVANCE-Nebraska assisted in the search process. Respondents were given a list of types of assistance that could have been utilized, and were asked to select all of those that ADVANCE-Nebraska did provide to them. An average of 43% of search committee and department chairs did not know in what ways ADVANCE-Nebraska assisted them, 29% learned strategies from a "How to Minimize Implicit Bias Effects and Hire the Best Faculty" workshop, 29% learned strategies from the Faculty Recruitment and Retention workshops, 19% learned about ADVANCE-Nebraska strategies from colleagues, 19% received dual career assistance, 14% used the ADVANCE-Nebraska website, 10% called the ADVANCE-Nebraska office for assistance, and 10% were assisted in "Other" ways (ADVANCE helped pay to interview the spouse of a candidate, and materials from the ADVANCE office were used). Comparing responses provided by department chairs and search committee chairs, we see that department chairs were more likely to report using ADVANCE-Nebraska services. The largest discrepancies were in reporting use of the ADVANCE-Nebraska website (40% of department chairs compared to 6.3% of search committee chairs) and calling the ADVANCE-Nebraska office for assistance (40% compared to 0%).

Finding: Respondents were also asked how likely they are to incorporate various activities into future searches. On average, search committee chairs and department chairs were very likely to incorporate the following activities: talking to potential candidates at professional conferences or meetings (83%), asking colleagues from other institutions to encourage their students to apply (83%), contacting potential candidates directly through letters, phone calls, emails, etc. (74%), advertising in discipline-specific journals or newsletters (68%), advertising on internet sites (68%), and showcasing UNL by inviting potential candidates to campus as speakers (55%). Only 38% of search committee and department chairs indicated they were not likely to write job advertisements that are narrowly defined (we want this to be even lower), and 29% said they were not likely to encourage post docs already at UNL to apply (we want this to be higher for women post docs). An important difference between the responses of department chairs and search committee chairs was that 40% of department chairs indicated they are not at all likely to write job advertisements that are broadly defined compared to 0% of search committee chairs. Also, 60% of department chairs said they were very likely to encourage post docs already at UNL to apply compared to only 16.7% of search committee chairs.

Findings: Overall there is considerable willingness to try new actions to improve applicant pools. We need to sort out who writes job ads (search/department chair) and the

ability/value of narrow/broad. Also, we need to find out more about post docs as a pool for hiring faculty.

Findings: Finally, respondents were asked to list what aspects of the search process they would like help with in the future. Two respondents said advertising. The remaining answers given included: PeopleAdmin, educating upper administration to encourage the hiring of women as a priority at UNL, having a pool of tenure track lines for dual career hires to be used for top women candidates, giving a presentation to faculty on how to attract minorities (including benefits of it, opportunities, and UNL policy), and clearly understanding the rules about contacting potential candidates.

E. SHOWCASE VISITS

There were three applications for showcase visitors this year. Two of the three were for the Chemistry department (Melanie Sanford on 2/25/11 and Jacqueline Barton on 4/8/11); the third was in Biological Systems Engineering (Huihui Xu, Applied Biology and Biomedical Engineering, Rose-Hulman Institute of Technology). Demand is expected to increase as word of the program is circulated at ADVANCE events, at department visits, and via our listserv and website. The program is being advertised through the ADVANCE-Nebraska website, promotional materials (e.g., bookmarks), and in the Department and Search Committee visits.

In April, 2011, we compiled a list of active women National Academy of Science members from the NAS website and sent an announcement of the list to all STEM faculty, reminding them that we can help with their seminar/colloquium speakers. Eighteen departments have requested a copy of the list. We will send out reminders over the summer. One National Academy speaker from Chemistry, Dr. Geri Richmond, University of Oregon, is scheduled for spring 2012.

F. DEPARTMENTAL DIVERSITY GRANTS

No applications have been submitted thus far. Informal feedback suggests that faculty rather think that ADVANCE-Nebraska should generate the ideas. ADVANCE-Nebraska continues to work on this perception by encouraging departments to use these grants to implement extra efforts to diversify their applicant pools. The grants are being advertised through the ADVANCE-Nebraska website, promotional materials (e.g., bookmarks), and in the Department and Search Committee visits.

G. RECRUITMENT AMBASSADORS

No applications were submitted in the first two years, but there were three requests for Recruitment Ambassadors in 2010-11 (all were awarded). One request was from Earth & Atmospheric Sciences and two were from Civil Engineering. The program is being advertised through the ADVANCE-Nebraska website, promotional materials (e.g., bookmarks), and in the Department and Search Committee visits.

H. CASE STUDIES OF UNL STEM SEARCHES

Case studies are being conducted to track STEM searches happening in 2010-11. A combination of qualitative and quantitative data is being collected to assess the search process and outcomes. Some data elements being tracked include: search committee membership, recruitment strategies used, advertisements, notes from meetings with deans and chairs, applicant pool, short list, and hired data, departmental participation in ADVANCE-Nebraska, and dual career participation.

2. Findings from Activities that Promote Goal 2: increase retention and support women STEM faculty into positions of leadership

a. Writing Retreat, May, 2010

The Bureau of Sociological Research conducted brief follow-up telephone interviews with the participants of the ADVANCE-Nebraska writing retreat that was held in May, 2010. Of the sixteen registrants that were called, nine completed the interview and five were unable to be reached. Additionally, two registrants said that they signed up for the retreat but were ultimately unable to attend. Interviewees were asked what their personal goals were for the writing retreat, if they were able to reach those goals, and for any additional comments or suggestions regarding the retreat.

Most interviewees stated that they had specific projects they wanted to work on going into the retreat, the large majority of which were papers, articles, or grant proposals. Typically, participants were working on an average of two to three papers or proposals for this retreat. Participants' goals entering the writing retreat usually entailed either finishing these projects or getting a large majority of the writing done. Of the nine participants interviewed, five reported submitting one paper after the retreat and one reported having a paper published. Additionally, two participants reported submitting grants after the retreat. Participants who did not finish their projects reported being able to get a significant amount of writing done and stated they were satisfied with the amount of work they were able to accomplish during the writing retreat.

When asked for additional comments and suggestions regarding the retreat, interviewees offered a variety of opinions. Generally, the responses were positive. Participants said this was a wonderful opportunity and they hope this retreat will be available every year. They felt it was well organized and was a really helpful activity as most people in this position are busy and usually have several unfinished projects. One person noted the value of this retreat as a social opportunity as well and liked the discussions and activities. Others said they wished there was less of a focus on activities and more quite time just for writing and more independence for writers. Another issue brought up by several interviewees dealt with the amount of space allotted for the retreat; they wished it was held in a more comfortable area and there was more room to spread out.

Post-event evaluations showed that the vast majority of participants agreed that they learned something from the event that will help with their career, and that the material covered was useful for them. Participants reported that the uninterrupted time to write was what they found most valuable. Other aspects that were valued by participants included the feedback from peers, learning strategies about how to write a lot & write well, meeting new colleagues, the organization of the event, the amount of writing done, and the refreshments provided.

b. Hosted Informal Networking Opportunities

Two informal networking gatherings were held in 2010-2011. The first was a reception for all UNL women faculty in STEM, held on November 22, 2010 in Morrill Hall on the UNL city campus. It was an opportunity for STEM women faculty to meet the ADVANCE co-PIs, and also to interact with one another in an informal social setting for professional networking and collaboration. The second event was held Thursday, April 21 for women full professors in STEM disciplines. The luncheon was suggested and hosted by members of the ADVANCE Faculty Committee, and is meant as a first step in fostering an on-going collegial community among senior STEM women at UNL.

C. PROFESSIONAL DEVELOPMENT (COACHE) WORKSHOP

Twenty-nine people of various ranks (Associate Dean, Director, Assistant Director, Full professor, Associate professor, Assistant professor, Professor of Practice, Assistant Professor of Practice, Graduate student, Post doc, and staff) attended the 'Art of Strategic Persuasion 'and 'Strategies for Leading Change' COACHE workshop. Participants represented the following departments: ADVANCE office, Chemical & Bimolecular Engineering, Earth & Atmospheric Sciences, Food Processing Center, Industrial & Management Systems Engineering, Marketing, Nutrition & Health Sciences, Political Science, School of Biological Sciences, School of Natural Resources, Shared Computing Services, Sociology, and University Libraries. Out of the 29 people that attended the event, 21 completed an evaluation (2 men and 19 women).

Respondents were first asked to assess the usefulness of the workshop. The following table reports to what extent respondents agreed or disagreed with a variety of statements. Responses were overwhelmingly positive in reference to having learned something useful at the event (including learning something that will help them with their career and learning something valuable about strategic performance and/or leading change). There was slightly less agreement on whether the material covered was what they expected.

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
I learned something from this event that will help me with my career. (N=21)	95%	5%			
The material covered in this event was what I expected. (N=21)	52%	29%	19%		
The material covered in this event was useful for me. (N=20)	80%	20%			
I learned something valuable about strategic performance and/or leading change. (N=21)	86%	14%			

Respondents were next asked to describe what they found most valuable from attending the event. The most common answer was learning voice projection techniques. Other answers given by more than one respondent included: tactics to use when interacting with other people (particularly tactics of persuasion when presenting ideas), learning and practicing new skills, discussing real life examples in groups, the discussion about strategies for more productive and effective negotiations, the power of positive thought, and the importance of preparation.

Next, respondents were asked what topics they would like to have addressed in future ADVANCE-Nebraska events. The most common answer was more COACHE workshops or a continuation of the topic discussed at this event. Other answers provided were: how to "work a room in a social situation with VIPs," how to "effectively communicate to sway or influence people's decisions," how to prepare for and act during a job interview, the characteristics of successful people, time management, effective public speaking, scientific presentations, and "eliminating rabbit trails." One respondent suggested that there be a team coaching event "where small groups of people get help from a professional coach and each other." Another respondent suggested "the use of group (weekly/monthly) discussions per book, "On every other Thursday," to help resolve issues."

Respondents were asked to describe their plans for sharing what they learned with their colleagues and to specify how ADVANCE-Nebraska can help in doing this. The most

common answers were: will discuss what they learned with colleagues or family members, share information with students and postdocs, will share by example, will tell their colleagues to attend this workshop, and will use positive energy/thoughts when interacting with others. One respondent said they would use the information when mentoring a faculty member. Another said they would write about aspects of the workshop on their blog. None of the respondents discussed how ADVANCE-Nebraska could help them share what they learned.

D. E-NEWS AND WEBSITE

Faculty and external constituents receive a bi-monthly e-newsletter with information on current research and opportunities related to the advancement of women. An ADVANCE-Nebraska website was created that includes presentations, policy information, and other relevant documentation. The website averages about 58 visits per week, with an average of four minutes per visit. Forty percent of visits are direct traffic visitors, 38% are from referring sites, and 22% are from search engines. Information about ADVANCE-Nebraska is also disseminated at ADVANCE events, in promotional materials (e.g., bookmark), and in Department and Search Committee visits. Post-event evaluations indicate that the majority of participants (at all types of events) have consistently learned about ADVANCE-Nebraska events from email announcements. Participants also reported learning something valuable about ADVANCE-Nebraska at the events.

E. DISSEMINATE UNL WORK-LIFE POLICIES

ADVANCE-Nebraska worked with the Senior Vice Chancellor for Academic Affairs (SVCAA) Office to more clearly communicate existing policies. The clarified work-life policies were posted on the SVCAA website. A link to the policies was also posted on the ADVANCE-Nebraska website. ADVANCE-Nebraska distributes a flyer on UNL Work-Life Integration policies to all short-list candidates, to faculty at Department and Search Committee visits, and to participants at all ADVANCE-Nebraska events.

Faculty who left UNL were invited to participate in a nationwide exit survey conducted by Rice University (for those who left between 2003-08), or a UNL exit survey conducted by the BOSR (for those who left between 2008-09). Results from these studies suggest that problems with family friendly policies are not a leading reason for faculty leaving UNL. The new hire interviews showed that all of the 24 new hires that were interviewed in the fall of 2010 were aware of at least some work-life balance policies. Four (3 women and 1 man) specifically mentioned that they learned of the policies from ADVANCE-Nebraska. When asked how knowledge of these policies affected their decision to accept the UNL job offer, 9 of the 18 male respondents said it didn't affect their decision at all. In comparison, 5 of the 6 female respondents who were asked this question reported that it influenced their decision to some degree, with one woman specifying that it "positively affected" her decision.

Table 11-03. Gender breakdown of STEM faculty who utilized a tenure interruption: Men/Women by year.

	Men	Women	STEM Faculty
2000/01	1	1	394
2001/02	0	1	398
2002/03	1	1	404
2003/04	0	3	414

2004/05	0	0	417
2005/06	1	0	422
2006/07	0	1	413
2007/08	2	2	416
2008/09	0	0	430
2009/10	1	0	
2010/11	1	2	

F. DANA BRITTON INTERVIEWS

As part of a much larger study of 170 associate and full professors at over 12 universities (a separate NSF grant), Dr. Dana Britton, an ADVANCE co-PI at Kansas State University, conducted in-depth interviews with 14 UNL faculty members (8 women and 6 men). She focused on tenure and promotion experiences and their satisfaction with their academic career at UNL. Half of the faculty members interviewed were associate professors and half were full professors. The interviews have been transcribed by the UNL Bureau of Sociological Research. The results are being analyzed by the ADVANCE team and will be discussed in next report

G. SALARY STUDY

We used Analysis of Covariance to describe the relationship between a continuous dependent variable (salary) and one or more nominal independent variables (gender). That is, we take into account gender-neutral factors or variables that would be expected to affect salary levels. These gender-neutral variables include a faculty member's college, division or departmental grouping; faculty rank, number of years in rank, tenure status, graduate faculty status, education level, number of years since award of a terminal degree, year hired, chair/head status, active or on leave of absence with full or partial pay, professorship stipend level, and type of professorship (Regent's, Distinguished, College, et. al.). After accounting for these gender-neutral variables, the analysis reveals any disparity in faculty salary attributable to gender.

Federal courts have held that in order for the coefficient for gender in a statistical study as described above to be legally significant, the coefficient must be "statistically significant". In Hazelwood School Dist. v. United States, 433 U.S. 299 (1977), the U.S. Supreme Court approved a "two or three standard deviation test" for determining statistical significance in the context of employment discrimination cases. That test is equivalent to obtaining a p-value of .05 or less for the gender coefficient, or, the salary differentials will be considered significant, both statistically and legally, if the p-value for the gender coefficient is .05 or less.

Table 01-05 shows that all current average salary differences attributable to gender for all faculty ranks are *not statistically significant* because the gender coefficient is greater than .05 in all cases.

Table 01-05. University of Nebraska - Lincoln

Male-Female Faculty Salary Comparisons in STEM Fields

	p	**FN**	**TN**
2008-09	*.23*	105	577

2010-11	*.13*	172	772

p=The significance level for a statistical difference

FN=the number of female faculty included in analysis

TN=The total number of faculty included in analysis

3. Findings from Activities that Promote Goals 1 and 2: Activities that Address Goals 1 and 2: increase hiring and improve retention of women STEM faculty

a. Conversations Series

ADVANCE-Nebraska hosted ten Conversation Series between September 2010 and April 2011. An average of 24.6 people attended each event, with the largest number of attendees at the first conversation series (47 attendees) and the smallest number at the last conversation series (15 attendees). Overall, 60% of all Conversation Series participants were women. Attendees at all events represented many departments across campus and included faculty of all ranks, students, staff and administrators.

The following table lists the mean scores for various items addressing the usefulness of the workshop. Most participants agreed with statements about the usefulness of the material presented and about having learned something valuable at the event.

EVENT	I learned something from this event that will help me with my career	The material covered in this event was what I expected	The material covered in this event was useful for me	I learned something valuable about <WORKSHOP TOPIC>
Starting up and Managing a Research Lab*	4.2	4.3	4.4	4.3
Recruiting a Diverse Faculty*	3.9	4.8	4.6	4.4
Candidate Evaluation*	4.4	4.1	4.5	4.6
The On-Campus Interview*	4.6	4.0	4.5	4.5
Nominating for the Good of All*	-	4.3	4.4	4.5
Sustaining a Stream of Research Publications*	4.5	4.4	4.5	4.7
Teaching to Attract and Retain STEM Majors*	4.5	4.0	4.5	4.3
Teaching Challenges…and Solutions*	4.9	4.5	4.8	4.7
If I Were in Charge: Opportunities to Become a	4.3	4.3	4.4	4.4

Campus Leader*				
Now I have Tenure-What's Next?*	4.5	4.1	4.3	4.3

** Means from a likert scale where 5=Strongly Agree, 4=Agree, 3=Neither Agree nor Disagree, 2=Disagree, and 1=Strongly Disagree*

Respondents were asked to describe what they found most valuable from attending the event. Answers varied greatly depending on the topic of the conversation series. The most common answer(s) at each event were respectively:

- learning some type of management skill (including managing graduate students, time management, budget management, and lab management);
- learning about resources and strategies for recruiting a diverse applicant pool (particularly available ADVANCE resources);
- learning about unexamined biases and the discussion about being change agents; learning of variations in approaches to interviews/candidate selection across departments;
- the idea that departments should have an awards committee,
- the importance of networking, and the discussion of experiences and ideas;
- time management/ writing tips given (including techniques on prioritizing time, how to organize research material, setting writing goals, how to avoid distractions/stay motivated while writing, and pitfalls to avoid);
- learning new teaching methods/techniques (particularly how to engage students in a variety of classroom settings);
- the data and discussion about the effect of gender and race on student evaluation of teaching;
- hearing the personal stories and experiences of other faculty; and meeting other faculty and hearing their experiences.

Respondents were also asked to describe the topics that they would like to have addressed in future ADVANCE-Nebraska events. Suggestions that were given by participants at more than one event were: effective and engaging classroom instruction techniques, a workshop on time/people management and career planning *specifically for new faculty*, management tips (including budget management, people management and time management), balancing teaching, research and service responsibilities, writing skills development (for proposals or scientific writing), developing mentoring relationships with faculty and students, and facilitating or developing collaborations.

For the final conversation series held this academic year, a new question was added to the event evaluation. Attendees were asked to describe their plans for sharing what they learned at the event with their colleagues, and specify how ADVANCE-Nebraska could help in doing so. The most common response was that they would mentor junior faculty better or discuss the topic with them.

Each event has been evaluated, and the results overall very positive. Details on each event are given below:

Topic	**Target Audience**	**Evaluation Scores and Attendance**	**Panelists**
Wednesday September 22 All These People, All	All STEM Assistant Professors and	17.24 / 20 (86% approval) Count: 47	Marjorie Lou (Vet & BioMed Sciences), Mehmet Can Vuran

These Tasks: Starting Up and Managing a Research Lab	their Department Chairs	NoShow: 18 28% Reg: 65	(Physics and Engineering), David Hage (Chemistry)
Wednesday September 29 Casting a Wide Net: Best practices for recruiting a diverse faculty	Search committee members and their chairs; all faculty	17.69 / 20 (88% approval) Count: 31 NoShow: 8 21% Reg: 39	Members of the Recruit Committee, Concetta DiRusso (Biochemistry) Danny Hoyt (Sociology)
Friday October 15 Pitfalls and Promise of Candidate Evaluation	STEM Search committee members and their chairs; all faculty	17.99 / 20 (90% approval) Count: 22 NoShow: 5 19% Reg: 27	Joyce Yen, Program/Research Manager of The University of Washington's ADVANCE Center for Institutional Change Members of the Promote Committee
Wednesday October 20 Here They Come!: What the on-campus interview should look like	STEM Search committee members and their chairs; all faculty	17.48 / 20 (87% approval) Count: 22 NoShow: 3 12% Reg: 25	Members of the Promote Committee Jerry Hudgins (Electrical Engineering) Steve Waller (Dean, College of Agricultural and Natural Resources
Wednesday November 17 Nominating for the good of all – putting colleagues forward for prestigious national awards	All STEM faculty	12.89 / 15 (86% approval) Count: 17 NoShow: 3 15% Reg: 20	Jim van Etten (Plant Pathology) Mary Anne Holmes (EAS; ADVANCE Director) Paul Black (Chair, Biochemistry)
Wednesday December 8 Sustaining a consistent stream of research publications	All STEM faculty (main target: Asst and Assoc Profs)	18.08 / 20 (90% approval) Count: 26 NoShow: 9 26% Reg: 35	Chris Fielding (Earth & Atmospheric Sciences) Anu Subramanian (Chemical & Biomolecular Engineering) Sheila E Scheideler (Animal Sciences)
Thursday, January13th Rising Above the Gathering Storm: Teaching to Attract and Retain STEM Majors	STEM faculty	17.29 / 20 (86% approval) Count: 28 NoShow: 5 15% Reg: 33	Cheryl Bailey, Biochemistry Jon Pedersen, Center for Math, Science and Computer Science Education Jack Morris, School of Biological Sciences
Wednesday, January 26th Teaching Challenges…and solutions	STEM faculty, esp. Assistant Profs	18.86 / 20 (94% approval) Count: 18 NoShow: 6 25%	Ted Pardy, School of Biological Sciences Gary Bailey, Classics and Religious Studies & SNR Helen Moore, Sociology

		Reg: 24	
Thursday, February 10th If I Were in Charge: Opportunities to become a Campus Leader	STEM faculty, esp. Associate-Full profs	17.42 / 20 (87% approval) Count: 26 NoShow: 3 13% Reg: 23	Susan Fritz, Associate Vice Chancellor for IANR and Interim Dean, Agricultural Research Division Pat Dussault, Chemistry Dave Sellmeyer, Physics and Astronomy; Director, Nebraska Center for Materials and Nanoscience
Monday, February 21 COACh Workshop	STEM faculty	18.94 / 20 (95% approval) Count: 30 NoShow: 1 3% Reg: 31	Lee Warren, Nancy Houfek, Harvard
Thursday, March 31 Now I Have Tenure-What's Next?		17.2 / 20 (86% approval) Count: 15 NoShow: 1 6% Reg: 16	Sheri Fritz, Earth & Atmospheric Sciences Melanie Simpson, Biochemistry Lily Wang, Architectural Engineering

B. ADVANCE FACULTY COMMITTEE

In the spring of 2011, the Recruit and Promote committees under Advance-Nebraska merged and formed one committee called the Advance Faculty Committee. The committee will contain two subcommittees that will focus in different, but complementary ways on the critical areas of recruiting, retaining, and promoting an excellent, diverse faculty at UNL.

The RECRUIT and PROMOTE committees each consist of six faculty per committee. Committee members are all tenured faculty and thus far, 11 STEM departments have been represented. Some turnover has occurred: with 2 members resigning (these members were replaced with new members). One member resigned because of a new promotion and the other member resigned for medical reasons.

The RECRUIT committee gathered data and prepared department-level reports summarizing the data for each UNL STEM department, as well as national comparison data for each discipline. This information was used for the Department Visit meetings that began in the fall of 2010. The committee also created a "Best Practices" handout that is being distributed by EAD to all search chairs. EAD reported that they received feedback from one of the search chairs about how great the document is and that it was just what they needed.

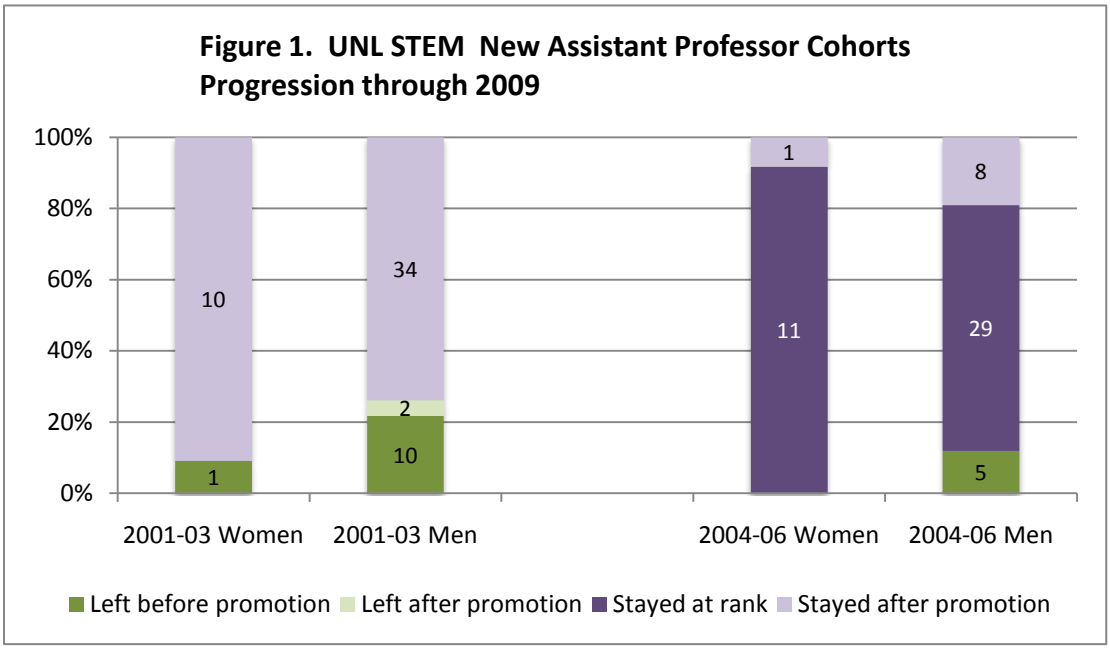
The PROMOTE committee gathered data and literature on implicit bias. They then presented this information at a workshop in November 2009 for current search committee chairs on ways to minimize the impact of implicit bias and increase the diversity of applicant pools. Eight current STEM search committee chairs attended. Post-event evaluations showed positive responses in reference to the worth of the workshop and whether respondents learned anything from it. What was found most valuable from

attending the workshop was: faculty discussions, thinking about search strategies, and learning about ways to evaluate and talk about women's application materials (specifically, what shows an ability to excel, whether or not bigger life issues for women candidates are currently taken into consideration, and how verbiage in job announcements can be used to attract women applicants). Over one quarter of respondents from the search committee chair and department chair survey reported that they received assistance with their search by attending this workshop.

The RECRUIT and PROMOTE Committees served as facilitators and panelists at two Conversations during the fall of 2010, and will be presenting again in April, 2011. Nearly all participants (96%) at the two Conversations at which the committees presented agreed or strongly agreed that the material presented was useful, and 87% reported that they learned something valuable about the topic area. Over one quarter of respondents from the search committee chair and department chair survey reported that they received assistance with their search by attending the chair workshop series

C. Long-Term Retention: Cohort Study

We grouped faculty at assistant and associate professor rank into cohorts to follow their retention and promotion from 2001 to 2009. We used four cohorts: 1) newly appointed assistant professors between 2001 and 2003, 2) newly appointed assistant professors between 2004 and 2006, 3) newly appointed associate professors between 2001 and 2003, and 4) newly appointed associate professors between 2004 and 2006. The associate professor cohorts include faculty who were either newly promoted to that rank or newly hired at that rank.



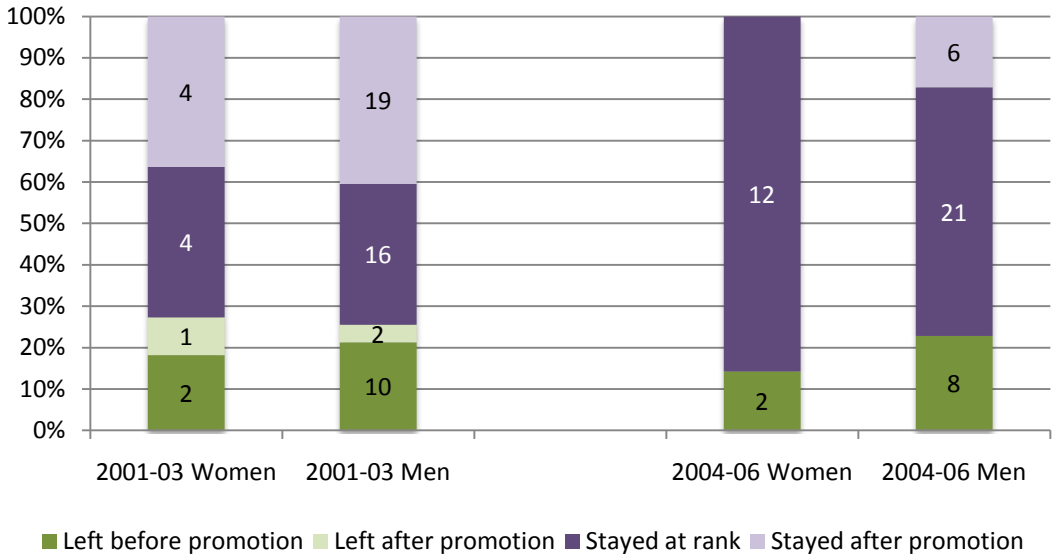
The progression of the assistant professor cohorts, by gender, demonstrates that attrition is a larger issue for men than women (Fig. 1). AA total of 26% (N=12) of men who were new assistant professors between 2001-2003 left UNL by 2009. Two of these left after being promoted to associate. Only one woman (9% of the cohort) left by 2009, and she left before her promotion. None of the 12 women who were new assistant professors between 2004-2006 left UNL by 2009, whereas, 12% (N=5) of men left. All of the assistant professors (100%) from the 2001-2003 cohorts who remained at UNL by 2009 were promoted to associate. Among the 2004-2006 cohort who remained at UNL in 2009, 8% of

women (N=1) and 22% of men (N=8) had been promoted to associate. This suggests that men may be promoted more quickly than women; however, the number of years applied toward tenure (e.g., post-doctoral or previous academic or industrial work), nor stop-the-tenure-clock usages taken into account, so interpretations regarding time to promotion should be made cautiously.

Attrition rates were similar for both genders for the earlier 2001-2003 associate professor cohort (Fig. 2), with 26% (N=12) of men and 27% (N=3) of women leaving UNL by 2009. Of those from this cohort who left, 1 woman and 2 men left after being promoted to full. Among associate professors appointed between 2004-2006, men were more likely to leave UNL. Twenty-three percent (N=8) of these men and 14% (N=2) of these women left UNL by 2009. All left before being promoted.

Men appear to be promoted to full professor more quickly than women. None of the 12 women in the 2004-2006 cohort who remained at UNL were promoted to full professor by 2009, whereas 22% (N=6) of the men in this cohort were promoted. There was less of a difference between genders among the 2001-2003 cohort, but men were still promoted at a slightly higher rate. Half (50%, N=4) of women and 54% (N=19) of men who were new associate professors between 2001-2003 were promoted to full professor by 2009.

Figure 2. UNL STEM New Associate Professor Cohorts Progression through 2009

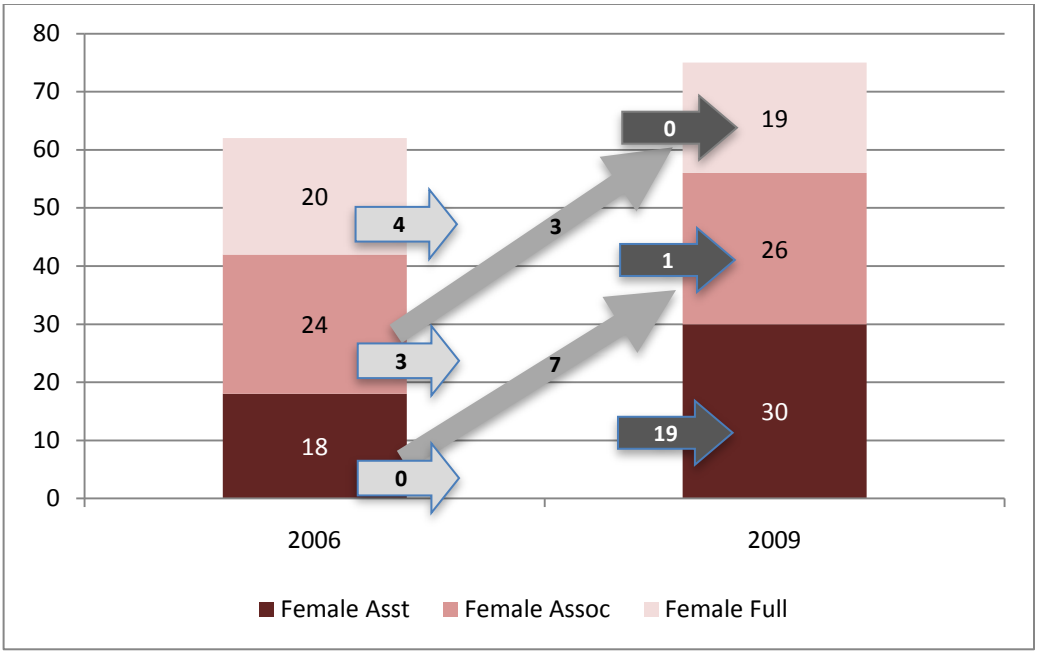


Regression models were utilized to predict the probability of assistant professors leaving at the assistant level (before promotion) and associate professors leaving at the associate level (before promotion). The n's were too small to compare those in the assistant cohort who left at the associate level and likewise for the associates who left at the full level. Regressions were used to predict promotion to associate and full. The variables included in the regression models included gender, college, date PhD was obtained, date of hire at UNL, and date of tenure (for associate professors only). Gender was not a significant predictor in any of the models.

Changes in representation of women among UNL STEM faculty are provided as flux charts (Figs. 3 and 4). The number of UNL STEM faculty by rank in 2006 and 2009 for women is given in Figure 3 and for men in Figure 4. Attrition is indicated by arrows exiting the first column, promotions by diagonal arrows, and new hires by arrows entering the

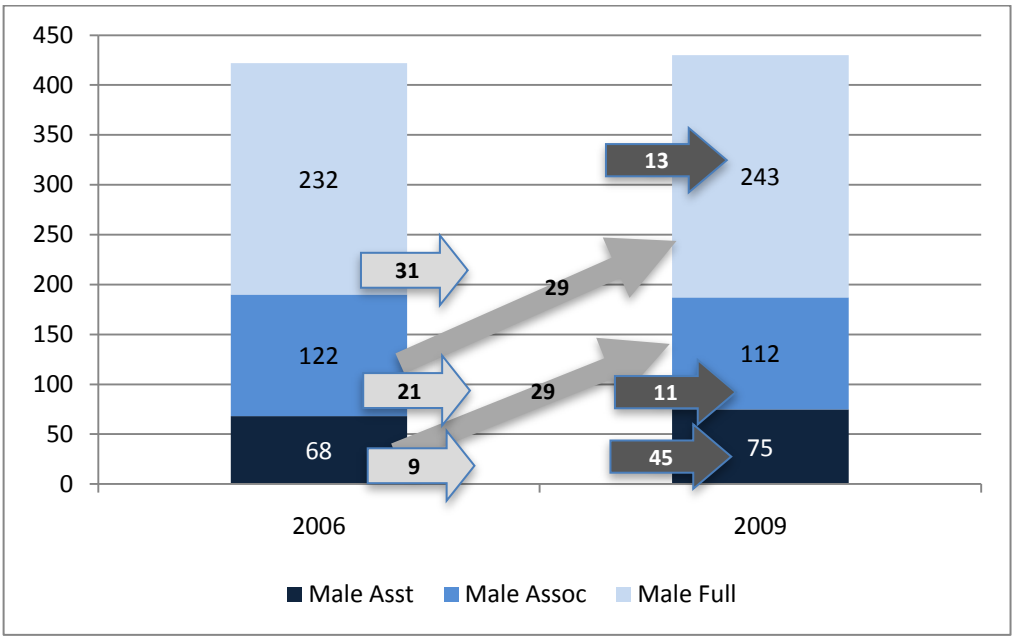
second column. All exits are non-retirement exits. Retirement exits were not considered for this analysis.

Figure 3. Flux Chart of UNL STEM Women



No women left from the Assistant Professor rank between 2006 and 2009 and nineteen new women Assistant Professors were hired. Seven of eighteen assistant professor women were promoted to associate between 2006 and 2009. Three women left from the Associate Professor rank and one was hired into that rank during this time. Four women left from the Full Professor rank and none were hired.

Figure 4. Flux Chart of UNL STEM Men



Nine of sixty-eight Assistant Professor men left between 2006 and 2009, and forty-five new men Assistant Professors were hired. Twenty-one of 122 Associate Professor men left

during this time; twenty-nine Assistant Professor men were promoted to Associate, and eleven men were hired into Associate Professor positions. Thirty-one Full Professor men left; twenty-nine were promoted to Full from Associate, and thirteen men were hired at Full Professor rank.

One of the principal differences between the men's and women's flux charts is that more men, and a greater proportion for the pool, were hired at Full Professor rank than women were. Women left at the Full rank in a greater proportion (20%) than men did, thus the number of women at Full Professor rank declined from 20 to 19 over this time frame. Men leave UNL at a greater rate than women do at the Assistant (13% v. 0%) and Associate (17% v. 12%) ranks.

D. ADVANCE Toolkit: UNL Demographic Data for STEM Departments

i. Current STEM Faculty at UNL

The distribution of UNL tenured and tenure track men and women faculty by department between 2007 and 2010 is provided in Tables 1A-1D (Appendix VII-A). ADVANCE-Nebraska began in September, 2008; thus, data from 2007 represents the baseline year and 2010 represents data two years after the grant began. The representation of tenured and tenure-track women in each STEM department is displayed in Figure 5. All departments have at least one woman except Construction Management. The School of Biological Sciences has the highest representation of all UNL STEM departments with 36% (14 women). Architectural engineering (3 women, 27%) has the highest representation of women in the College of Engineering, and Biochemistry (4 women, 29%) has the highest within the Institute of Agriculture and Natural Resources.

Figure 5. Percent Women of UNL STEM Tenure and Tenure-Track Faculty

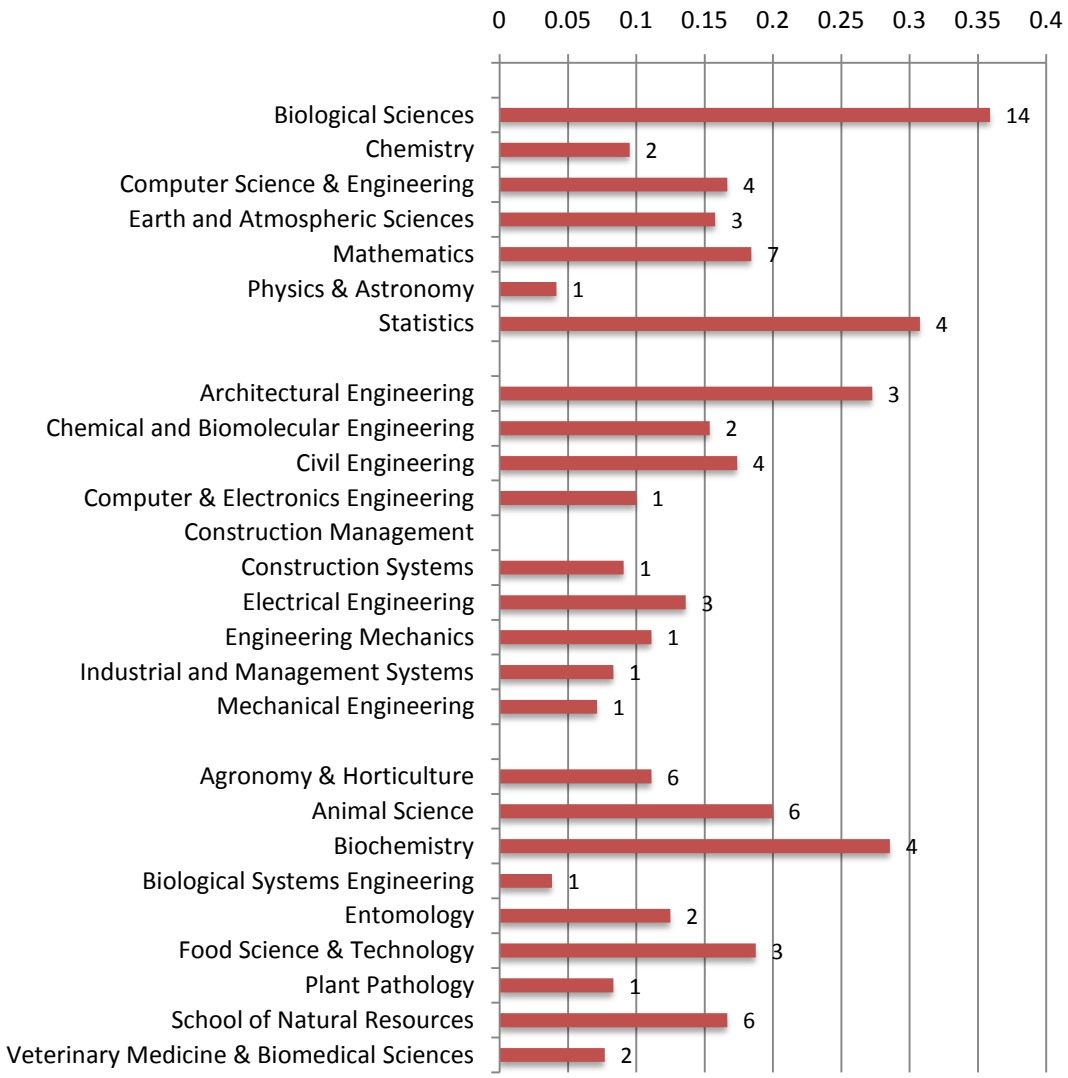
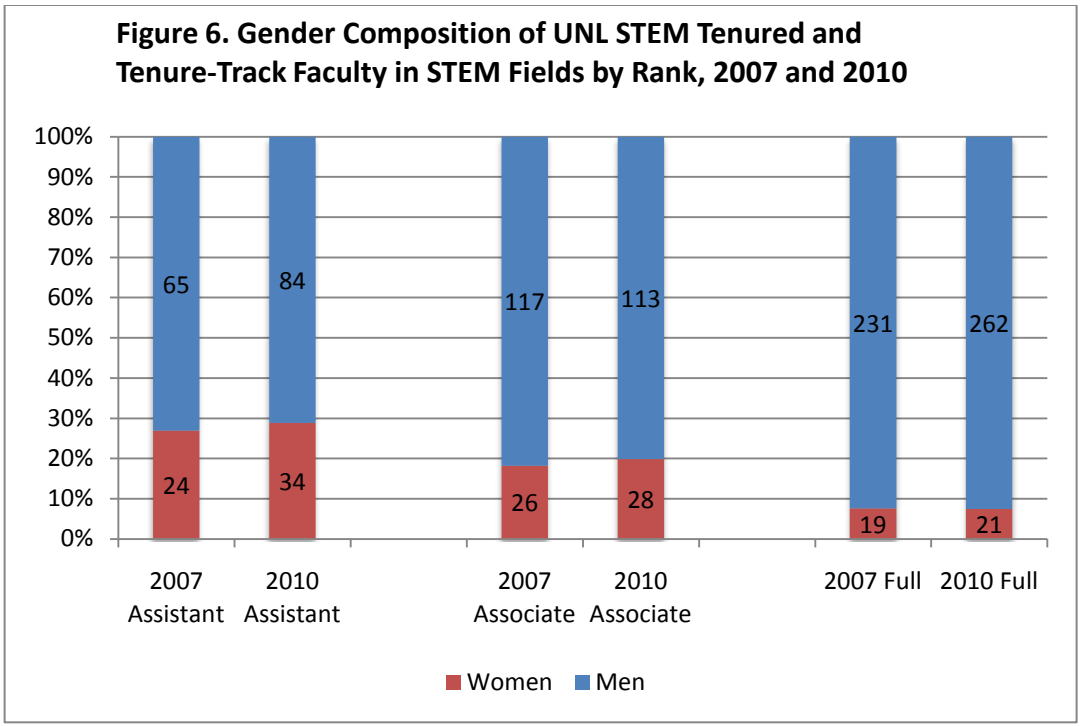


Figure 6 shows the comparisons by rank between 2007 and 2010. There has been an increase in the number of women at each rank over the past 3 years. Ten women were added at the rank of Assistant Professor between 2007 and 2010, resulting in an increased representation of women from 27% to 29%. A similar percentage increase was also made among Associate Professors (from 18% to 20%) with the number of women at this rank increasing from 26 to 28. The representation of women at the Full Professor rank increased with the addition of two women, from 7% to 8%.



ii. Faculty in Non-Tenure-Leading Positions

Tables 2A-2D (Appendix VII-A) show the number of faculty in non-tenure track positions, as well as the number in tenured and tenure-track positions by department. Figure 7 shows that there is a greater proportion of women in non-Tenure Track positions than men in UNL STEM departments. Moreover, the discrepancy between genders has increased since 2007. In 2007, 12% (N=56) of all men faculty in STEM were in non-tenure track positions, compared to 20% (N=17) of women faculty being in these positions. While the percentage of men in non-tenure track positions decreased to 10% (N=49) in 2010, the percentage of female faculty positions increased to 23% (N=25) in this timeframe.

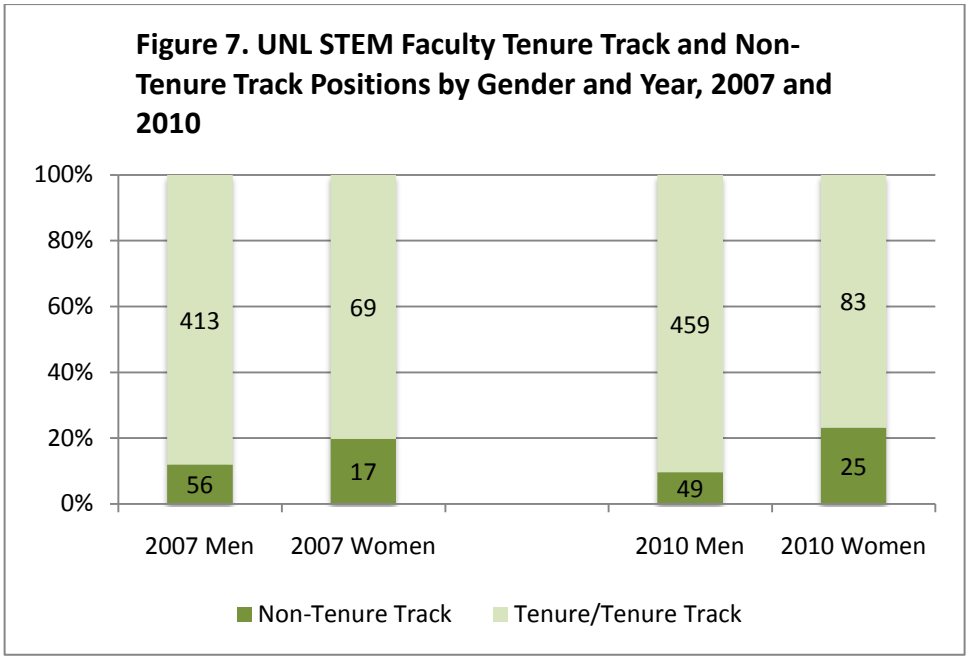
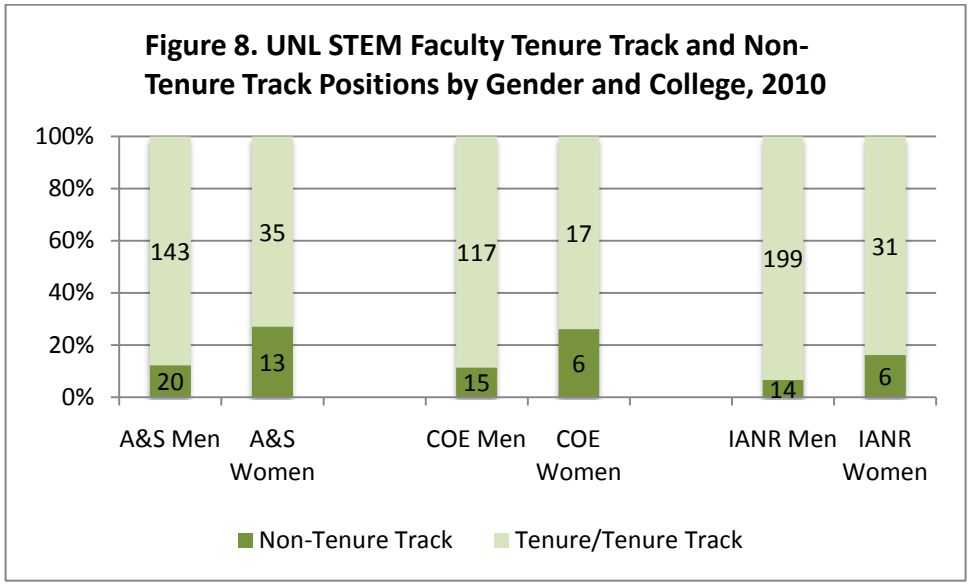
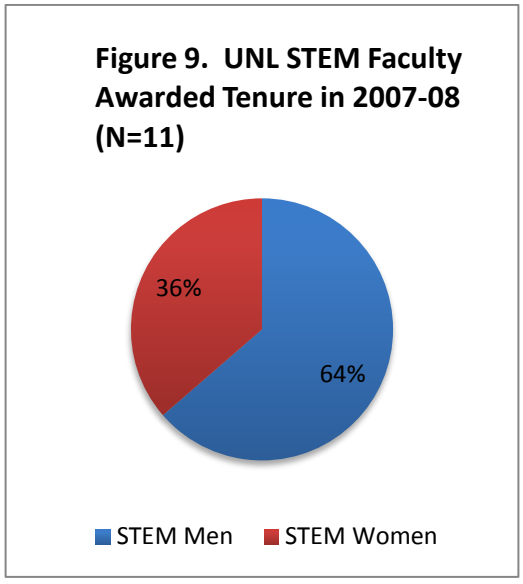


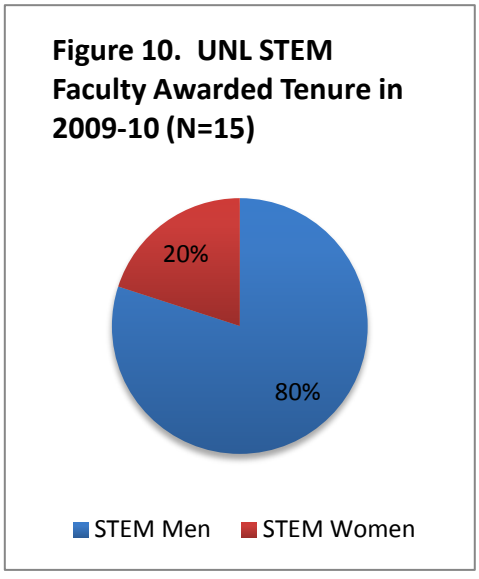
Figure 8 shows the 2010 gender representation in non-tenure track positions by college. The Institute of Agriculture and Natural Resources has the smallest gender discrepancy (10% difference), with 7% (N=14) of men faculty and 16% (N=6) of women faculty in IANR STEM departments being in non-tenure track positions. The other two colleges have 15% gender discrepancies.



iii. Tenure Outcomes

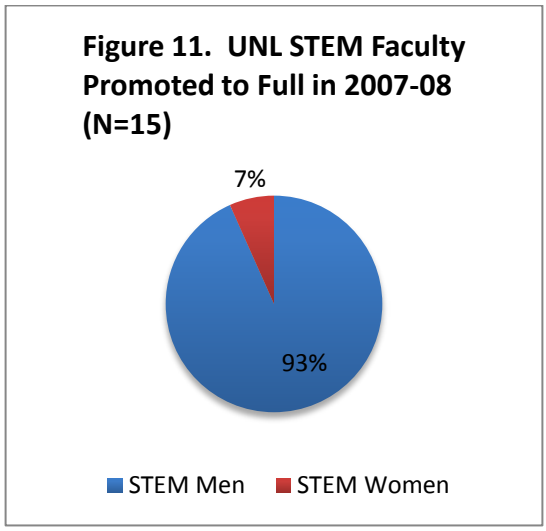
Tenure review outcomes for UNL STEM and SocBeh faculty are provided in Tables 3A and 3B (Appendix VII-A). There have been no denials since 2007 among STEM or SocBeh faculty who have applied for tenure; however, these data reflect only faculty who applied for tenure and do not provide information about faculty who may have been discouraged from applying. The number of faculty who were awarded tenure by gender is illustrated in Figures 9 and 10. In 2007-08, 36% of those approved for tenure were women. In comparison, only 20% of tenure approvals were women in 2009-10.

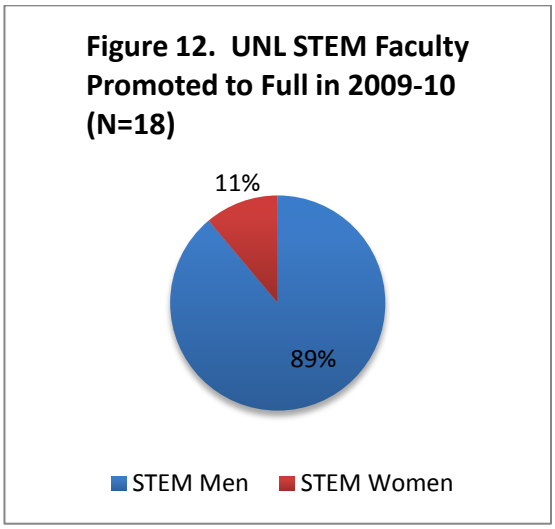




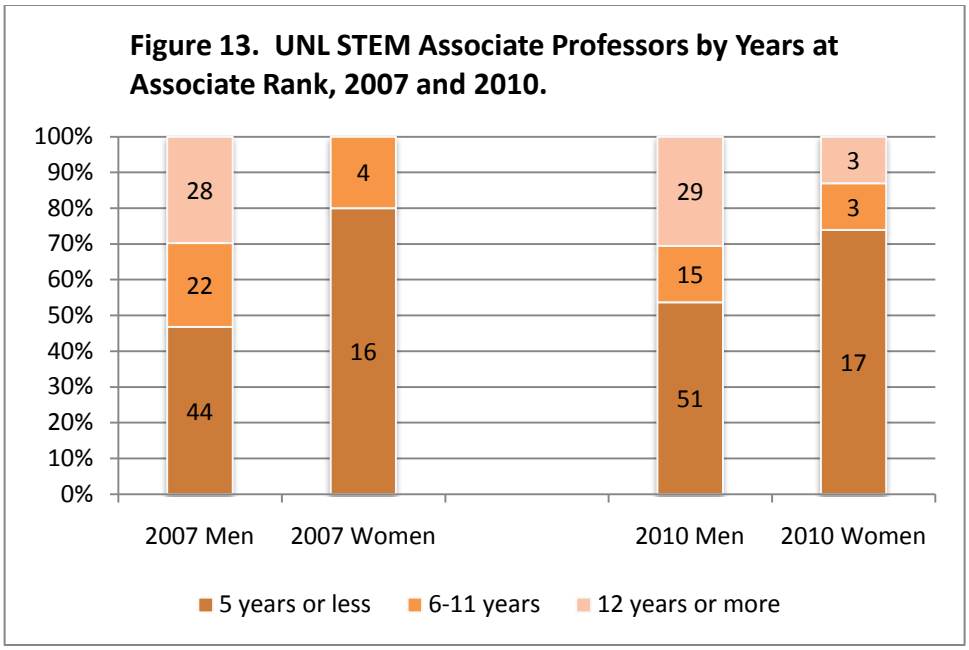
iv. Promotion Outcomes

Promotion review outcomes for UNL STEM and SocBeh faculty are provided in Tables 4A and 4B (Appendix VII-A). There have been no denials since 2007 among STEM or SocBeh faculty who have applied for promotion to full. The number of faculty who were promoted to full by gender is illustrated in Figures 11 and 12. In 2007-08, 7% of those approved for promotion to full were women. A slight increase is shown in 2009-10, with 11% of STEM faculty promoted to full being women.



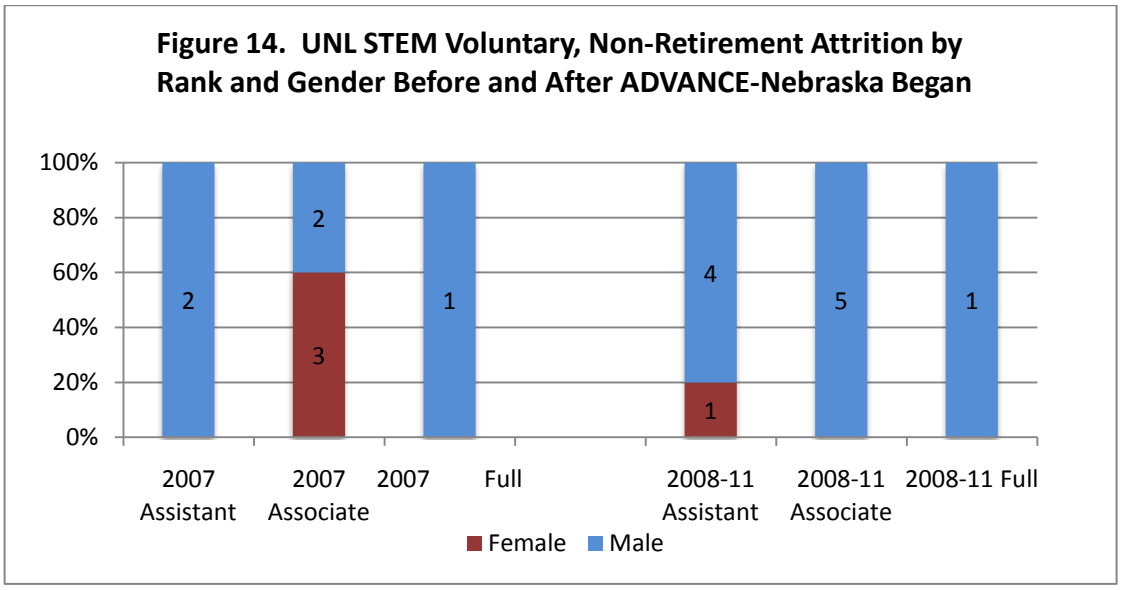


Tables 5A and 5B (Appendix VII-A) show the number of years at the associate professor rank for UNL STEM faculty from 2007 through 2010. Table 5A includes associate professors who were not hired at that rank, but became associate professors while at UNL. Table 5B includes associate professors who were hired at UNL at that rank. Figure 13 shows the distribution by gender among associate professors who were promoted to that rank while at UNL (were not hired at UNL as associate professors). In 2010, 74% (N=17) of women associate professors have been at that rank for 5 years or less, compared to 54% (N=51) of men associate professors. Whereas, 13% (N=3) of women and 31% (N=29) of men associate professors have been at that rank for 12 or more years. The cohort analysis examined the promotion issue in more detail (see Cohort Analysis) and found that men were perhaps being promoted more quickly than women among new associate professors between 2001-2006. But a greater proportion of men remain at the associate rank in STEM departments.



v. Voluntary Departures

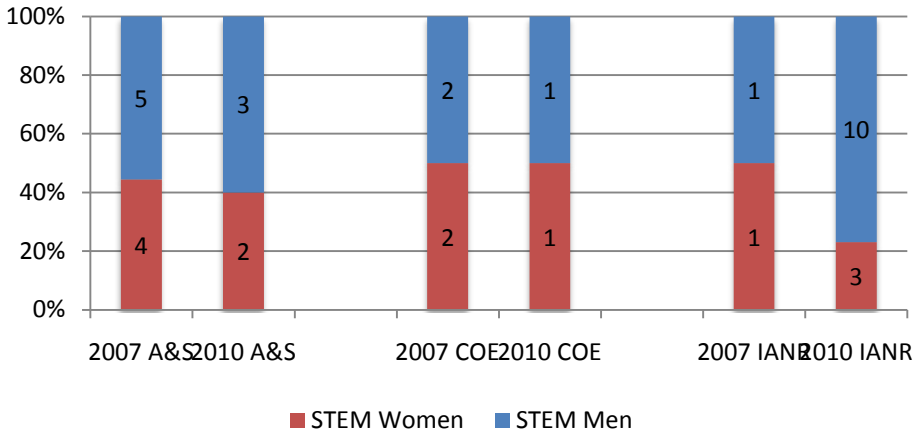
The number of STEM and SocBeh tenured and tenure track faculty who voluntarily left UNL (excluding retirements) are presented by department and gender in Tables 6A-B (Appendix VII-A). Figure 14 shows that women were over-represented among associate professors leaving UNL in 2007, with 60% (N=3) of exiting associate professors being women; however, no women left at the assistant or full professor ranks in 2007. This over-representation of associate professor women exiting UNL appears to be an anomaly in 2007 because only one other woman left at this rank in the previous 5 years (between 2002-2006), compared to 5 men who left during this time. Since September 2008, only one STEM woman of any rank has left, which was at the assistant professor rank and accounted for 20% of faculty leaving at that rank. The cohort analysis, which addressed the attrition issue in more detail (see Cohort Analysis), suggests that attrition is a larger issue for men assistant and associate professors than women.



vi. New Faculty Hires

New faculty hires in STEM and SocBeh departments are shown by gender in Tables 7A-7D (Appendix VII-A). All of the STEM associate and full professor hires in 2007 (N=3) and in 2010 (N=3) were men, but more balance is found when looking at assistant professor hires. Figures 14 and 15 show the number of assistant professor hires by college in 2007 and 2010. The percentage of women hired stayed fairly consistent across time for the College of Arts and Sciences, with 44% in 2007 and 40% in 2010 of new STEM assistant professor hires being women. The same is found in the College of Engineering, with women representing half (50%) of all STEM new assistant professor hires in both years. The percentage of women hires decreased over time for the Institute of Agriculture and Natural Resources. In 2007, 50% of STEM assistant professor hires in IANR were women, but only 23% were women in 2010.

Figure 15. New UNL STEM Faculty Assistant Professor Hires by College



Figures 16, 17, and 18 display the percentage of women in UNL STEM assistant professor applicant pools from filled positions between 2007 and 2010 by department (each bar represents one search unless otherwise noted). For comparison purposes, the figures also include the national percentage of doctorates awarded to women by discipline (National Science Foundation, average of 2002, 2005, and 2008 doctorates), and the percentage of women by discipline in faculty positions as reported in "A National Analysis of Minorities in Science and Engineering Faculties at Research Universities," by Dr. Donna J. Nelson in 2007.

The 2008-09 Mechanical Engineering search was the only UNL STEM search that had more women in the applicant pool than the national PhD rate. A few other searches had women represented in the applicant pool at rates close to the national PhD rates, but most were well below. UNL searches appear to be more comparable to national rates of women in faculty positions. Of the 9 departments where this comparison data is available, Computer Science and Engineering, Mathematics, Civil Engineering, and Mechanical Engineering all had searches since 2007 above the national average. In contrast, Chemistry, Physics, and Chemical and Biomolecular Engineering all had searches since 2007 below the national average. The remaining UNL departments with comparison data had some searches above and some below the national average.

vii. Applicant Pools

Several departments have shown an increase in the representation of women in the applicant pool since 2007. Most notably, Biochemistry had 6% and 5% women in the

applicant pools in 2007-08 and 2008-09 respectively. A substantial increase was found in 2009-10, where women represented 24% of the applicant pool. When interpreting these data, it is important to note that specialty areas vary drastically in their representation of women; therefore, searches within departments can vary depending on the specialty area of the search.

Figure 16. Percent of College of A&S women in UNL STEM Filled Assistant Professor Position Applicant Pools compared to National Representation

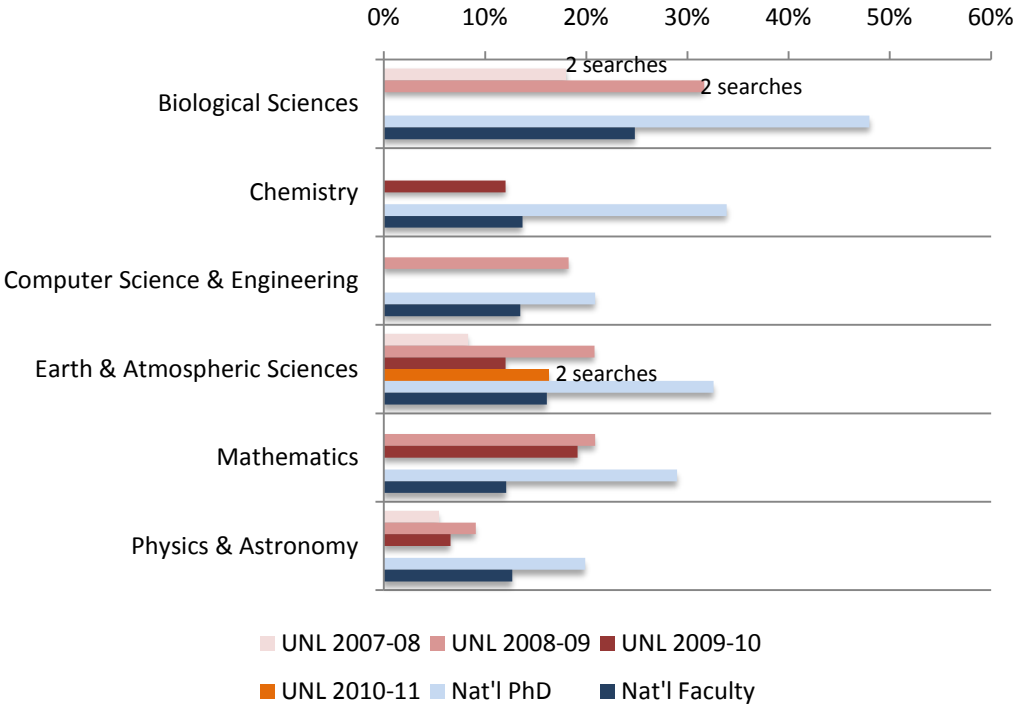
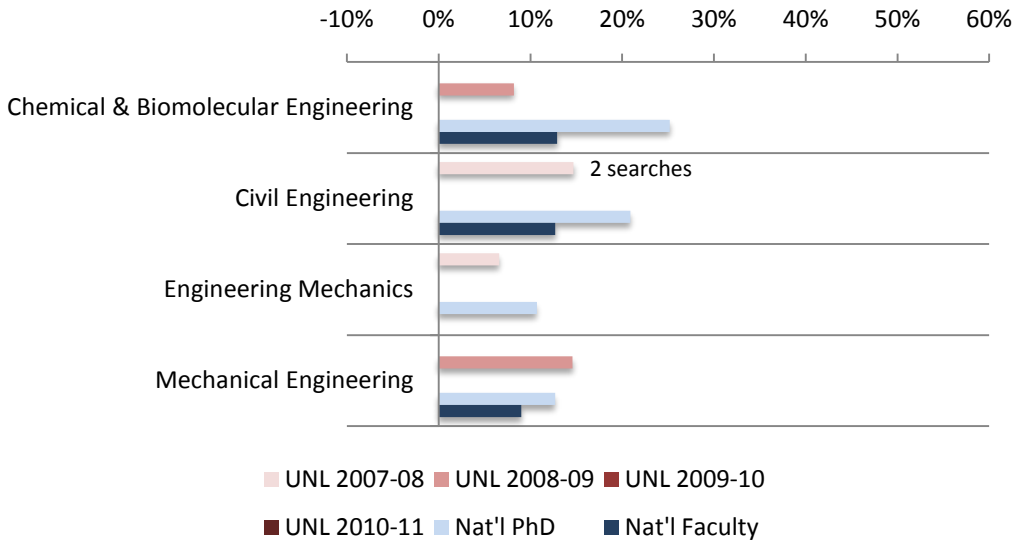


Figure 17. Percent of College of Engineering women in UNL STEM Filled Assistant Professor Position Applicant Pools compared to National Representation



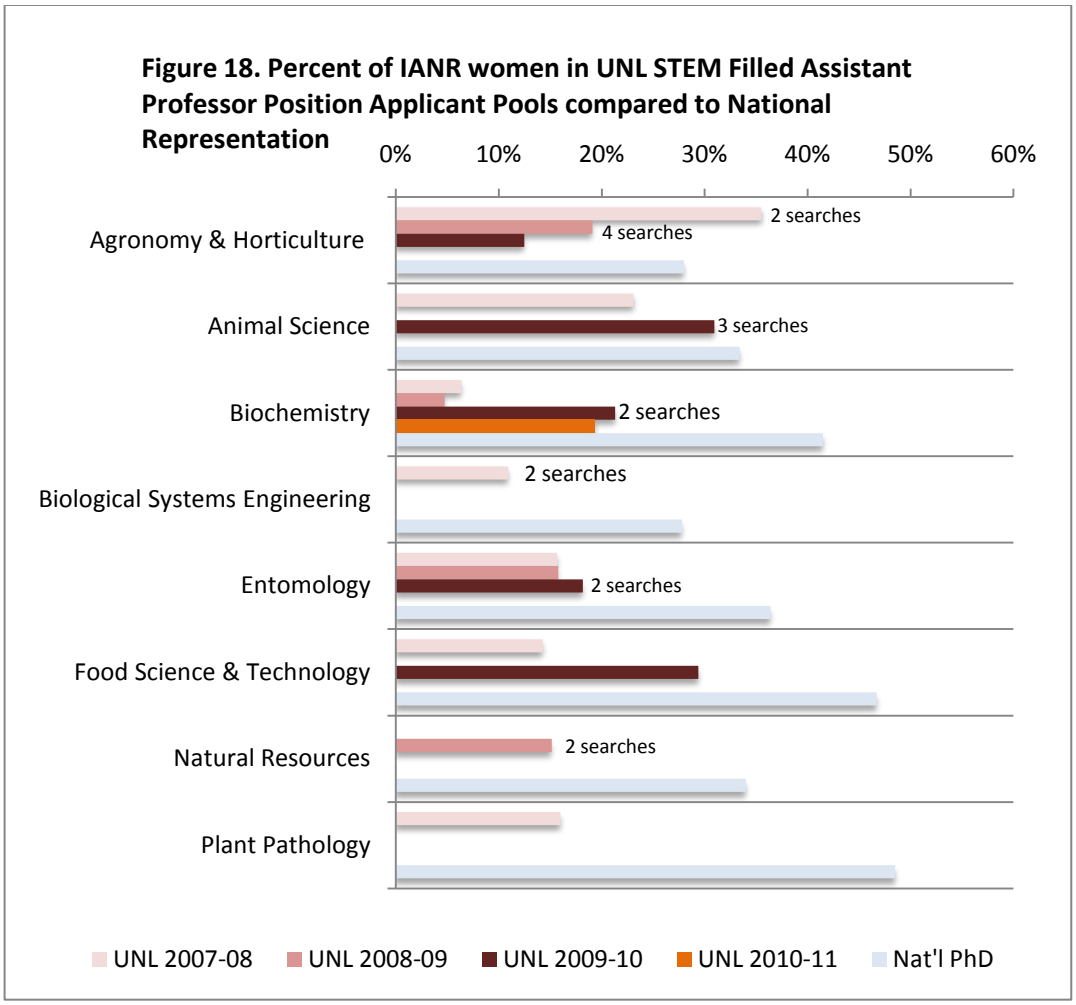
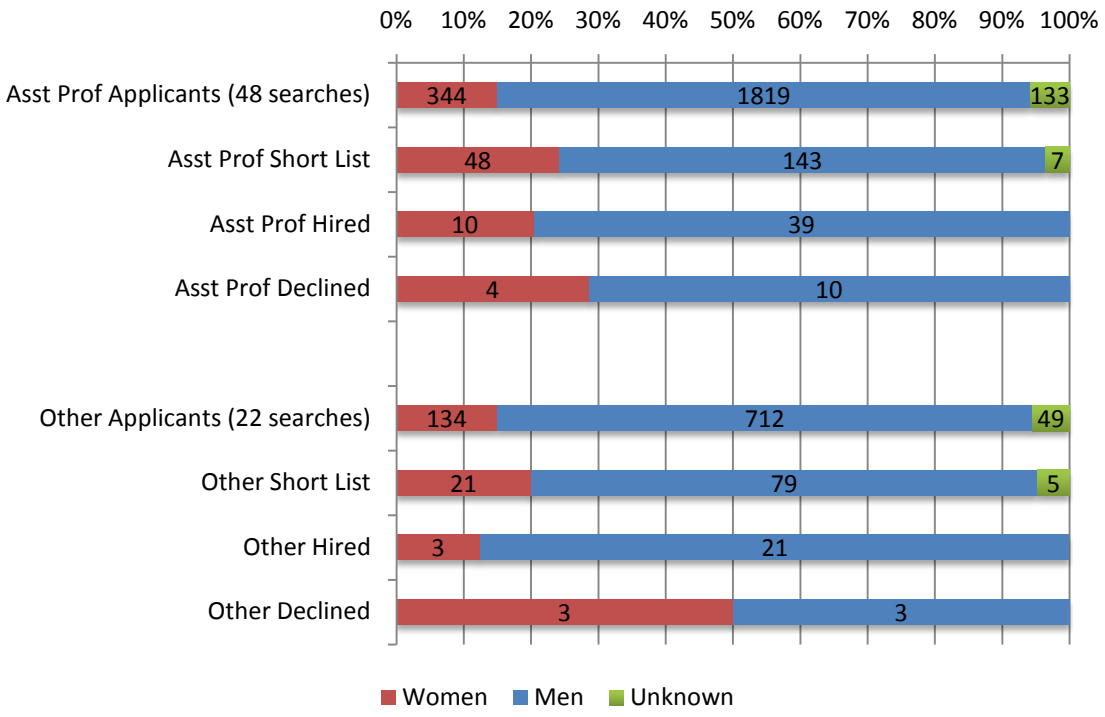


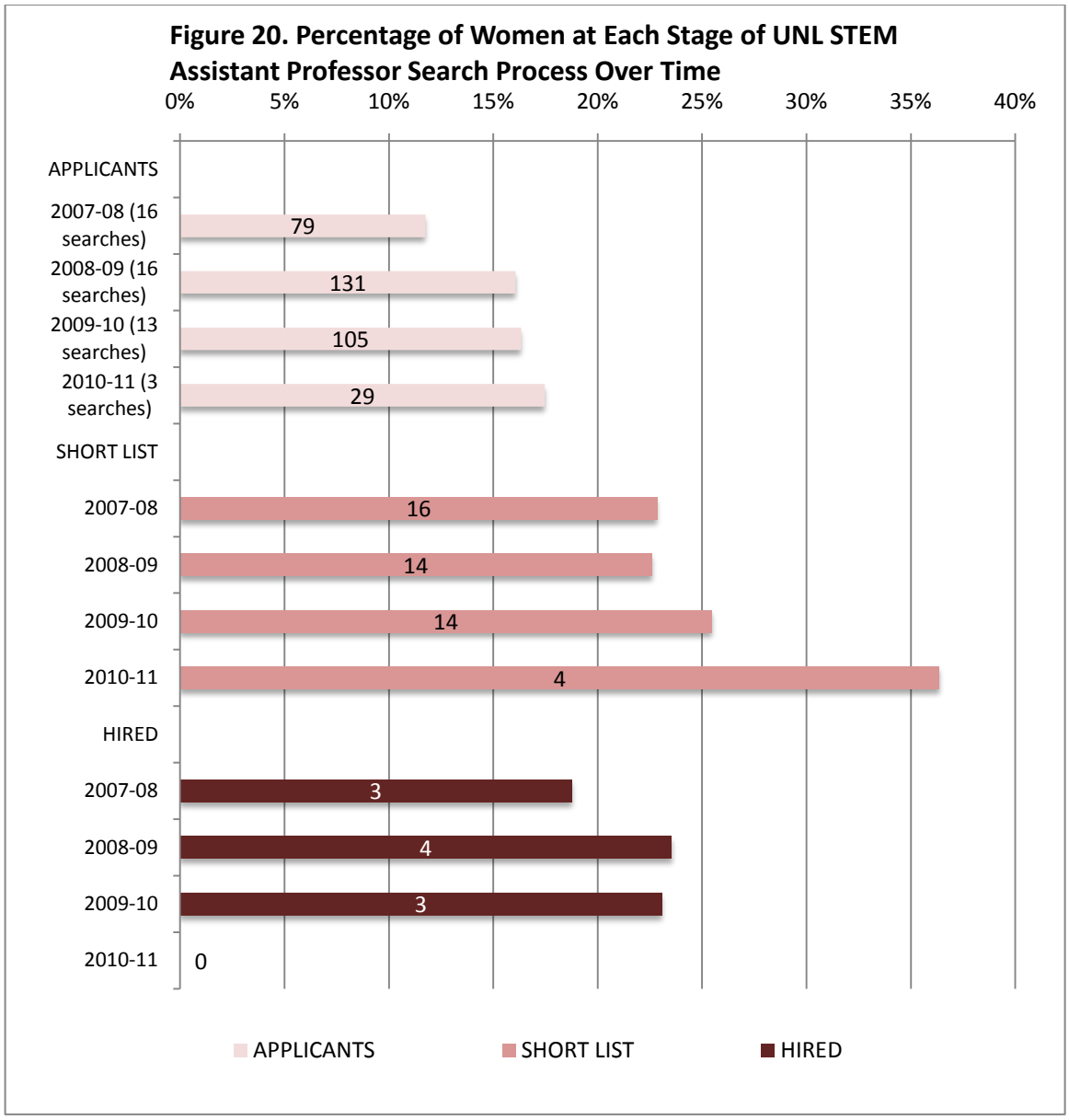
Figure 19 shows the gender distribution of applicants at the various search process stages for all completed searches between July 2007 and May 2011. The figure shows the breakdown for searches open exclusively to assistant professors (top bars) and for all other tenure and tenure track searches (bottom bars). On average among UNL STEM assistant professor searches, women represented 15% of applicant pools. Women were represented at higher levels in the remaining search process stages. Nearly one quarter of short list candidates (24%) were women. In total, 23% of offers were made to women (including hires and declined offers), resulting in 10 women hired since 2007 (20% of all STEM hires). Women represented a higher percentage (29%) of declined offers.

The bottom bars in figure 19 show the gender breakdown for all other tenure and tenure track searches that were not exclusive to assistant professors. Women's representation in the applicant pool was similar to that of assistant professor searches (15%); however, representation in the remaining stages was lower. One-fifth (20%) of offers were made to women, but women were disproportionally more likely to decline the offer. Among hires stemming from searches open to faculty of other ranks, women represented 13%. Women represented half (50%) of declined offers from these searches.

Figure 19. UNL STEM Tenure/Tenure Track Applicants at Each Stage of the Search Process by Gender and Position Type, 2007-2010



An increase in the representation of women is found when looking at assistant professor searches over time (Figure 20). In 2007-08, women represented 12% of the applicant pool, 23% of the short list, and 19% of hires. By 2009-10, women's representation increased to 16% of the applicant pool, 25% of the short list, and 23% of hires. The preliminary data from 2010-11 show a continued increase in representation in the applicant pool and short list, but the data must be interpreted cautiously as only 3 searches were completed at the time of this report.



Tables 8A-C (Appendix VII-A) show the number of UNL STEM and SocBeh faculty in various leadership positions. The institutional data used for this report represent a snapshot of faculty in October 2010. As of that time, there were no women STEM department chairs/heads; however, one woman department chair/head has been hired since that time, which will be reflected in the next annual report. Figure 21 shows the distribution of faculty represented in various university-wide powerful committees. STEM men have the highest representation with 45% (N=65) of all faculty serving on these committees being STEM men, while only 7% (N=10) are STEM women. The representation among other disciplines is more evenly distributed with 7% (N=10) being men from SocBeh departments, 5% (N=7) being women from SocBeh, 18% (N=26) being men from other disciplines, and 18% (N=26) being women from other disciplines.

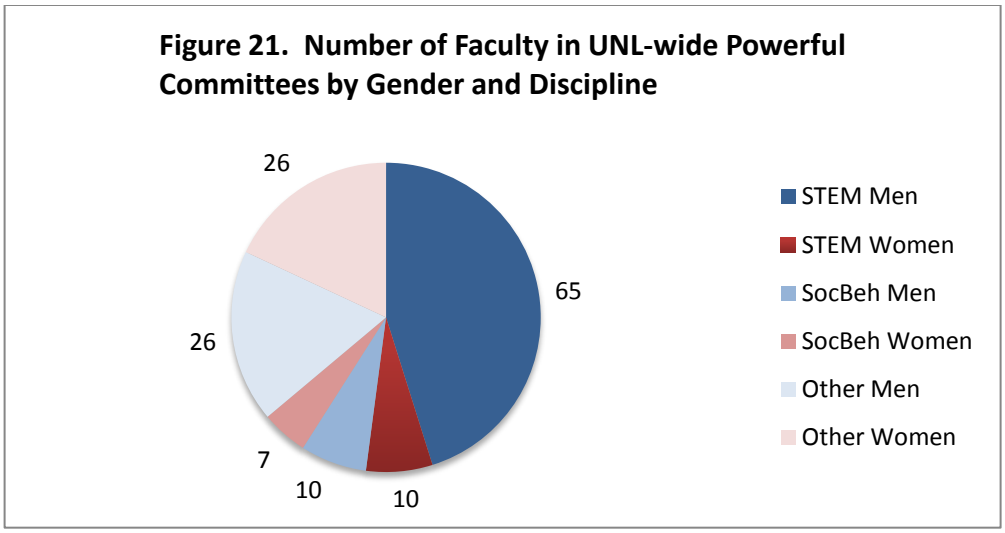
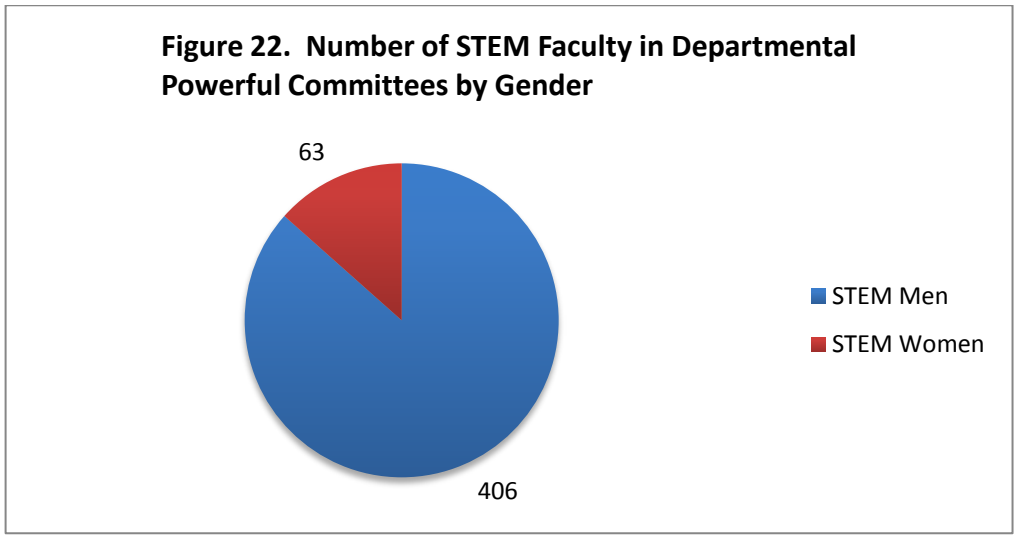


Figure 22 displays the representation of women in department-level powerful committees among STEM departments. Women represent 13% (N=63) of departmental level powerful committee memberships.



4. Findings from Activities that Promote Goal 3: to conduct research on the formal and informal networks of STEM faculty.

a. On-going Research and Dissemination

Several key research findings from the research manuscripts in progress and conference presentations using data from the 2008 Faculty Network and the UNL COACHE surveys have informed ADVANCE-Nebraska programming (see Appendix VII-F). First, we find faculty who are integrated within informal friendship networks within their department are more likely to intend to remain at UNL. Advance programming provides several ways for faculty to connect with one another, such as the professional development workshops and the paths to success luncheons. This programming, however, has primarily developed cross-departmental ties. Future programming will target department

chairs directly, and other administrators, to convey best practices for promoting informal connections among faculty within their departments.

Second, women are marginalized in informal friendship networks compared to men, which given the first finding has serious implications for the retention of women. Third, chairs play a primary role of integrating faculty informally because chairs tended to be the most central actors in friendship networks. Thus, department chairs can foster female faculty friendship integration by personally reaching out to them and cultivating connections to other departmental faculty via department committee assignments and/or supporting research collaborations. These formal connections can provide a gateway for developing friendship ties for women faculty. We find that having formal connection (committee co-membership or research) between two faculty members is associated with also having a friendship tie.

B. Faculty Network and Workload Study Data Collection

Although the *Faculty Networks and Workload Study* (FNWS) was a big success with a 72% response rate overall, there was some variation in response rates across colleges. Preliminary analysis of non-response showed that the College of Engineering had the lowest response rate (59%). The next lowest response rate was eleven percentage points higher (70%) in the College of Business Administration, which was surveyed to provide a comparison group. The Institute of Agricultural and Natural Resources (IANR) had the highest response rate at 76%. Differences in the response rates across colleges are likely the result of faculty views of survey research and administrative support. In the research team's experience, engineers tend to be the most critical of social science research methods. Also, we had the most administrative support for the survey from IANR and the least from the College of Engineering.

C. Faculty Network and Workload Study Data Collection

Although the *Faculty Networks and Workload Study* (FNWS) was a big success with a 72% response rate overall, there was some variation in response rates across colleges. Preliminary analysis of non-response showed that the College of Engineering had the lowest response rate (59%). The next lowest response rate was eleven percentage points higher (70%) in the College of Business Administration, which was surveyed to provide a comparison group. The Institute of Agricultural and Natural Resources (IANR) had the highest response rate at 76%. Differences in the response rates across colleges are likely the result of faculty views of survey research and administrative support. In the research team's experience, engineers tend to be the most critical of social science research methods. Also, we had the most administrative support for the survey from IANR and the least from the College of Engineering.

5. Findings from Additional Activities

A. Conducted Departmental Visits

Department visits were added in year three in response to the addition of the 9 target departments in IANR. Evelyn Jacobson, Susan Fritz, and/or Mary Anne Holmes visited with 4 departments in Lincoln (School of Biological Sciences, Electrical Engineering, and Veterinary and Biomedical Sciences in fall, 2010 and the School of Natural Resources in spring, 2011). Meetings were also held in Omaha with the Durham School in spring, 2011, which comprises three departments in the College of Engineering: Architectural Engineering, Construction Management, and Construction Engineering. In addition, they met with the department of Computer and Electronics Engineering.

B. HIRED A MARKETING STUDENT

McKenzie Wessling, a senior Journalism student was hired for the academic 2010 – 2011 year to help with marketing materials and the bi-weekly E-news generation. Wessling helped create bi-weekly electronic E-news newsletters for the ADVANCE-Nebraska office.

C. Opportunities for training and development provided by project.

Our Conversations Series provided mentorship to faculty on a variety of topics, including "How to Start Up a Lab", "Teaching Challenges and Solutions", "Teaching to Increase STEM Majors".

MacKenzie Wessling was a senior student in Marketing who worked with us on effective information dissemination.

Megumi Watanabe is the graduate research assistant on the project and she has gained numerous skills working on Advance: data management and analysis, social network methods, writing research manuscripts for peer reviewed journals, questionnaire development, tracking of survey response, analysis of survey non-response.

Jessica Burrow is an undergraduate sociology major and research assistant who worked for Falci in the Summer of 2010 on the Advance network research. She performed literature review searches to gather information about the operationalization of key measures in the 2011 survey. She also learned how to conduct statistical analysis as we had her explore how network structure was associated with faculty workloads and resources.

D. OUTREACH ACTIVITIES PROJECT HAS UNDERTAKEN.

We work closely with UNL's Women's and Gender Studies Program. ADVANCE Director and co-PI Holmes and co-PI McQuillan served on the WGS Advisory Board through 2010. ADVANCE cooperated with WGS to bring in a series of three STEM women speakers in Spring, 2011: Lise Eliot of the Rosalind Franklin Medical School at University of Chicago and author of "Pink Brain, Blue Brain"; Emily Monosson, an Environmental Chemist and author of "The Elephant in the Laboratory", and Londa Schiebinger, a UNL alumna, The John L. Hinds Professor of History of Science at Stanford, and author of "Has Feminism Changed Science" and a cc-author of Stanford's report on Dual Career couples in academia.

All three sessions were well-attended (70 to 100 attendees for each speaker), during which ADVANCE materials were distributed.

Director Holmes gave several talks on ADVANCE topics off-campus this year. She was keynote speaker at the Patullo Conference for Women in Oceanography in late May, 2010; she spoke on ADVANCE topics at the writing retreat for her PAID grant with Suzanne O'Connell, and she spoke at a "Women in Geosciences Mentoring" session at the annual Geological Society of America meetings in November, 2010, and presented at Berry College in April, 2011.

In addition, she has been communicating with the Missouri University of Science and Technology to provide advice on their writing of an ADVNCE-IT proposal.

Additional abstracts and presentations at ADVANCE and other conferences are provided in Section III.

SECTION IV. PUBLICATIONS AND PRODUCTS

Christina Falci and her student, Megumi Watanabe, presented results of the first network survey of STEM faculty at two conferences:

Falci, Christina. "The Effects of a Faculty Member's Location within Department Research, Friendship and Committee Networks on Climate Perceptions." Invited panel presentation, Pacific Sociological Association Annual Meeting, Oakland, CA April 2010.

Falci, Christina, Julia McQuillan, Megumi Wantanabe and Mary Anne Holmes. 2010. "Gender, Race, and Isolation in the Ivory Tower: Insights from Social Network Analysis of Science, Engineering and Math Departments." Roundtable at the American Sociological Association annual meeting, Atlanta, GA August 2010.

Posters were presented at two conferences this year, one on our dual-career program and the other on the writing retreats:

Manderscheid, D., and Holmes, M.A., 2010. An Advance Success Story: Dual-Career Hires at the University of Nebraska-Lincoln. Council of Colleges of Arts and Sciences 45th Annual Meeting, New Orleans, LA.

Holmes, M.A., O'Connell, S., McQuillan, J., Hochstein, J., Anderson-Knott, M., 2010. Retreating to ADVANCE Scholarly Writing Among STEM Faculty. ADVANCE-PI meeting abstracts.

In addition, UNL had three presentations at the 2010 ADVANCE-PI meeting:

Falci, C., and Watanabe, M., 2010. Network Diversity, Climate and Productivity by Gender and Race. ADVANCE meeting abstracts.

Holmes, M.A., 2010. ADVANCE-Nebraska in the First Two Years: Spawning and Survival *in* Typical Life Cycle of an ADVANCE grant (Sharon Bird, coordinator).

Holmes, M.A., 2010. Data: access to and quality of in Lessons Learned from ADVANCE Institutions (Laura Kramer, coordinator).

Holmes has presented at Patullo Conference for Women in Oceanography and at Berry College in Rome, Georgia.

Submitted Falci et al's Disconnected in the Ivory Tower: An Exploratory Study of Gender and Race Differences in STEM Faculty Networks, *Social Problems*

SECTION V. CONTRIBUTIONS

A. CONTRIBUTIONS WITHIN DISCIPLINE

1. DUAL CAREER PROCESS

We have developed a mechanism to hire dual academic career partners when it is possible by contacting the candidates early (i.e., as soon as they are short-listed), and by communicating with college deans and departmental chairs through one central office (ADVANCE). It is helpful to have deans and department chairs who are willing to participate in a dual career hire.

Such a procedure was unanimously requested by STEM department chairs as we were writing the proposal for the ADVANCE program and we were able to get it operational early in the first year. We have fully utilized our budget allocation for dual career by the end of year 3. The administration is currently re-considering budget allocations to allow us to continue this program for the next two year. We have written a proposal to use the ADVANCE Dual Career program as a model for wider implementation by the University that will be distributed among the higher administration in the upcoming year. We have

hired seven couples to date, and potentially created a cohort of faculty whose expectations for a dual career program are raised, along with those of department chairs and heads.

Co-PIs Holmes and Manderscheid have presented posters on the program at the Geological Society of America conference and the Council of Colleges of Arts and Sciences Deans' conference (respectively).

2. Improved communication among STEM departments on campus

News items of interest to STEM faculty, new research results on women in STEM and work-life balance, news items about STEM faculty on campus: this information is now disseminated to STEM faculty on a semi-regular (about twice monthly) basis. It is a means of networking researchers, educators, and outreach personnel with like interests, as well as informing faculty of policies already in place that they might not be aware of.

By having STEM chairs and heads meet together on campus to discuss ADVANCE issues, we have facilitated communication among them.

3. Gathered best practices for faculty searches from those extant across campus

Our focus groups of search committee chairs revealed some Best Practices already in effect, and some not-so-great practices that can be changed. In addition, faculty who participated in the focus groups have already brought improved search practices back to their own departments.

4. Improved Work-Life Balance policies and procedures website, the principal source on campus for information on this topic

We have improved the organization of, presentation of, and utility of this website for faculty use. Now, information about policies is directly linked to the forms and added detail necessary to take advantage of policies intended to assist faculty with work-life balance. We anticipate increased use of these policies in the future.

5. Changed faculty job advertisement language

Making a statement on the job advertisement that UNL is now an ADVANCE Institution sends the message to potential new hires and to existing faculty that our program is supported from the highest levels within the institution.

6. Held open positions in new daycare facility for new hires; communicated these openings to new faculty hires

Faculty work hard to hire a new colleague; it would be less than welcoming if, after touting our new daycare [to open August, 2009], if new faculty were told that there was no room for their children. We have begun to assist with work-life balance with the new set of incoming STEM faculty.

B. Contributions to Other Disciplines

We interpret this field to indicate how our project might contribute to the advancement of women in STEM disciplines in general, rather than just on our campus.

1. Dual Career procedure can serve as a model for other academic institutions

The establishment of a central office to communicate among the constituents for dual career hires has greatly facilitated hires at UNL and can be replicated elsewhere. In addition, our procedure, including letters to search committee chairs and to short-list

candidates, is vetted by the Equity, Access and Diversity Office and can also be replicated elsewhere.

2. Work-life balance policies and their dissemination can serve as a model for other academic institutions

3. E-News can serve as a model for other academic institutions.

C. Contributions to Human Resource Development

1. Graduate Student Training

Four graduate students (Master's candidates) are working with Falci and McQuillan on Master's Theses from the baseline data collection. One graduate student is funded through the grant working with Falci on various analyses of the data.

2. Changes in data gathering by Institutional Research

As the ADVANCE-Nebraska evaluation team gathered data during our first year, we noticed areas where data gathering and reporting by UNL's Institutional Research and Planning office could be improved. These include: 1) two of our target STEM departments were not required to collect space data. Beginning the next fiscal year (2009-10), these departments will participate in the annual space survey.

3. Changes in data gathering by the Office of Equity, Access and Diversity (EAD)

The EAD office compiles data on searches for every position administered by the UNL campus, making it time-consuming to weed out search data (applicant pools, hiring) just for faculty, let alone for STEM faculty. We will be working with EAD to have their notification of permission to search forms indicate whether the position is faculty or not, and whether it is tenure-track.

4. ADVANCE Faculty Committee

As indicated in "Activities and Findings" (Section I-D.c.i.), this committee of tenured faculty meet regularly since their inception in February, 2009. They share what they have learned with the faculty in their own departments as well as at formal panel discussions. This includes: size of the applicant pools by gender for each sub-discipline, the numbers of women in STEM departments and how these compare to national averages (Donna Nelson's data), and the impact of implicit bias, the use of different language to evaluate male v. female applications.

Serving on this panel has provided professional development for the Committee members as they learn how UNL works and how Best Practices are learned and implemented at other academic institutions.

5. Professional Development Workshops

Workshops by COACh and the opportunity to serve on panels has provided professional development for UNL faculty on topics critical for their success, including networking, conflict management and resolution, and goal clarification.

D. Contributions to Resources for Research and Education

The ADVANCE program enabled Assistant Professor of Sociology Falci to conduct original research on social networks in academia.

We modified COACHE surveys so that now four other academic institutions are using the Modified Survey. Our modification and successful fielding of the survey has inspired COACHE to work with the University of Texas to survey fully promoted faculty on other aspects of academic employment.

Falci developed a new graduate level social network analysis class taught in the 3-week summer pre-session (2009). Nine graduate students enrolled in the course, seven from the Department of Sociology and two from the Business College. The seminar introduced social network analysis to graduate students, emphasizing its theoretical, methodological, and substantive foundations. Students learned about key network concepts and how to collect network data; performed basic network analyses and graph visualization; and explored the application of social network analysis in empirical research within sociology and related disciplines.

E. Contributions Beyond Science and Engineering

See responses to #1.

Section VI. Objectives and Scope

We do not plan to deviate from the proposal for Year 4.

Section VII. Appendices

A. Report on NSF Indicators

Table 1A. Number and Percent of Women Tenured and Tenure track Faculty in UNL STEM and SocBeh Fields by Rank and Department, 2007

	Women				Men				Percent Women			
STEM FIELDS	**Asst**	**Assc**	**Full**	**Total**	**Asst**	**Assc**	**Full**	**Total**	**Asst**	**Assc**	**Full**	**Total**
College of Arts & Sciences												
Biological Sciences	3	6	2	**11**	3	9	11	**23**	50%	40%	15%	**32%**
Chemistry	1	0	1	**2**	4	5	11	**20**	20%	0%	8%	**9%**
Computer Science & Engineering	2	1	0	**3**	5	7	8	**20**	29%	13%	0%	**13%**
Geosciences	0	1	2	**3**	4	3	9	**16**	0%	25%	18%	**16%**
Mathematics	2	1	3	**6**	3	6	21	**30**	40%	14%	13%	**17%**
Physics & Astronomy	0	2	0	**2**	7	3	11	**21**	0%	40%	0%	**9%**
Statistics	2	1	1	**4**	1	2	6	**9**	67%	33%	14%	**31%**
Total	**10**	**12**	**9**	**31**	**27**	**35**	**77**	**139**	**27%**	**26%**	**10%**	**18%**
College of Engineering												
Architectural Engineering	1	1	0	**2**	2	4	2	**8**	33%	20%	0%	**20%**
Chemical and Biomolecular Engineering	0	1	0	**1**	0	3	7	**10**	na	25%	0%	**9%**
Civil Engineering	1	1	0	**2**	2	8	9	**19**	33%	11%	0%	**10%**
Computer & Electronics Engineering	0	1	0	**1**	3	3	3	**9**	0%	25%	0%	**10%**
Construction Management	0	0	0	**0**	1	6	1	**8**	0%	0%	0%	**0%**
Construction Systems	1	0	0	**1**	4	5	2	**11**	20%	0%	0%	**8%**
Electrical Engineering	2	0	0	**2**	1	7	9	**17**	67%	0%	0%	**11%**
Engineering Mechanics	0	1	0	**1**	1	4	2	**7**	0%	20%	0%	**13%**
Industrial and Management Systems	0	1	1	**2**	2	1	5	**8**	0%	50%	17%	**20%**
Mechanical Engineering	0	0	1	**1**	3	5	7	**15**	0%	0%	13%	**6%**
Total	**5**	**6**	**2**	**13**	**19**	**46**	**47**	**112**	**21%**	**12%**	**4%**	**10%**
IANR												
Agronomy & Horticulture	1	3	1	**5**	2	8	25	**35**	33%	27%	4%	**13%**
Animal Science	0	2	1	**3**	1	5	11	**17**	0%	29%	8%	**15%**
Biochemistry	3	0	0	**3**	3	1	3	**7**	50%	0%	0%	**30%**
Biological Systems Engineering	1	0	0	**1**	3	6	10	**19**	25%	0%	0%	**5%**
Entomology	0	1	0	**1**	1	1	9	**11**	0%	50%	0%	**8%**
Food Science & Technology	0	1	1	**2**	1	2	9	**12**	0%	33%	10%	**14%**
Plant Pathology	1	0	1	**2**	1	3	6	**10**	50%	0%	14%	**17%**
School of Natural Resources	2	1	3	**6**	4	8	20	**32**	33%	11%	13%	**16%**
Veterinary & Biomedical Sciences	1	0	1	**2**	3	2	14	**19**	25%	0%	7%	**10%**
Total	**9**	**8**	**8**	**25**	**19**	**36**	**107**	**162**	**32%**	**18%**	**7%**	**13%**
TOTAL STEM	**24**	**26**	**19**	**69**	**65**	**117**	**231**	**413**	**27%**	**18%**	**8%**	**14%**

	Women				Men				Percent Women			
SocBeh FIELDS	**Asst**	**Assc**	**Full**	**Total**	**Asst**	**Assc**	**Full**	**Total**	**Asst**	**Assc**	**Full**	**Total**
College of Arts & Sciences												
Communication Studies	2	1	2	**5**	1	0	2	**3**	67%	100%	50%	**63%**
Political Science	0	1	2	**3**	3	4	6	**13**	0%	20%	25%	**19%**
Psychology	2	1	4	**7**	3	2	11	**16**	40%	33%	27%	**30%**
Sociology	5	2	2	**9**	3	0	5	**8**	63%	100%	29%	**53%**
Total	**9**	**5**	**10**	**24**	**10**	**6**	**24**	**40**	**47%**	**45%**	**29%**	**38%**
IANR												
Agricultural Leadership, Education & Communication	1	0	0	**1**	1	2	3	**6**	50%	0%	0%	**14%**
Agricultural Economics	1	0	1	**2**	3	0	13	**16**	25%	na	7%	**11%**
Total	**2**	**0**	**1**	**3**	**4**	**2**	**16**	**22**	**33%**	**0%**	**6%**	**12%**
TOTAL SocBeh	**11**	**5**	**11**	**27**	**14**	**8**	**40**	**62**	**44%**	**38%**	**22%**	**30%**

Source: Institutional Research and Planning, October, 2007

Table 1B. Number and Percent of Women Tenured and Tenure track Faculty in UNL STEM and SocBeh Fields by Rank and Department, 2008

	Women				Men				Percent Women			
STEM FIELDS	**Asst**	**Assc**	**Full**	**Total**	**Asst**	**Assc**	**Full**	**Total**	**Asst**	**Assc**	**Full**	**Total**
College of Arts & Sciences												
Biological Sciences	5	6	2	**13**	5	8	11	**24**	50%	43%	15%	**35%**
Chemistry	1	0	1	**2**	4	3	11	**18**	20%	0%	8%	**10%**
Computer Science & Engineering	2	1	0	**3**	3	7	9	**19**	40%	13%	0%	**14%**
Geosciences	0	1	2	**3**	4	3	9	**16**	0%	25%	18%	**16%**
Mathematics	2	1	3	**6**	2	6	21	**29**	50%	14%	13%	**17%**
Physics & Astronomy	0	1	0	**1**	8	2	12	**22**	0%	33%	0%	**4%**
Statistics	2	1	1	**4**	1	2	6	**9**	67%	33%	14%	**31%**
Total	**12**	**11**	**9**	**32**	**27**	**31**	**79**	**137**	**31%**	**26%**	**10%**	**19%**
College of Engineering												
Architectural Engineering	1	1	0	**2**	2	2	2	**6**	33%	33%	0%	**25%**
Chemical and Biomolecular Engineering	0	1	0	**1**	0	2	7	**9**	na	33%	0%	**10%**
Civil Engineering	2	1	0	**3**	3	7	9	**19**	40%	13%	0%	**14%**
Computer & Electronics Engineering	0	1	0	**1**	2	4	3	**9**	0%	20%	0%	**10%**
Construction Management	0	0	0	**0**	1	6	1	**8**	0%	0%	0%	**0%**
Construction Systems	1	0	0	**1**	3	6	2	**11**	25%	0%	0%	**8%**
Electrical Engineering	2	0	0	**2**	3	5	11	**19**	40%	0%	0%	**10%**
Engineering Mechanics	0	1	0	**1**	2	4	2	**8**	0%	20%	0%	**11%**
Industrial and Management Systems	0	0	1	**1**	2	1	6	**9**	0%	0%	14%	**10%**
Mechanical Engineering	0	0	1	**1**	2	5	7	**14**	0%	0%	13%	**7%**
Total	**6**	**5**	**2**	**13**	**20**	**42**	**50**	**112**	**23%**	**11%**	**4%**	**10%**
IANR												
Agronomy & Horticulture	0	3	2	**5**	3	6	24	**33**	0%	33%	8%	**13%**
Animal Science	0	2	1	**3**	2	5	11	**18**	0%	29%	8%	**14%**
Biochemistry	1	2	0	**3**	3	2	4	**9**	25%	50%	0%	**25%**
Biological Systems Engineering	1	0	0	**1**	3	6	10	**19**	25%	0%	0%	**5%**
Entomology	0	1	0	**1**	1	1	9	**11**	0%	50%	0%	**8%**
Food Science & Technology	0	1	1	**2**	2	2	9	**13**	0%	33%	10%	**13%**
Plant Pathology	1	0	1	**2**	1	3	6	**10**	50%	0%	14%	**17%**
School of Natural Resources	2	1	3	**6**	3	7	21	**31**	40%	13%	13%	**16%**
Veterinary & Biomedical Sciences	1	1	1	**3**	5	4	14	**23**	17%	20%	7%	**12%**
Total	**6**	**11**	**9**	**26**	**23**	**36**	**108**	**167**	**21%**	**23%**	**8%**	**13%**
TOTAL STEM	**24**	**27**	**20**	**71**	**70**	**109**	**237**	**416**	**26%**	**20%**	**8%**	**15%**
	Women				**Men**				**Percent Women**			
SocBeh FIELDS	**Asst**	**Assc**	**Full**	**Total**	**Asst**	**Assc**	**Full**	**Total**	**Asst**	**Assc**	**Full**	**Total**
College of Arts & Sciences												
Communication Studies	2	0	2	**4**	1	0	2	**3**	67%	na	50%	**57%**
Political Science	1	1	2	**4**	3	4	6	**13**	25%	20%	25%	**24%**
Psychology	4	1	3	**8**	3	2	11	**16**	57%	33%	21%	**33%**
Sociology	6	3	2	**11**	3	0	5	**8**	67%	100%	29%	**58%**
Total	**13**	**5**	**9**	**27**	**10**	**6**	**24**	**40**	**57%**	**45%**	**27%**	**40%**
IANR												
Agricultural Leadership, Education & Communication	2	0	0	**2**	1	2	3	**6**	67%	0%	0%	**25%**
Agricultural Economics	0	1	1	**2**	1	1	13	**15**	0%	50%	7%	**12%**
Total	**2**	**1**	**1**	**4**	**2**	**3**	**16**	**21**	**50%**	**25%**	**6%**	**16%**
TOTAL SocBeh	**15**	**6**	**10**	**31**	**12**	**9**	**40**	**61**	**56%**	**40%**	**20%**	**34%**

Source: Institutional Research and Planning, October, 2008

Table 1C. Number and Percent of Women Tenured and Tenure track Faculty in UNL STEM and SocBeh Fields by Rank and Department, 2009

STEM FIELDS	Women				Men				Percent Women			
	Asst	Assc	Full	Total	Asst	Assc	Full	Total	Asst	Assc	Full	Total
College of Arts & Sciences												
Biological Sciences	6	5	3	**14**	5	8	11	**24**	55%	38%	21%	**37%**
Chemistry	1	0	1	**2**	3	3	12	**18**	25%	0%	8%	**10%**
Computer Science & Engineering	3	1	0	**4**	2	6	10	**18**	60%	14%	0%	**18%**
Geosciences	0	1	1	**2**	4	2	10	**16**	0%	33%	9%	**11%**
Mathematics	3	1	3	**7**	2	7	21	**30**	60%	13%	13%	**19%**
Physics & Astronomy	0	1	0	**1**	5	6	12	**23**	0%	14%	0%	**4%**
Statistics	2	1	1	**4**	1	1	7	**9**	67%	50%	13%	**31%**
Total	**15**	**10**	**9**	**34**	**22**	**33**	**83**	**138**	**41%**	**23%**	**10%**	**20%**
College of Engineering												
Architectural Engineering	2	1	0	**3**	3	2	3	**8**	40%	33%	0%	**27%**
Chemical and Biomolecular Engineering	0	1	0	**1**	0	3	7	**10**	na	25%	0%	**9%**
Civil Engineering	2	1	0	**3**	4	6	9	**19**	33%	14%	0%	**14%**
Computer & Electronics Engineering	0	1	0	**1**	2	4	3	**9**	0%	20%	0%	**10%**
Construction Management	0	0	0	**0**	1	7	1	**9**	0%	0%	0%	**0%**
Construction Systems	1	0	0	**1**	3	5	2	**10**	25%	0%	0%	**9%**
Electrical Engineering	2	0	0	**2**	3	6	11	**20**	40%	0%	0%	**9%**
Engineering Mechanics	0	1	0	**1**	2	4	2	**8**	0%	20%	0%	**11%**
Industrial and Management Systems	0	0	1	**1**	1	2	7	**10**	0%	0%	13%	**9%**
Mechanical Engineering	1	0	0	**1**	2	4	7	**13**	33%	0%	0%	**7%**
Total	**8**	**5**	**1**	**14**	**21**	**43**	**52**	**116**	**28%**	**10%**	**2%**	**11%**
IANR												
Agronomy & Horticulture	0	3	2	**5**	6	5	25	**36**	0%	38%	7%	**12%**
Animal Science	1	2	1	**4**	3	5	12	**20**	25%	29%	8%	**17%**
Biochemistry	1	2	0	**3**	2	3	4	**9**	33%	40%	0%	**25%**
Biological Systems Engineering	1	0	0	**1**	4	7	10	**21**	20%	0%	0%	**5%**
Entomology	0	1	0	**1**	1	1	8	**10**	0%	50%	0%	**9%**
Food Science & Technology	0	1	1	**2**	3	2	8	**13**	0%	33%	11%	**13%**
Plant Pathology	1	0	1	**2**	2	2	6	**10**	33%	0%	14%	**17%**
School of Natural Resources	2	1	3	**6**	3	7	21	**31**	40%	13%	13%	**16%**
Veterinary & Biomedical Sciences	1	1	1	**3**	8	4	14	**26**	11%	20%	7%	**10%**
Total	**7**	**11**	**9**	**27**	**32**	**36**	**108**	**176**	**18%**	**23%**	**8%**	**13%**
TOTAL STEM	**30**	**26**	**19**	**75**	**75**	**112**	**243**	**430**	**29%**	**19%**	**7%**	**15%**

SocBeh FIELDS	Women				Men				Percent Women			
	Asst	Assc	Full	Total	Asst	Assc	Full	Total	Asst	Assc	Full	Total
College of Arts & Sciences												
Communication Studies	1	1	2	**4**	2	0	2	**4**	33%	0%	50%	**50%**
Political Science	2	1	2	**5**	4	3	5	**12**	33%	25%	29%	**29%**
Psychology	4	1	3	**8**	5	2	11	**18**	44%	33%	21%	**31%**
Sociology	6	3	2	**11**	3	0	5	**8**	67%	100%	29%	**58%**
Total	**13**	**6**	**9**	**28**	**14**	**5**	**23**	**42**	**48%**	**55%**	**28%**	**40%**
IANR												
Agricultural Leadership, Education & Communication	2	0	0	**2**	1	2	2	**5**	67%	0%	0%	**29%**
Agricultural Economics	1	1	1	**3**	1	1	12	**14**	50%	50%	8%	**18%**
Total	**3**	**1**	**1**	**5**	**2**	**3**	**14**	**19**	**60%**	**25%**	**7%**	**21%**
TOTAL SocBeh	**16**	**7**	**10**	**33**	**16**	**8**	**37**	**61**	**50%**	**47%**	**21%**	**35%**

Source: Institutional Research and Planning, October, 2009

Table 1D. Number and Percent of Women Tenured and Tenure track Faculty in UNL STEM and SocBeh Fields by Rank and Department, 2010

	Women				Men				Percent Women			
STEM FIELDS	**Asst**	**Assc**	**Full**	**Total**	**Asst**	**Assc**	**Full**	**Total**	**Asst**	**Assc**	**Full**	**Total**
College of Arts & Sciences												
Biological Sciences	6	6	2	**14**	5	7	13	**25**	55%	46%	13%	**36%**
Chemistry	1	0	1	**2**	5	3	11	**19**	17%	0%	8%	**10%**
Computer Science & Engineering	2	2	0	**4**	2	7	11	**20**	50%	22%	0%	**17%**
*Earth and Atmospheric Sciences	1	1	1	**3**	4	2	10	**16**	20%	33%	9%	**16%**
Mathematics	3	1	3	**7**	3	7	21	**31**	50%	13%	13%	**18%**
Physics & Astronomy	0	1	0	**1**	5	5	13	**23**	0%	17%	0%	**4%**
Statistics	2	1	1	**4**	1	1	7	**9**	67%	50%	13%	**31%**
Total	**15**	**12**	**8**	**35**	**25**	**32**	**86**	**143**	38%	27%	9%	**20%**
College of Engineering												
Architectural Engineering	1	2	0	**3**	2	2	4	**8**	33%	50%	0%	**27%**
Chemical and Biomolecular Engineering	0	0	2	**2**	1	2	8	**11**	0%	0%	20%	**15%**
Civil Engineering	2	2	0	**4**	3	7	9	**19**	40%	22%	0%	**17%**
Computer & Electronics Engineering	0	1	0	**1**	2	4	3	**9**	0%	20%	0%	**10%**
Construction Management	0	0	0	**0**	1	7	1	**9**	0%	0%	0%	**0%**
Construction Systems	1	0	0	**1**	2	6	2	**10**	33%	0%	0%	**9%**
Electrical Engineering	3	0	0	**3**	2	6	11	**19**	60%	0%	0%	**14%**
Engineering Mechanics	0	1	0	**1**	1	3	4	**8**	0%	25%	0%	**11%**
Industrial and Management Systems	0	0	1	**1**	1	3	7	**11**	0%	0%	13%	**8%**
Mechanical Engineering	1	0	0	**1**	1	4	8	**13**	50%	0%	0%	**7%**
Total	**8**	**6**	**3**	**17**	**16**	**44**	**57**	**117**	33%	12%	5%	**13%**
IANR												
Agronomy & Horticulture	0	3	3	**6**	13	6	29	**48**	0%	33%	9%	**11%**
Animal Science	3	2	1	**6**	4	5	15	**24**	43%	29%	6%	**20%**
Biochemistry	2	2	0	**4**	4	2	4	**10**	33%	50%	0%	**29%**
Biological Systems Engineering	1	0	0	**1**	4	9	12	**25**	20%	0%	0%	**4%**
Entomology	1	0	1	**2**	4	1	9	**14**	20%	0%	10%	**13%**
Food Science & Technology	1	1	1	**3**	4	2	7	**13**	20%	33%	13%	**19%**
Plant Pathology	1	0	0	**1**	1	3	7	**11**	50%	0%	0%	**8%**
School of Natural Resources	2	1	3	**6**	4	4	22	**30**	33%	20%	12%	**17%**
**School of Veterinary Medicine & Biomedical Sciences	0	1	1	**2**	5	5	14	**24**	0%	17%	7%	**8%**
Total	**11**	**10**	**10**	**31**	**43**	**37**	**119**	**199**	20%	21%	8%	**13%**
TOTAL STEM	**34**	**28**	**21**	**83**	**84**	**113**	**262**	**459**	29%	20%	7%	**15%**

	Women				Men				Percent Women			
SocBeh FIELDS	**Asst**	**Assc**	**Full**	**Total**	**Asst**	**Assc**	**Full**	**Total**	**Asst**	**Assc**	**Full**	**Total**
College of Arts & Sciences												
Communication Studies	1	1	2	**4**	1	1	2	**4**	50%	50%	50%	**50%**
Political Science	4	1	2	**7**	2	4	4	**10**	67%	20%	33%	**41%**
Psychology	4	1	3	**8**	5	2	11	**18**	44%	33%	21%	**31%**
Sociology	7	2	3	**12**	2	1	3	**6**	78%	67%	50%	**67%**
Total	**16**	**5**	**10**	**31**	**10**	**8**	**20**	**38**	62%	38%	33%	**45%**
IANR												
Agricultural Leadership, Education & Communication	3	0	1	**4**	1	2	3	**6**	75%	0%	25%	**40%**
Agricultural Economics	1	1	1	**3**	2	1	13	**16**	33%	50%	7%	**16%**
Total	**4**	**1**	**2**	**7**	**3**	**3**	**16**	**22**	57%	25%	11%	**24%**
TOTAL SocBeh	**20**	**6**	**12**	**38**	**13**	**11**	**36**	**60**	61%	35%	25%	**39%**

*formerly Department of Geosciences, **formerly Department of Veterinary & Biomedical Sciences

Source: Institutional Research and Planning, October, 2010

TABLE 2A. UNL STEM and SocBeh Departmental Gender Composition of Tenure and Non-Tenure Track Faculty, 2007

STEM Fields	Tenured and Tenure Track			Non-Tenure Track			Non-TT as % of All	Non-TT as % All Women
	All	W	% W	All	W	% W		
College of Arts & Sciences								
Biological Sciences	34	11	32%	4	0	0%	11%	0%
Chemistry	22	2	9%	9	2	22%	29%	50%
Computer Science & Engineering	23	3	13%	3	0	0%	12%	0%
Geosciences	19	3	16%	3	1	33%	14%	25%
Mathematics	36	6	17%	12	5	42%	25%	45%
Physics & Astronomy	23	2	9%	2	0	0%	8%	0%
Statistics	13	4	31%	1	1	100%	7%	20%
Total	**170**	**31**	**18%**	**34**	**9**	**26%**	**17%**	**23%**
College of Engineering								
Architectural Engineering	10	2	20%	1	0	0%	9%	0%
Chemical and Biomolecular Engineering	11	1	9%	1	0	0%	8%	0%
Civil Engineering	21	2	10%	7	1	14%	25%	33%
Computer & Electronics Engineering	10	1	10%	2	1	50%	17%	50%
Construction Management	8	0	0%	3	0	0%	27%	na
Construction Systems	12	1	8%	1	0	0%	8%	0%
Electrical Engineering	19	2	11%	2	0	0%	10%	0%
Engineering Mechanics	8	1	13%	1	1	100%	11%	50%
Industrial and Management Systems	10	2	20%	2	0	0%	17%	0%
Mechanical Engineering	16	1	6%	1	1	100%	6%	50%
Total	**125**	**13**	**10%**	**21**	**4**	**19%**	**14%**	**24%**
IANR								
Agronomy & Horticulture	40	5	13%	5	0	0%	11%	0%
Animal Science	20	3	15%	2	2	100%	9%	40%
Biochemistry	10	3	30%	1	0	0%	9%	0%
Biological Systems Engineering	20	1	5%	1	0	0%	5%	0%
Entomology	12	1	8%	1	0	0%	8%	0%
Food Science & Technology	14	2	14%	0	0	na	0%	0%
Plant Pathology	12	2	17%	0	0	na	0%	0%
School of Natural Resources	38	6	16%	4	2	50%	10%	25%
Veterinary & Biomedical Sciences	21	2	10%	4	0	0%	16%	0%
Total	**187**	**25**	**13%**	**18**	**4**	**22%**	**9%**	**14%**
TOTAL STEM	**482**	**69**	**14%**	**73**	**17**	**23%**	**13%**	**20%**

SocBeh Fields	Tenured and Tenure Track			Non-Tenure Track			Non-TT as % of All	Non-TT as % All Women
	All	W	% W	All	W	% W		
College of Arts & Sciences								
Communication Studies	8	5	63%	3	2	67%	27%	29%
Political Science	16	3	19%	1	1	100%	6%	25%
Psychology	23	7	30%	10	4	40%	30%	36%
Sociology	17	9	53%	5	3	60%	23%	25%
Total	**64**	**24**	**38%**	**19**	**10**	**53%**	**23%**	**29%**
IANR								
Agricultural Leadership, Education & Communication	7	1	14%	4	3	75%	36%	75%
Agricultural Economics	18	2	11%	0	0	na	0%	0%
Total	**25**	**3**	**12%**	**4**	**3**	**75%**	**14%**	**50%**
TOTAL SocBeh	**89**	**27**	**30%**	**23**	**13**	**57%**	**21%**	**33%**

Table excludes visiting faculty.

Source: Institutional Research and Planning, October, 2007

TABLE 2B. UNL STEM and SocBeh Departmental Gender Composition of Tenure and Non-Tenure Track Faculty, 2008

STEM Fields	Tenured and Tenure Track			Non-Tenure Track			Non-TT as % of All	Non-TT as % All Women
	All	W	% W	All	W	% W		
College of Arts & Sciences								
Biological Sciences	37	13	35%	4	0	0%	10%	0%
Chemistry	20	2	10%	7	2	29%	26%	50%
Computer Science & Engineering	22	3	14%	3	1	33%	12%	25%
Geosciences	19	3	16%	3	1	33%	14%	25%
Mathematics	35	6	17%	11	3	27%	24%	33%
Physics & Astronomy	23	1	4%	4	2	50%	15%	67%
Statistics	13	4	31%	1	1	100%	7%	20%
Total	**169**	**32**	**19%**	**33**	**10**	**30%**	**16%**	**24%**
College of Engineering								
Architectural Engineering	8	2	25%	1	0	0%	11%	0%
Chemical and Biomolecular Engineering	10	1	10%	1	0	0%	9%	0%
Civil Engineering	22	3	14%	6	2	33%	21%	40%
Computer & Electronics Engineering	10	1	10%	0	0	na	0%	0%
Construction Management	8	0	0%	4	0	0%	33%	na
Construction Systems	12	1	8%	1	0	0%	8%	0%
Electrical Engineering	21	2	10%	2	0	0%	9%	0%
Engineering Mechanics	9	1	11%	0	0	na	0%	0%
Industrial and Management Systems	10	1	10%	3	1	33%	23%	50%
Mechanical Engineering	15	1	7%	2	1	50%	12%	50%
Total	**125**	**13**	**10%**	**20**	**4**	**20%**	**14%**	**24%**
IANR								
Agronomy & Horticulture	38	5	13%	5	0	0%	12%	0%
Animal Science	21	3	14%	2	2	100%	9%	40%
Biochemistry	12	3	25%	1	0	0%	8%	0%
Biological Systems Engineering	20	1	5%	2	0	0%	9%	0%
Entomology	12	1	8%	1	0	0%	8%	0%
Food Science & Technology	15	2	13%	0	0	na	0%	0%
Plant Pathology	12	2	17%	0	0	na	0%	0%
School of Natural Resources	37	6	16%	5	3	60%	12%	33%
Veterinary & Biomedical Sciences	26	3	12%	4	1	25%	13%	25%
Total	**193**	**26**	**13%**	**20**	**6**	**30%**	**9%**	**19%**
TOTAL STEM	**487**	**71**	**15%**	**73**	**20**	**27%**	**13%**	**22%**

SocBeh Fields	Tenured and Tenure Track			Non-Tenure Track			Non-TT as % of All	Non-TT as % All Women
	All	W	% W	All	W	% W		
College of Arts & Sciences								
Communication Studies	7	4	57%	4	3	75%	36%	43%
Political Science	17	4	24%	1	1	100%	6%	20%
Psychology	24	8	33%	9	5	56%	27%	38%
Sociology	19	11	58%	4	3	75%	17%	21%
Total	**67**	**27**	**40%**	**18**	**12**	**67%**	**21%**	**31%**
IANR								
Agricultural Leadership, Education & Communication	8	2	25%	3	1	33%	27%	33%
Agricultural Economics	17	2	12%	0	0	na	0%	0%
Total	**25**	**4**	**16%**	**3**	**1**	**33%**	**11%**	**20%**
TOTAL SocBeh	**92**	**31**	**34%**	**21**	**13**	**62%**	**19%**	**30%**

Table excludes visiting faculty.

Source: Institutional Research and Planning, October, 2008

TABLE 2C. UNL STEM and SocBeh Departmental Gender Composition of Tenure and Non-Tenure Track Faculty, 2009

STEM Fields	Tenured and Tenure Track			Non-Tenure Track			Non-TT as % of All	Non-TT as % All Women
	All	W	% W	All	W	% W		
College of Arts & Sciences								
Biological Sciences	38	14	37%	3	0	0%	7%	0%
Chemistry	20	2	10%	6	1	17%	23%	33%
Computer Science & Engineering	22	4	18%	2	1	50%	8%	20%
Geosciences	18	2	11%	3	1	33%	14%	33%
Mathematics	37	7	19%	11	4	36%	23%	36%
Physics & Astronomy	24	1	4%	3	1	33%	11%	50%
Statistics	13	4	31%	1	1	100%	7%	20%
Total	**172**	**34**	**20%**	**29**	**9**	**31%**	**14%**	**21%**
College of Engineering								
Architectural Engineering	11	3	27%	2	1	50%	15%	25%
Chemical and Biomolecular Engineering	11	1	9%	0	0	na	0%	0%
Civil Engineering	22	3	14%	5	1	20%	19%	25%
Computer & Electronics Engineering	10	1	10%	2	1	50%	17%	50%
Construction Management	9	0	0%	3	0	0%	25%	na
Construction Systems	11	1	9%	2	0	0%	15%	0%
Electrical Engineering	22	2	9%	2	0	0%	8%	0%
Engineering Mechanics	9	1	11%	0	0	na	0%	0%
Industrial and Management Systems	11	1	9%	2	1	50%	15%	50%
Mechanical Engineering	14	1	7%	5	2	40%	26%	67%
Total	**130**	**14**	**11%**	**23**	**6**	**26%**	**15%**	**30%**
IANR								
Agronomy & Horticulture	41	5	12%	4	0	0%	9%	0%
Animal Science	24	4	17%	0	0	na	0%	0%
Biochemistry	12	3	25%	1	0	0%	8%	0%
Biological Systems Engineering	22	1	5%	2	0	0%	8%	0%
Entomology	11	1	9%	2	0	0%	15%	0%
Food Science & Technology	15	2	13%	1	1	100%	6%	33%
Plant Pathology	12	2	17%	0	0	na	0%	0%
School of Natural Resources	37	6	16%	6	4	67%	14%	40%
Veterinary & Biomedical Sciences	29	3	10%	5	0	0%	15%	0%
Total	**203**	**27**	**13%**	**21**	**5**	**24%**	**9%**	**16%**
TOTAL STEM	**505**	**75**	**15%**	**73**	**20**	**27%**	**13%**	**21%**

SocBeh Fields	Tenured and Tenure Track			Non-Tenure Track			Non-TT as % of All	Non-TT as % All Women
	All	W	% W	All	W	% W		
College of Arts & Sciences								
Communication Studies	8	4	50%	6	4	67%	43%	50%
Political Science	17	5	29%	1	0	0%	6%	0%
Psychology	26	8	31%	7	4	57%	21%	33%
Sociology	19	11	58%	3	3	100%	14%	21%
Total	**70**	**28**	**40%**	**17**	**11**	**65%**	**20%**	**28%**
IANR								
Agricultural Leadership, Education & Communication	7	2	29%	8	2	25%	53%	50%
Agricultural Economics	17	3	18%	0	0	na	0%	0%
Total	**24**	**5**	**21%**	**8**	**2**	**25%**	**25%**	**29%**
TOTAL SocBeh	**94**	**33**	**35%**	**25**	**13**	**52%**	**21%**	**28%**

Table excludes visiting faculty.

Source: Institutional Research and Planning, October, 2009

TABLE 2D. UNL STEM and SocBeh Departmental Gender Composition of Tenure and Non-Tenure Track Faculty, 2010

STEM Fields	Tenured and Tenure Track			Non-Tenure Track			Non-TT as % of All	Non-TT as % All Women
	All	W	% W	All	W	% W		
College of Arts & Sciences								
Biological Sciences	39	14	36%	3	0	0%	7%	0%
Chemistry	21	2	10%	7	3	43%	25%	60%
Computer Science & Engineering	24	4	17%	2	1	50%	8%	20%
*Earth and Atmospheric Sciences	19	3	16%	2	1	50%	10%	25%
Mathematics	38	7	18%	14	6	43%	27%	46%
Physics & Astronomy	24	1	4%	4	1	25%	14%	50%
Statistics	13	4	31%	1	1	100%	7%	20%
Total	**178**	**35**	20%	**33**	**13**	39%	16%	27%
College of Engineering								
Architectural Engineering	11	3	27%	7	0	0%	39%	0%
Chemical and Biomolecular Engineering	13	2	15%	0	0	na	0%	0%
Civil Engineering	23	4	17%	3	1	33%	12%	20%
Computer & Electronics Engineering	10	1	10%	2	1	50%	17%	50%
Construction Management	9	0	0%	0	0	na	0%	na
Construction Systems	11	1	9%	2	1	50%	15%	50%
Electrical Engineering	22	3	14%	4	1	25%	15%	25%
Engineering Mechanics	9	1	11%	0	0	na	0%	0%
Industrial and Management Systems	12	1	8%	1	1	100%	8%	50%
Mechanical Engineering	14	1	7%	2	1	50%	13%	50%
Total	**134**	**17**	13%	**21**	**6**	29%	14%	26%
IANR								
Agronomy & Horticulture	54	6	11%	6	1	17%	10%	14%
Animal Science	30	6	20%	1	1	100%	3%	14%
Biochemistry	14	4	29%	1	0	0%	7%	0%
Biological Systems Engineering	26	1	4%	2	0	0%	7%	0%
Entomology	16	2	13%	1	0	0%	6%	0%
Food Science & Technology	16	3	19%	0	0	na	0%	0%
Plant Pathology	12	1	8%	0	0	na	0%	0%
School of Natural Resources	36	6	17%	5	4	80%	12%	40%
** School of Veterinary Medicine & Biomedical Sciences	26	2	8%	4	0	0%	13%	0%
Total	**230**	**31**	13%	**20**	**6**	30%	8%	16%
TOTAL STEM	**542**	**83**	**15%**	**74**	**25**	**34%**	12%	23%

SocBeh Fields	Tenured and Tenure Track			Non-Tenure Track			Non-TT as % of All	Non-TT as % All Women
	All	W	% W	All	W	% W		
College of Arts & Sciences								
Communication Studies	8	4	50%	5	4	80%	38%	50%
Political Science	17	7	41%	1	0	0%	6%	0%
Psychology	26	8	31%	6	4	67%	19%	33%
Sociology	18	12	67%	4	2	50%	18%	14%
Total	**69**	**31**	45%	**16**	**10**	63%	19%	24%
IANR								
Agricultural Leadership, Education & Communication	10	4	40%	4	2	50%	29%	33%
Agricultural Economics	19	3	16%	1	0	0%	5%	0%
Total	**29**	**7**	24%	**5**	**2**	40%	15%	22%
TOTAL SocBeh	**98**	**38**	**39%**	**21**	**12**	**57%**	18%	24%

*formerly Department of Geosciences, **formerly Department of Veterinary & Biomedical Sciences

Source: Institutional Research and Planning, October, 2010

TABLE 3A. UNL STEM Tenure Review Outcomes by Gender and Department, 2007-20010

STEM Fields

Year: 2007-2008	# Reviews			# Approvals			# Denials		
	W	M	Total	W	M	Total	W	M	Total
Agronomy & Horticulture	1	0	**1**	1	0	**1**	0	0	**0**
Biochemistry	2	1	**3**	2	1	**3**	0	0	**0**
Biological Systems Engineering	0	1	**1**	0	1	**1**	0	0	**0**
Computer & Electronics Engineering	0	1	**1**	0	1	**1**	0	0	**0**
Computer Science & Engineering	0	1	**1**	0	1	**1**	0	0	**0**
Construction Systems Engineering	0	1	**1**	0	1	**1**	0	0	**0**
Mechanical Engineering	0	1	**1**	0	1	**1**	0	0	**0**
Physics & Astronomy	1	0	**1**	1	0	**1**	0	0	**0**
School of Natural Resources	0	1	**1**	0	1	**1**	0	0	**0**
Year: 2008-2009	# Reviews			# Approvals			# Denials		
	W	M	Total	W	M	Total	W	M	Total
School of Biological Sciences	0	1	**1**	0	1	**1**	0	0	**0**
Physics & Astronomy	0	4	**4**	0	4	**4**	0	0	**0**
Mathematics	0	1	**1**	0	1	**1**	0	0	**0**
Chemistry	0	1	**1**	0	1	**1**	0	0	**0**
Computer & Electronics Engineering	0	1	**1**	0	1	**1**	0	0	**0**
Industrial & Management Systems Engineering	0	1	**1**	0	1	**1**	0	0	**0**
School of Natural Resources	0	1	**1**	0	1	**1**	0	0	**0**
Biological Systems Engineering	0	1	**1**	0	1	**1**	0	0	**0**
Biochemistry	0	2**	**2**	0	2**	**2**	0	0	**0**
Agronomy & Horticulture	0	1**	**1**	0	1**	**1**	0	0	**0**
Year: 2009-2010	# Reviews			# Approvals			# Denials		
	W	M	Total	W	M	Total	W	M	Total
Computer Science & Engineering	1	1	**2**	1	1	**2**	0	0	**0**
School of Biological Sciences	1	0	**1**	1	0	**1**	0	0	**0**
Architectural Engineering	1	1	**2**	1	1	**2**	0	0	**0**
Civil Engineering	0	1	**1**	0	1	**1**	0	0	**0**
Construction Systems	0	1	**1**	0	1	**1**	0	0	**0**
Electrical Engineering	0	1	**1**	0	1	**1**	0	0	**0**
Engineering Mechanics	0	1	**1**	0	1	**1**	0	0	**0**
Mechanical Engineering	0	1	**1**	0	1	**1**	0	0	**0**
Animal Science	0	1	**1**	0	1	**1**	0	0	**0**
Biological Systems Engineering	0	1	**1**	0	1	**1**	0	0	**0**
Plant Pathology	0	2**	**2**	0	2**	**2**	0	0	**0**
School of Veterinary Medicine and Biomedical Sciences	0	1	**1**	0	1	**1**	0	0	**0**

**Received tenure in a change from a non-tenured faculty rank (Associate Research Professor) to a tenured faculty rank (Associate Professor)*

***Includes one who received tenure at rank of Professor*

Source: Senior Vice Chancellor for Academic Affairs, 2007-2010

TABLE 3B. UNL SocBeh Tenure Review Outcomes by Gender and Department, 2007-2010

SocBeh Fields

Year: 2007-2008	# Reviews			# Approvals			# Denials		
	W	M	Total	W	M	Total	W	M	Total
Agricultural Economics	1	1	**2**	1	1	**2**	0	0	**0**
Year: 2009-2010	# Reviews			# Approvals			# Denials		
	W	M	Total	W	M	Total	W	M	Total
Communication Studies	0	1	**1**	0	1	**1**	0	0	**0**
Political Science	0	1	**1**	0	1	**1**	0	0	**0**
Sociology	0	1	**1**	0	1	**1**	0	0	**0**

Source: Senior Vice Chancellor for Academic Affairs, 2007-2010

TABLE 4A. STEM Promotion Review Outcomes by Gender: Associate to Full Professor, 2007-2010

STEM Fields

Year: 2007-2008	# Reviews			# Approvals			# Denials		
	W	M	Total	W	M	Total	W	M	Total
Agronomy & Horticulture	1	2	**3**	1	2	**3**	0	0	0
Biological Sciences	0	1	**1**	0	1	**1**	0	0	**0**
Biological Systems Engineering	0	1	**1**	0	1	**1**	0	0	**0**
Chemistry	0	1	**1**	0	1	**1**	0	0	**0**
Civil Engineering	0	1	**1**	0	1	**1**	0	0	**0**
Computer Science	0	1	**1**	0	1	**1**	0	0	**0**
Electrical Engineering	0	2	**2**	0	2	**2**	0	0	**0**
Physics	0	2	**2**	0	2	**2**	0	0	**0**
School of Natural Resources	0	3	**3**	0	3	**3**	0	0	**0**
TOTAL	1	14	**15**	1	14	**15**	0	0	**0**
Year: 2008-2009	# Reviews			# Approvals			# Denials		
	W	M	Total	W	M	Total	W	M	Total
Biological Sciences	1	1	**2**	1	1	**2**	0	0	0
Geosciences	0	1	**1**	0	1	**1**	0	0	**0**
Chemistry	0	1	**1**	0	1	**1**	0	0	**0**
Computer Science & Engineering	0	1	**1**	0	1	**1**	0	0	**0**
Statistics	0	1	**1**	0	1	**1**	0	0	**0**
Civil Engineering	0	1	**1**	0	1	**1**	0	0	**0**
School of Natural Resources	0	2	**2**	0	2	**2**	0	0	**0**
Biochemistry	0	1	**1**	0	1	**1**	0	0	**0**
Agronomy & Horticulture	0	1	**1**	0	1	**1**	0	0	**0**
Plant Pathology	0	1	**1**	0	1	**1**	0	0	**0**
TOTAL	1	11	**12**	1	11	**12**	0	0	**0**
Year: 2009-2010	# Reviews			# Approvals			# Denials		
	W	M	Total	W	M	Total	W	M	Total
Computer Science & Engineering	0	1	**1**	0	1	**1**	0	0	**0**
Physics & Astronomy	0	1	**1**	0	1	**1**	0	0	**0**
School of Biological Sciences	0	2	**2**	0	2	**2**	0	0	**0**
Architectural Engineering	0	1	**1**	0	1	**1**	0	0	**0**
Chemical & Biomolecular Engineering	1	1	**2**	1	1	**2**	0	0	**0**
Engineering Mechanics	0	2	**2**	0	2	**2**	0	0	**0**
Mechanical Engineering	0	1	**1**	0	1	**1**	0	0	**0**
Agronomy & Horticulture	0	1	**1**	0	1	**1**	0	0	**0**
Animal Science	0	1	**1**	0	1	**1**	0	0	**0**
Biochemistry	0	1	**1**	0	1	**1**	0	0	**0**
Entomology	1	1	**2**	1	1	**2**	0	0	**0**
Plant Pathology	0	1	**1**	0	1	**1**	0	0	**0**
School of Natural Resources	0	2	**2**	0	2	**2**	0	0	**0**
TOTAL	2	16	**18**	2	16	**18**	0	0	**0**

Source: Senior Vice Chancellor for Academic Affairs, 2007-2010

TABLE 4B. SocBeh Promotion Review Outcomes by Gender: Associate to Full Professor, 2007-2010

SocBeh Fields

Year: 2007-2008	# Reviews			# Approvals			# Denials		
	W	M	Total	W	M	Total	W	M	Total
Agricultural Leadership Education & Communication	1	0	**1**	1	0	**1**	0	0	**0**
Year: 2009-2010	# Reviews			# Approvals			# Denials		
	W	M	Total	W	M	Total	W	M	Total
Sociology	1	0	**1**	1	0	**1**	0	0	**0**

Source: Senior Vice Chancellor for Academic Affairs, 2007-2010

TABLE 5A. Years in Rank at the Associate Professor Level for STEM and SocBeh Faculty NOT Hired as Associate Professors, 2007-2010

YEAR: 2007	STEM				SocBeh			
	Women		Men		Women		Men	
Years in Rank	Number	% of Women	Number	% of Men	Number	% of Women	Number	% of Men
0-2	11	55%	24	26%	1	56%	1	33%
3-5	5	25%	20	21%	1	11%	2	33%
6-8	1	5%	12	13%	0	0%	1	17%
9-11	3	15%	10	11%	1	22%	0	0%
12-14	0	0%	13	14%	0	11%	0	0%
15 or more	0	0%	15	16%	1	0%	1	17%

YEAR: 2008	STEM				SocBeh			
	Women		Men		Women		Men	
Years in Rank	Number	% of Women	Number	% of Men	Number	% of Women	Number	% of Men
0-2	13	65%	26	29%	2	50%	2	33%
3-5	3	15%	16	18%	0	0%	2	33%
6-8	1	5%	10	11%	1	0%	1	17%
9-11	2	10%	8	9%	1	25%	0	0%
12-14	1	5%	14	16%	0	0%	0	0%
15 or more	0	0%	15	17%	0	0%	1	17%

YEAR: 2009	STEM				SocBeh			
	Women		Men		Women		Men	
Years in Rank	Number	% of Women	Number	% of Men	Number	% of Women	Number	% of Men
0-2	7	35%	32	35%	2	40%	1	20%
3-5	7	35%	11	12%	1	20%	0	0%
6-8	3	15%	17	18%	1	0%	3	60%
9-11	1	5%	4	4%	0	0%	0	0%
12-14	2	10%	13	14%	1	20%	0	0%
15 or more	0	0%	15	16%	0	0%	1	20%

YEAR: 2010	STEM				SocBeh			
	Women		Men		Women		Men	
Years in Rank	Number	% of Women	Number	% of Men	Number	% of Women	Number	% of Men
0-2	7	30%	33	35%	2	50%	4	50%
3-5	10	43%	18	19%	1	25%	0	0%
6-8	3	13%	10	11%	0	0%	2	25%
9-11	0	0%	5	5%	0	0%	1	0%
12-14	3	13%	8	8%	1	25%	0	0%
15 or more	0	0%	21	22%	0	0%	1	13%

Source: Institutional Research and Planning, 2007-2010

TABLE 5B. Years in Rank at the Associate Professor Level for STEM and SocBeh Faculty Hired as Associate Professors, 2007-2010

YEAR: 2007	STEM				SocBeh			
	Women		Men		Women		Men	
Years in Rank	Number	% of Women	Number	% of Men	Number	% of Women	Number	% of Men
0-2	0	0%	3	13%	0	56%	1	33%
3-5	1	17%	2	9%	0	11%	0	33%
6-8	1	17%	7	30%	0	0%	1	17%
9-11	3	50%	3	13%	1	22%	0	0%
12-14	1	17%	2	9%	0	11%	0	0%
15 or more	0	0%	6	26%	0	0%	1	17%

YEAR: 2008	STEM				SocBeh			
	Women		Men		Women		Men	
Years in Rank	Number	% of Women	Number	% of Men	Number	% of Women	Number	% of Men
0-2	1	14%	6	30%	1	50%	1	33%
3-5	0	0%	2	10%	0	0%	0	0%
6-8	2	29%	1	5%	0	0%	1	33%
9-11	2	29%	5	25%	1	50%	0	0%
12-14	1	14%	1	5%	0	0%	0	0%
15 or more	1	14%	5	25%	0	0%	1	33%

YEAR: 2009	STEM				SocBeh			
	Women		Men		Women		Men	
Years in Rank	Number	% of Women	Number	% of Men	Number	% of Women	Number	% of Men
0-2	1	17%	7	35%	1	50%	1	33%
3-5	0	0%	2	10%	0	0%	0	0%
6-8	1	17%	0	0%	0	0%	0	0%
9-11	2	33%	6	30%	1	0%	1	0%
12-14	1	17%	0	0%	0	0%	0	0%
15 or more	1	17%	5	25%	0	0%	1	33%

YEAR: 2010	STEM				SocBeh			
	Women		Men		Women		Men	
Years in Rank	Number	% of Women	Number	% of Men	Number	% of Women	Number	% of Men
0-2	1	20%	3	17%	1	50%	0	0%
3-5	0	0%	6	33%	0	0%	1	33%
6-8	0	0%	1	6%	0	0%	0	0%
9-11	0	0%	3	17%	0	0%	1	0%
12-14	3	60%	0	0%	1	50%	0	0%
15 or more	1	20%	5	28%	0	0%	1	33%

Source: Institutional Research and Planning, 2007-2010

TABLE 6A. UNL STEM Voluntary, Non-Retirement Attrition by Rank and Gender, 2007-2010

Year: 2007-2008	Assistant		Associate		Full	
	W	M	W	M	W	M
Animal Science	0	0	1	0	0	0
Architectural Engineering	0	0	0	1	0	0
Computer Science & Engineering	0	1	0	0	0	0
Earth and Atmospheric Sciences	0	1	0	0	0	0
Industrial and Management Systems	0	0	1	0	0	0
Mechanical Engineering	0	0	0	1	0	0
Physics and Astronomy	0	0	1	0	0	0
Veterinary and Biomedical Sciences	0	0	0	0	0	1
TOTAL	0	2	3	2	0	1
Year: 2008-2009	Assistant		Associate		Full	
	W	M	W	M	W	M
Architectural Engineering	0	0	0	1	0	0
Biochemistry	0	0	0	0	0	1
Mathematics	0	1	0	0	0	0
Mechanical Engineering	0	1	0	0	0	0
School of Biological Sciences	0	0	0	1	0	0
TOTAL	0	2	0	2	0	1
Year: 2009-2010	Assistant		Associate		Full	
	W	M	W	M	W	M
Animal Science	1	0	0	0	0	0
Biological Systems Engineering	0	0	0	1	0	0
School of Natural Resources	0	1	0	0	0	0
TOTAL	1	1	0	1	0	0
Year: 2010-2011*	Assistant		Associate		Full	
	W	M	W	M	W	M
Biological Sciences	0	1	0	0	0	0
Computer Science & Engineering	0	0	0	1	0	0
Industrial & Mgmt Syst Engineering	0	0	0	1	0	0
TOTAL	0	1	0	2	0	0

TABLE 6B. UNL SocBeh Voluntary, Non-Retirement Attrition by Rank and Gender, 2007-2010

Year: 2007-2008	Assistant		Associate		Full	
	W	M	W	M	W	M
Agriculture Economics	0	1	0	0	0	0
Year: 2008-2009	Assistant		Associate		Full	
	W	M	W	M	W	M
Political Science	0	0	0	1	0	0
Year: 2009-2010	Assistant		Associate		Full	
	W	M	W	M	W	M
Political Science	0	1	0	0	0	0

* Data for 2010-11 are current through May 1, 2011

Source: Payroll, September 2 through September 1 of each year

TABLE 7a. Number and Percent of UNL New-Hires in STEM and SocBeh Fields by Rank and Department, 2007

STEM Fields	Assistant			Associate			Full		
	M	W	% W	M	W	% W	M	W	% W
College of Arts & Sciences									
Biological Sciences	0	1	100%	0	0	na	0	0	na
Chemistry	0	1	100%	0	0	na	0	0	na
Computer Science & Engineering	1	0	0%	0	0	na	0	0	na
Geosciences	1	0	0%	0	0	na	0	0	na
Mathematics	1	1	50%	0	0	na	0	0	na
Physics & Astronomy	2	0	0%	0	0	na	0	0	na
Statistics	0	1	100%	0	0	na	0	0	na
College of Engineering									
Architectural Engineering	0	0	na	0	0	na	0	0	na
Chemical and Biomolecular Engineering	0	0	na	0	0	na	0	0	na
Civil Engineering	0	0	na	0	0	na	0	0	na
Computer & Electronics Engineering	0	0	na	0	0	na	1	0	0%
Construction Management	1	0	0%	0	0	na	0	0	na
Construction Systems	0	1	100%	0	0	na	0	0	na
Electrical Engineering	0	1	100%	0	0	na	0	0	na
Engineering Mechanics	0	0	na	0	0	na	0	0	na
Industrial and Management Systems	1	0	0%	0	0	na	0	0	na
Mechanical Engineering	0	0	na	0	0	na	0	0	na
Institute of Agriculture & Natural Resources (IANR) Academic Units									
Agronomy & Horticulture	0	0	na	0	0	na	0	0	na
Animal Sciences	0	0	na	0	0	na	0	0	na
Biochemistry	0	0	na	0	0	na	0	0	na
Biological Systems Engineering	0	1	100%	0	0	na	0	0	na
Entomology	0	0	na	0	0	na	0	0	na
Food Science & Technology	0	0	na	0	0	na	0	0	na
Plant Pathology	0	0	na	0	0	na	0	0	na
School of Natural Resources	0	0	na	0	0	na	0	0	na
Veterinary & Biomedical Sciences	1	0	0%	2	0	0%	0	0	na
TOTAL STEM	**8**	**7**	**47%**	**2**	**0**	**0%**	**1**	**0**	**0%**

SocBeh Fields	Assistant			Associate			Full		
	M	W	% W	M	W	% W	M	W	% W
College of Arts & Sciences									
Communication Studies	0	0	na	0	0	na	0	0	na
Political Science	2	0	0%	1	0	0%	0	1	100%
Psychology	1	0	0%	0	0	na	0	0	na
Sociology	1	3	75%	0	0	na	0	0	na
Institute of Agriculture & Natural Resources (IANR) Academic Units									
Agricultural Leadership Education & Communication	0	0	na	0	0	na	0	0	na
Agricultural Economics	0	0	na	0	0	na	0	0	na
TOTAL SocBeh	**4**	**3**	**43%**	**1**	**0**	**0%**	**0**	**1**	**100%**

Source: Institutional Research and Planning, October,2007

TABLE 7b. Number and Percent of UNL New-Hires in STEM and SocBeh Fields by Rank and Department, 2008

STEM Fields	Assistant			Associate			Full		
	M	W	% W	M	W	% W	M	W	% W
College of Arts & Sciences									
Biological Sciences	2	2	50%	1	0	0%	0	0	na
Chemistry	0	0	na	0	0	na	0	0	na
Computer Science & Engineering	0	0	na	0	0	na	0	0	na
Geosciences	1	0	0%	0	0	na	0	0	na
Mathematics	0	0	na	0	0	na	1	0	0%
Physics & Astronomy	1	0	0%	0	0	na	0	0	na
Statistics	0	0	na	0	0	na	0	0	na
College of Engineering									
Architectural Engineering	0	0	na	0	0	na	0	0	na
Chemical and Biomolecular Engineering	0	0	na	0	0	na	0	0	na
Civil Engineering	1	1	50%	0	0	na	0	0	na
Computer & Electronics Engineering	0	0	na	0	0	na	0	0	na
Construction Management	0	0	na	0	0	na	1	0	0%
Construction Systems	0	0	na	0	0	na	0	0	na
Electrical Engineering	2	0	0%	0	0	na	0	0	na
Engineering Mechanics	1	0	0%	0	0	na	0	0	na
Industrial and Management Systems	0	0	na	0	0	na	0	0	na
Mechanical Engineering	0	0	na	0	0	na	0	0	na
Institute of Agriculture & Natural Resources (IANR) Academic Units									
Agronomy & Horticulture	2	0	0%	0	0	na	0	0	na
Animal Sciences	1	0	0%	0	0	na	0	0	na
Biochemistry	1	0	0%	1	0	0%	1	0	0%
Biological Systems Engineering	1	0	0%	0	0	na	0	0	na
Entomology	0	0	na	0	0	na	0	0	na
Food Science & Technology	1	0	0%	0	0	na	0	0	na
Plant Pathology	0	0	na	0	0	na	0	0	na
School of Natural Resources	0	0	na	0	0	na	0	0	na
Veterinary & Biomedical Sciences	1	0	0%	0	1	100%	1	0	0%
TOTAL STEM	**15**	**3**	**17%**	**2**	**1**	**33%**	**4**	**0**	**0%**

SocBeh Fields	Assistant			Associate			Full		
	M	W	% W	M	W	% W	M	W	% W
College of Arts & Sciences									
Communication Studies	0	0	na	0	0	na	0	0	na
Political Science	0	1	100%	0	0	na	0	0	na
Psychology	0	2	100%	0	0	na	0	0	na
Sociology	0	0	na	0	1	100%	0	0	na
Institute of Agriculture & Natural Resources (IANR) Academic Units									
Agricultural Leadership Education and Communication	0	1	100%	0	0	na	1	0	0%
Agricultural Economics	0	0	na	0	0	na	0	0	na
TOTAL SocBeh	**0**	**4**	**100%**	**0**	**1**	**100%**	**1**	**0**	**0%**

Source: Institutional Research and Planning, October,2008

TABLE 7c. Number and Percent of UNL New-Hires in STEM and SocBeh Fields by Rank and Department, 2009

STEM Fields	Assistant			Associate			Full		
	M	W	% W	M	W	% W	M	W	% W
College of Arts & Sciences									
Biological Sciences	1	1	50%	0	0	na	0	0	na
Chemistry	0	0	na	0	0	na	0	0	na
Computer Science & Engineering	0	1	100%	0	0	na	0	0	na
Geosciences	1	0	0%	0	0	na	0	0	na
Mathematics	1	1	50%	0	0	na	0	0	na
Physics & Astronomy	1	0	0%	0	0	na	0	0	na
Statistics	0	0	na	0	0	na	0	0	na
College of Engineering									
Architectural Engineering	1	1	50%	0	0	na	0	0	na
Chemical and Biomolecular Engineering	0	0	na	1	0	0%	0	0	na
Civil Engineering	1	0	0%	0	0	na	0	0	na
Computer & Electronics Engineering	1	0	0%	0	0	na	0	0	na
Construction Management	0	0	na	1	0	0%	0	0	na
Construction Systems	0	0	na	0	0	na	0	0	na
Electrical Engineering	0	0	na	0	0	na	0	0	na
Engineering Mechanics	0	0	na	0	0	na	0	0	na
Industrial and Management Systems	0	0	na	0	0	na	1	0	0%
Mechanical Engineering	1	1	50%	0	0	na	0	0	na
Institute of Agriculture & Natural Resources (IANR) Academic Units									
Agronomy & Horticulture	2	0	0%	0	0	na	0	0	na
Animal Sciences	1	1	50%	0	0	na	1	0	0%
Biochemistry	0	0	na	0	0	na	0	0	na
Biological Systems Engineering	2	0	0%	0	0	na	0	0	na
Entomology	0	0	na	0	0	na	0	0	na
Food Science & Technology	0	0	na	0	0	na	0	0	na
Plant Pathology	1	0	0%	0	0	na	0	0	na
School of Natural Resources	1	1	50%	0	0	na	0	0	na
Veterinary & Biomedical Sciences	3	0	0%	0	0	na	0	0	na
TOTAL STEM	**18**	**7**	**28%**	**2**	**0**	**0%**	**2**	**0**	**0%**

SocBeh Fields	Assistant			Associate			Full		
	M	W	% W	M	W	% W	M	W	% W
College of Arts & Sciences									
Communication Studies	1	0	0%	0	0	na	0	0	na
Political Science	1	1	50%	0	0	na	0	0	na
Psychology	2	0	0%	0	0	na	0	0	na
Sociology	0	0	na	0	0	na	0	0	na
Institute of Agriculture & Natural Resources (IANR) Academic Units									
Agricultural Leadership Education and Communication	0	0	na	0	0	na	0	0	na
Agricultural Economics	0	0	na	0	0	na	0	0	na
TOTAL SocBeh	**4**	**1**	**20%**	**0**	**0**	**na**	**0**	**0**	**na**

Source: Institutional Research and Planning, October, 2009

TABLE 7d. Number and Percent of UNL New-Hires in STEM and SocBeh Fields by Rank and Department, 2010

	Assistant			Associate			Full		
STEM FIELDS	**M**	**W**	**% W**	**M**	**W**	**% W**	**M**	**W**	**% W**
College of Arts & Sciences									
Biological Sciences	0	1	100%	1	0	0%	0	0	na
Chemistry	2	0	0%	0	0	na	0	0	na
Computer Science & Engineering	1	0	0%	1	0	0%	0	0	na
*Earth & Atmospheric Sciences	0	1	100%	0	0	na	0	0	na
Mathematics	0	0	na	0	0	na	0	0	na
Physics & Astronomy	0	0	na	0	0	na	0	0	na
Statistics	0	0	na	0	0	na	0	0	na
College of Engineering									
Architectural Engineering	0	0	na	0	0	na	0	0	na
Chemical and Biomolecular Engineering	1	0	0%	0	0	na	0	0	na
Civil Engineering	0	0	na	0	0	na	0	0	na
Computer & Electronics Engineering	0	0	na	0	0	na	0	0	na
Construction Management	0	0	na	0	0	na	0	0	na
Construction Systems	0	0	na	0	0	na	0	0	na
Electrical Engineering	0	1	100%	0	0	na	0	0	na
Engineering Mechanics	0	0	na	0	0	na	0	0	na
Industrial and Management Systems	0	0	na	0	0	na	0	0	na
Mechanical Engineering	0	0	na	0	0	na	0	0	na
Institute of Agriculture & Natural Resources (IANR) Academic Units									
Agronomy & Horticulture	4	0	0%	0	0	na	1	0	**0%**
Animal Sciences	0	0	na	0	0	na	0	0	**na**
Biochemistry	2	1	33%	0	0	na	0	0	**na**
Biological Systems Engineering	0	0	na	0	0	na	0	0	**na**
Entomology	2	1	33%	0	0	na	0	0	**na**
Food Science & Technology	1	1	50%	0	0	na	0	0	**na**
Plant Pathology	0	0	na	0	0	na	0	0	**na**
School of Natural Resources	1	0	0%	0	0	na	0	0	**na**
** School of Veterinary Medicine & Biomedical Sciences	0	0	na	0	0	na	0	0	**na**
TOTAL STEM	**14**	**6**	**30%**	**2**	**0**	**0%**	**1**	**0**	**0%**

	Assistant			Associate			Full		
SocBeh FIELDS	**M**	**W**	**% W**	**M**	**W**	**% W**	**M**	**W**	**% W**
College of Arts & Sciences									
Communication Studies	0	0	na	0	0	na	0	0	na
Political Science	0	2	100%	0	0	na	0	0	na
Psychology	0	0	na	0	0	na	1	0	0%
Sociology	0	1	100%	0	0	na	0	0	na
Institute of Agriculture & Natural Resources (IANR) Academic Units									
Agricultural Leadership Education and Communication	0	1	100%	0	0	na	0	0	na
Agricultural Economics	0	0	na	0	0	na	0	0	na
TOTAL SocBeh	**0**	**4**	**100%**	**0**	**0**	**na**	**1**	**0**	0%

*formerly Department of Geosciences, **formerly Department of Veterinary & Biomedical Sciences

Source: Institutional Research and Planning, October, 2010

TABLE 8a. Faculty Leadership Positions, 2008

	All Faculty	# of Women Faculty			# of Male Faculty			% of Female Faculty		
		All	STEM	SocBeh	All	STEM	SocBeh	All	STEM	SocBeh
Tenured Full Professors	586	118	19	11	468	236	46	20%	8%	19%
STEM Department Heads/Chairs	26	1	1	*na*	25	25	*na*	4%	4%	*na*
SocBeh Department Heads/Chairs	6	1	*na*	1	5	*na*	5	17%	*na*	17%
Deans	13	4	0	0	9	0	0	31%	0%	0%
Associate Deans	23	10	0	0	13	3	0	44%	0%	0%
Center Directors	57	14	0	0	43	12	1	25%	0%	0%
President, Chancellor, Vice chancellors	14	6	0	0	8	0	0	43%	0%	0%
Source: Institutional Research and Planning, October, 2008										
University Professorships Committee	11	4	2	0	7	4	0	36%	33%	0%
Instructional Technology Advisory Committee (ITAC)	18	5	0	1	13	2	3	28%	0%	25%
International Programs Advisory Council (IPAC)	9	4	0	3	5	2	0	44%	0%	100%
General Purpose Classroom Committee (GPAC)	13	2	0	0	11	3	0	15%	0%	0%
Source: Senior Vice Chancellor for Academic Affairs, 2008										
Research Council	15	8	2	1	7	4	1	53%	33%	50%
Radiation Safety Committee	8	1	1	0	7	7	0	13%	13%	0%
Research Advisory Board (RAB)	22	7	4	1	15	12	0	32%	25%	100%
Institutional Review Board (IRB)	12	4	0	1	8	0	1	33%	0%	50%
Institutional Animal Care and Use Committee (IACUC)	15	3	1	1	12	8	3	20%	11%	25%
Conflict of Interest in Research Committee (CIRC)	9	1	0	1	8	3	0	11%	0%	100%
Institutional Biosafety Committee	6	0	0	0	6	5	0	0%	0%	0%
Source: Office of Research, 2008										
Academic Planning Committee	13	4	1	0	9	5	0	31%	17%	0%
Rights and Responsibilities Committee	5	3	0	1	2	1	0	60%	0%	100%
Curriculum Committee	12	4	0	0	8	3	0	33%	0%	0%
Source: Institutional Research and Planning and Faculty Senate Website, 2008										
Promotion and Tenure Committee (P&T)	258	41	24	17	217	180	37	16%	12%	31%
Executive Committee	70	14	12	2	56	43	13	20%	22%	13%
Graduate Admissions Committee	185	38	16	22	147	105	42	21%	13%	34%
Source: Individual Departments, 2008										
TOTAL University-wide Committees	**168**	**50**	**11**	**10**	**118**	**59**	**8**	30%	16%	56%
TOTAL Department-level Committees	**513**	**93**	**52**	**41**	**420**	**328**	**92**	18%	14%	31%

Committee membership only includes faculty and excludes adjunct, emeritus faculty, staff, and students

Table 8b. Faculty Leadership Positions, 2009

	All Faculty	# of Female Faculty			# of Male Faculty			% of Female Faculty		
		All	STEM	SocBeh	All	STEM	SocBeh	All	STEM	SocBeh
Tenured Full Professors	589	120	19	11	469	247	39	20%	7%	22%
STEM Department Heads/Chairs	26	0	0	*na*	26	26	*na*	0%	0%	*na*
SocBeh Department Heads/Chairs	6	1	*na*	1	5	*na*	5	17%	*na*	17%
Deans	13	6	0	0	7	0	0	46%	0%	0%
Associate Deans	24	9	0	0	15	3	0	38%	0%	0%
Center Directors	57	14	1	0	43	14	2	25%	7%	0%
President, Chancellor, Vice chancellors	14	6	0	0	8	0	0	43%	0%	0%
Source: Institutional Research and Planning, October, 2009										
University Professorships Committee	11	5	2	1	6	3	0	46%	40%	100%
Instructional Technology Advisory Committee (ITAC)	18	4	0	1	14	2	2	22%	0%	33%
International Programs Advisory Council (IPAC)	11	5	0	3	6	3	0	46%	0%	100%
General Purpose Classroom Committee (GPAC)	16	3	0	0	13	3	0	19%	0%	0%
Source: Senior Vice Chancellor for Academic Affairs Office, 2009										
Research Council	11	5	2	0	6	4	0	46%	33%	0%
Radiation Safety Committee	8	1	1	0	7	7	0	13%	13%	0%
Research Advisory Board (RAB)	23	7	3	1	16	9	1	30%	25%	50%
Institutional Review Board (IRB)	13	5	0	2	8	0	2	39%	0%	50%
Institutional Animal Care and Use Committee (IACUC)	17	4	1	1	13	9	3	24%	10%	25%
Conflict of Interest in Research Committee (CIRC)	7	0	0	0	7	3	0	0%	0%	0%
Institutional Biosafety Committee	5	0	0	0	5	4	0	0%	0%	0%
Source: Office of Research, 2009										
Academic Planning Committee	14	3	1	0	11	6	0	21%	14%	0%
Rights and Responsibilities Committee	5	3	0	1	2	0	1	60%	0%	50%
Curriculum Committee	13	4	0	0	9	3	1	31%	0%	0%
Source: Institutional Research and Planning and Faculty Senate Website, 2009										
Promotion and Tenure Committee (P&T)	309	45	27	18	264	224	40	15%	11%	31%
Executive Committee	86	16	7	9	70	57	13	19%	11%	41%
Graduate Admissions Committee	208	43	20	23	165	117	48	21%	15%	32%
Source: Individual Departments, 2009										
TOTAL University-wide Committees**	**172**	**49**	**12**	**10**	**123**	**56**	**10**	**29%**	**18%**	**50%**
TOTAL Department-level Committees	**603**	**105**	**54**	**51**	**499**	**398**	**101**	**17%**	**12%**	**34%**

Committee membership only includes faculty and excludes adjunct, emeritus faculty, staff, and students

Table 8c. Faculty Leadership Positions, 2010

	All Faculty	# of Female Faculty			# of Male Faculty			% of Female Faculty		
		All	STEM	SocBeh	All	STEM	SocBeh	All	STEM	SocBeh
Tenured Full Professors	600	121	22	12	479	262	37	20%	8%	24%
STEM Department Heads/Chairs *	24	0	0	*na*	24	24	*na*	0%	0%	na
SocBeh Department Heads/Chairs	6	1	*na*	1	5	*na*	5	17%	na	17%
Deans	12	5	0	0	7	0	0	42%	na	na
Associate Deans	26	12	0	0	14	1	0	46%	0%	na
Center Directors	57	18	2	0	39	15	1	32%	12%	0%
President, Chancellor, Vice chancellors	14	5	0	0	9	0	0	36%	na	na
Source: Institutional Research and Planning, October, 2010										
University Professorships Committee	11	6	2	0	5	2	0	55%	50%	na
College of Engineering Promotion & Tenure Committee **	12	1	1	0	11	11	0	8%	8%	na
College of Arts & Sciences Promotion & Tenure Committee **	6	4	0	2	2	2	0	67%	0%	100%
Source: Senior Vice Chancellor for Academic Affairs Office, 2010										
Research Council	14	4	1	1	10	6	0	29%	14%	100%
Radiation Safety Committee	8	1	1	0	7	7	0	13%	13%	na
Research Advisory Board (RAB)	18	5	3	0	13	10	1	28%	23%	0%
Institutional Review Board (IRB)	14	6	0	2	8	0	5	43%	na	29%
Institutional Animal Care and Use Committee (IACUC)	15	2	1	1	13	11	2	13%	8%	33%
Conflict of Interest in Research Committee (CIRC)	9	1	1	0	8	5	0	11%	17%	na
Institutional Biosafety Committee	7	0	0	0	7	6	0	0%	0%	na
Source: Office of Research, 2010										
Academic Planning Committee	13	5	0	0	8	2	0	38%	0%	na
Rights and Responsibilities Committee	4	2	0	1	2	0	1	50%	na	50%
Curriculum Committee	13	6	0	0	7	3	1	46%	0%	0%
Source: Institutional Research and Planning and Faculty Senate Website, 2010										
Promotion and Tenure Committee (P&T)	309	41	26	15	268	232	36	13%	10%	29%
Executive Committee	107	22	15	7	85	70	15	21%	18%	32%
Graduate Admissions Committee	183	45	22	23	138	104	34	25%	17%	40%
Source: Individual Departments, 2010										
TOTAL University-wide Committees**	**144**	**43**	**10**	**7**	**101**	**65**	**10**	**30%**	**13%**	**41%**
TOTAL Department-level Committees	**599**	**108**	**63**	**45**	**491**	**406**	**85**	**18%**	**13%**	**35%**

Committee membership only includes faculty and excludes adjunct, emeritus faculty, staff, and students

* *Department chairs were not provided for Construction Management and Construction Systems*

** University-wide academic committees used in previous year tables were eliminated. They were replaced with college level P&T committees (IANR does not have such a committee).

B. EXTERNAL EVALUATOR REPORTS

REPORT FROM THE EXTERNAL EVALUATOR

Ann E. Austin

March 20, 2010

As the External Evaluator for ADVANCE-Nebraska, my responsibility is to provide periodic assessments of the progress of the project as well as suggestions to enhance its impact and effectiveness. This report focuses on the first year and a half of the project. Following a brief overview of the accomplishments of ADVANCE-Nebraska to date, the report is organized around a discussion of Strengths, Issues for Consideration, and Recommendations.

This report is based on a two-day visit I made to the University of Nebraska in October, 2009, as well as a telephone conference with the Evaluation Team in January, 2010. The report also is informed by my review of the *2009 Annual Report for ADVANCE-Nebraska* and the *November, 2009 Activities, Data, and Evaluation Plan Report*.

During my fall, 2009 campus visit, I met individually with key institutional and project leaders, as well as with the Evaluation Team, the Internal Advisory Board, and the External Advisory Board. I also met with the Recruit and Promote-Nebraska Committees, and attended a half-day ADVANCE workshop for Deans and Department Chairs on "Best Practices for Recruiting and Retaining a Diverse Workplace." The visit also included attending a reception for "friends" of ADVANCE-Nebraska.

I met with the following people during the course of the visit: Dr. Mary Anne Holmes (ADVANCE Director and Co-PI); Dr. Barbara Couture (then PI and Senior Vice Chancellor for Academic Affairs); Dr. Julia McQuillan (Co-PI, Director of the Bureau of Sociological Research, and Associate Professor of Sociology); Dr. Nancy Busch (Senior Personnel, Associate Dean and Professor of University Libraries); Dr. Mindy Anderson-Knott (Senior Personnel, and Assistant Director of Survey, Statistics, and Psychometrics Core Facility); Dr. Evelyn Jacobson (Senior Personnel, and Associate Vice Chancellor for Academic Affairs/Faculty Scholarship); Dr. David Manderschied (Co-PI, and Dean of the College of Arts and Sciences); Dr. Namas Chandra (Co-PI, and College of Engineering Associate Dean for Research); Ms. Jill Hochstein (Senior Personnel, Project Manager for ADVANCE-Nebraska); Dr. Christina Falci (Senior Personnel, and Assistant Professor of Sociology).

Overview of ADANCE-Nebraska Accomplishments to Date

With its start in September, 2008, ADVANCE-UNL is well underway. I have been impressed with the enthusiasm and commitment of the leadership team and with what they have accomplished within the first year and several months. The *2009 Annual Report* and the *November 2009 Internal Evaluation Team Report* include thorough discussions of the program components and activities (as well as detailed data from internal evaluation efforts to date). Here I highlight some of the components that stand out: the launching of the Promote-Nebraska and Recruit-Nebraska faculty committees; workshops to present highlights of the on-going work of these committees to deans and department chairs; focus groups with search committee chairs; the launching of a dual career opportunity procedure; the launching of a Paths to Success Luncheon Series and several professional development workshops for faculty; the establishment of an ADVANCE-Nebraska website and a website for work-life balance issues; the establishment of a listserv and ADVANCE-Nebraska e-news that is distributed bi-weekly; connections with relevant units throughout

campus; a research agenda on network structures in academic departments; and an extensive internal evaluation program.

Strengths

In my view, the ADVANCE-Nebraska program is extensive and innovative, designed to meet the needs and institutional culture of the University of Nebraska. In this section, I discuss aspects of ADVANCE-Nebraska that are particular strengths and deserve commendation.

1) Progress and Successes of the Recruit and Promotion Committees

The Recruit and Promotion Committees have been working very hard to address the goals of ADVANCE at Nebraska. The ADVANCE directors did a good job of identifying and appointing committee members who are very committed to the work they have been charged to undertake. I believe the provision of providing a stipend for committee members is wise, given the many competing demands on faculty members' time. Also impressive is the recognition by the committees that different departments have different circumstances, and therefore may need different messages and support.

2) Workshop for Chairs and Deans on "Best Practices for Recruiting and Retaining a Diverse Workforce"

I had the opportunity to observe the excellent October workshop for chairs to prepare them to widen the pools of possible candidates for faculty positions. The well-planned workshop included a report from focus groups with new faculty about the role that department chairs play in the recruiting process. The workshop also included a review of the work-life policies that are available for all full-time faculty (including research faculty), and advice to chairs to encourage their faculty members to use the available policies. Presenters from the university and the local business community highlighted excellent selling points about Lincoln that search committees and chairs can use to help potential faculty members appreciate the living environment. A key point was that the university cares about the careers of the faculty and will help them grow and prepare for leadership positions, even if they eventually should make a move elsewhere.

The entire workshop was very organized, thorough, and filled with information. The time commitment invested by the chairs attending was respected and used wisely. My only suggestion is that, in the future, a little more time be made available for questions. This event was excellent in every way, and provided both visibility and credibility to the ADVANCE program. I believe those who attended must have felt they had learned useful information. I would expect that participants would be interested to attend other workshops and to indicate to colleagues the usefulness of ADVANCE events.

3) Policies at UNL

One topic of the Chairs' Workshop focused on a review of work-life policies at the university. This review highlighted a range of policies, including automatic interruption of the tenure clock with the arrival of a new baby and other situations, and no limits to the number of time that the tenure clock can be interrupted. Although not a policy, arrangements can be negotiated as needed for periods of part-time employment. Of note also is the wide eligibility standard for these policies and arrangements. UNL has attractive and appropriate work-life policies and is now coupling them with thoughtful attention to

ensuring that faculty members know the policies relevant to their needs and hear a clear message that the university encourages use of the policies.

4) Support for Dual Career Situations

ADVANCE-Nebraska has been aggressive in supporting dual career situations that will help attract women to the institution. ADVANCE has succeeded in facilitating three such dual career appointments this past year.

5) Institutional Support for ADVANCE

The senior administration, particularly the PI and Senior Vice Chancellor at the time, Dr. Barbara Couture, has shown strong support for ADVANCE-Nebraska. (Dr. Couture has recently departed to assume a senior role at another university.) She personally participated in PI and Internal Advisory Board meetings and other events, clearly was very familiar with and supportive of the project, and viewed the goals of ADVANCE as closely linked with the strong institutional priority to diversify the institution. I hope that the new senior leader replacing Dr. Couture will continue to convey strong institutional commitment to ADVANCE and a personal willingness to be involved with the program. The visible involvement of the senior academic officer sends a strong message about the importance of the ADVANCE Program within the university's priorities and commitments.

6) ADVANCE-Nebraska's Organizational Structure

The PIs of the ADVANCE-Nebraska Program meet regularly and, individually and as a group, they are very enthusiastic about the project and its goals, and very collegial in their work for the project. Given the different backgrounds they each have, the program is enhanced by their collective knowledge and expertise. Their commitment and involvement mean that the program has strong, active leadership. As Director and Co-PI, Dr. Holmes brings extensive knowledge and involvement with many colleagues across the university, her own experiences with the challenges of building a career as a woman scientist, and deep commitment to the goals of ADVANCE.

The Internal Advisory Board is very engaged and committed to the project. The Director and PIs try to use the time of the Internal Advisory Board as productively as possible. I have offered some suggestions pertaining to this Board in the section on Recommendations.

The Internal Evaluation Team is very ably led by Dr. Mindy Anderson-Knott and Dr. Nancy Busch. I have had several meetings in person and over the phone during the past year with the Evaluation Team to review and offer suggestions on their evaluation plan. They have identified project goals, activities to meet those goals, and expected outcomes pertaining to each goal, and have developed appropriate evaluation strategies. The team is careful and thorough in its data collection. In the Recommendations section of this report, I offer a few suggestions regarding evaluation.

The ADVANCE Program Manager, Ms. Jill Hochstein, is another key asset to the program. She handles the financials, the website, and event planning. With her prior work experience in the university's research unit, she brings great knowledge of the university and knows "how to get things done." Her involvement as Program Manager is very important to the success of ADVANCE-Nebraska to date and that anticipated in the future.

Issues to Consider

The ADVANCE-Nebraska Program has had a very strong start and has established a solid base on which to build. Here I list some issues that, based on my conversations, I believe should be considered as ADVANCE-Nebraska moves forward. I think consideration of these issues will contribute to the success and impact of the program.

1) Relationship of ADVANCE to the UNL Diversity Initiative

In addition to the ADVANCE Program, UNL has committed itself to an institution-wide diversity initiative. This initiative supports the institution's strong commitment to diversity, but it does not focus specifically on women in STEM fields. Some confusion seemed to be emerging in the fall in regard to the two programs. The ADVANCE office was called on to help with the coordination of a workshop associated with the Diversity Initiative, which raised some questions for the ADVANCE team. Such questions included: What is the relationship between these two institutional endeavors? To what extent should and can the ADVANCE team become involved with facilitating events whose scope goes beyond the specific focus of the NSF ADVANCE goals pertaining to women in STEM fields? Will chairs and deans in STEM fields be more attracted to programs designed specifically for STEM fields rather than to programs designed for leaders of all departments across the university? To what extent should the ADVANCE evaluation team work on evaluation of programs specifically connected to the Diversity Initiative? My conversations with institutional leaders suggested that the university will be best served if ways are developed to ensure that the two initiatives are mutually beneficial. This probably means finding approaches through which the two initiatives connect around some efforts, where there are possible synergies, while also ensuring that the specific focus of ADVANCE on women in STEM fields does not become diluted. Close communication between the Office of the Senior Vice Chancellor and the Director of Advance will be very important.

2) Importance of Communication

The ADVANCE-Nebraska leaders are already working hard to ensure good communication among the committees and individuals associated with ADVANCE and between ADVANCE and other units and initiatives in the university. Continuing commitment to clear and regular communication is essential as the project continues. Specifically, as suggested in the previous point, the ADVANCE Director should arrange for regular meetings with a senior administrator representing the Vice Chancellor's office so the relationship between the Diversity Initiative and ADVANCE can be addressed in an ongoing way. Additionally, I heard some ADVANCE leaders mention that the two key committees—the Recruit Committee and the Promote Committee—may not always know in detail about each other's work. Finding ways for the two committees to stay informed in some detail about the work each is doing may help them as they proceed with their plans.

3) Faculty Involvement

While the ADVANCE Program is attracting department chairs to its workshops and has a dynamic group of faculty members involved in its two committees, an important next step is to ensure that the ADVANCE Program and its goals and activities are known widely throughout the institution. In any change process, early adapters get on board quickly and with enthusiasm. The greater challenge is usually how to attract the attention and the interest of well-meaning, busy faculty members who would benefit from involvement and would probably be quite interested, once they become involved. In some of the conversations that I had while on campus, I heard that faculty members in various departments do not discuss upcoming ADVANCE workshops (perhaps because they have not noticed announcements for them). I urge the ADVANCE leaders and committees to

think about ways to continue to spread the work about ADVANCE among the faculty members on campus, and especially among those in STEM fields. The well-designed ADVANCE electronic newsletter is an excellent tool on which to build, but additional strategies may be needed to energize "regular faculty" to take note and participate in opportunities provided by ADVANCE.

4) Rising Expectations

An important early success of ADVANCE-Nebraska has been its role in helping find employment for partners in three dual career situations. These accomplishments will help spread the word about ADVANCE and its goals and initiatives. At the same time, this track record has apparently raised expectations within some departments. Specifically, the Department of Engineering apparently has a number of faculty members with partners who may wish to tap into the efforts of the ADVANCE program to help with finding professional appointments. These expectations may tax the ability of the program to respond; at minimum, the rising expectations that accompany success may need to be considered by the Internal Advisory Board.

Recommendations

In the conversations and meetings during my visit to UNL, several suggestions emerged from those with whom I met. Additionally, some suggestions came to my mind that I thought might help the Advance team build on its successes (sometimes related to my knowledge of some other Advance programs and ideas they have found to be useful). These suggestions are presented here:

1) Discuss and disseminate the rationale for the ADVANCE program

- The PIs and Internal Advisory Board held a lively meeting while I was visiting in which they discussed the overall strategies and progress of the ADVANCE Program. Emerging from this conversation, participants suggested that more discussion on campus should be devoted to why recruiting, retaining, and promoting more women is an important goal. In discussing this issue, the PI/Internal Advisory Board group noted that the health of the nation requires talented men and women in STEM fields. Additionally, if Nebraska is to grow its economy and compete for a talented workforce, it must be a place that supports all potential employees. Another reason to attract women scholars is to provide role models for female students, whom the university wishes to attract. And to be a university that is competitive in attracting highly talented faculty, UNL must offer a workplace that welcomes women as well as men. The PI group expressed some concern that these reasons motivating the initiative are not being explicitly considered and disseminated by the two committees or by the overall project. Thus, the PIs, Internal Advisory Board, and the Recruit and Promote Committees may want to give explicit attention to framing "the right questions" and helping members of the university community understand more fully why ADVANCE-Nebraska is so important to the quality and excellence of the university, as well as important to well-being of the state.

2) ***Regularly review the work of the Recruit and Promote Committees***

- As discussed, both these committees are working hard and making good progress. However, I heard mention of some overlap across the work of these two committees. While having two committees makes sense at this point (as each committee is gathering data and developing materials and workshops about its specific area of focus), in the long-term, once workshops and other strategies have been developed and institutionalized, the university may need only one committee to address diversity in regard to both recruitment and promotion (this suggestion was raised by individuals who work on ADVANCE). I recommend that, annually, the PIs and the Internal Advisory Board review the charges to each committee, and the actual work they are doing, to determine if any adjustments are needed in regard to their work or membership composition, and whether it would be advantageous at some point for the two committees might function at some point as one.

3) Develop strategies to "get out the word" about ADVANCE

- A challenge for a major program such as ADVANCE that is addressing a complex problem is to find ways to talk about it to a broad audience. As one part of a strategy to make ADVANCE more broadly known across campus, I suggest that a short statement of the mission be prepared. Often such a short statement is called an "elevator talk"—a few sentences that can be said within the time it takes to ride an elevator that succeeds in conveying what the program is about and why it should be of interest to the listener.

- Another strategy would be to "map" by department the people who have been involved in ADVANCE programs. Such a map (updated over time) could be used to link faculty members who are interested in ADVANCE initiatives with others with similar interests who may be in different departments. The map could also identify faculty who may be called on to disseminate information about ADVANCE-Nebraska and its programs to others in their departments or colleges.

4) Consider the various ways of using Advance to develop leadership

- Develop a pipeline of faculty leaders: In addition to focusing on chairs and deans, the Advance Program should be attentive to cultivating a pipeline of faculty leaders who are developing leadership skills that will be useful when opportunities come for them to step into leadership roles. One way to do this is to use the "map" of allies of ADVANCE (mentioned above) to target faculty members to call on when leadership opportunities arise within ADVANCE (such as to facilitate a workshop). Of course, there should always be care in not overloading women faculty members with tasks that divert them from succeeding in their disciplinary roles, but drawing on faculty members for modest leadership roles can both "spread the word" about ADVANCE and help women faculty cultivate leadership skills. As faculty members in STEM fields succeed in achieving tenure, the ADVANCE Program could help them to see their roles in the broader institutional context and could highlight ways in which they could take on modest leadership opportunities.

- Consider on-going department chair professional development: Building on the successes with the Department Chair workshops, ADVANCE might consider offering regular professional development opportunities for department chairs.

Other universities have found that chairs are critical to establishing supportive environments for faculty members. Thus, on-going department chair workshops concerning key tasks chairs must handle are increasingly being offered at many universities.

- Ensure professional development for ADVANCE leaders: In addition to supporting the leadership development of chairs and of faculty members interested in the goals of the ADVANCE Program, I recommend that the members of the PI team (particularly those new to institutional-level administrative roles) develop individual plans for their own leadership development. For example, this might include regular meetings with more senior administrators to seek guidance and feedback, as well as plans for a personal reading program or for attending national workshops on strategies for women institutional leaders.

5) Clarify roles within ADVANCE

One issue that arose during my visit and in the subsequent phone meeting with the Evaluation Team is the role of the various groups within ADVANCE in terms of evaluation. With some members of the PI group and the Evaluation Team, I have discussed the following roles and responsibilities for each party:

- Internal Evaluation Team: The Evaluation Team is doing an impressive job of outlining the key goals and components of the ADVANCE-Nebraska project, identifying appropriate assessment approaches relevant to project goals and specific activities, and gathering and analyzing data. I would suggest that the responsibilities of the Internal Evaluation Team are to collect data regarding agreed-upon goals and program components, and to develop reports from those data that summarize the results. After analyzing data, the Evaluation Team needs to ask: "What does this all add up to? What, overall, do the data tell us?" Such summary reports should be provided to the PI/Co-PIs and to the Internal Advisory Board. The Internal Evaluation Team also will write a final five-year report based on their studies and findings over the years of the project,

- Director/Co-PIs: Drs. Holmes and McQuillan work very closely together and with the Evaluation Team. Thus, they are likely to review the detailed data analyses conducted by the Evaluation Team. They will also want to see summary reports of what the data "add up to."

- Internal Advisory Board: Typically an Advisory Board wants to use its time judiciously, so that members are not over-taxed. Thus, in my experience, an Advisory Board would typically review summary reports about evaluation and only look at detailed data if they wished to explore a particular question or point. Their role is typically to consider the overall picture in terms of the direction of the project and to provide advice to the PI/Co-PIs about various decisions. Thus, their interest in evaluation data would be in relation to how such data help them with their responsibility to give guidance about the direction and decisions facing the project.

- External Evaluator: I suggest, based on my experience with other ADVANCE grants, that my role as External Evaluator include the following: a) serve as a consultant who reviews the evaluation plans, findings, and summary reports prepared by the Internal Evaluation Team; serve as a "critical friend" (consultant/advisor) to the

PI/Director/Co-PIs and the Evaluation Team to offer advice concerning resources and strategies; conduct qualitative interviews on campus mid-way through the project and at the end to gather data about overall impact that may be difficult for insiders to gather; write a five-year evaluation report (based on annual visits and interviews, as well as review of the findings from the Internal Evaluation Team) that discusses impact and lessons learned.

- External Advisory Board: The External Advisory Board can also serve in the role of "critical friends." In such a role, they would review the progress of ADVANCE-Nebraska and read summary evaluation reports. They can be particularly helpful in framing important questions that the PI/Co-PIs should be considering at various stages in the grant. They can also draw on their expertise to offer suggestions of resources or strategies that they are aware have been successful in other projects. At some institutions, both with ADVANCE and other projects, project leaders have sometimes called on External Advisory Board members to serve as advocates with senior institutional leaders on behalf of the goals of the project. External validation can be helpful in supporting project goals.

6) Consider the working process of the Internal and External Advisory Boards

- Conversations during my on-campus visit and with the Evaluation Team over the phone raised questions about effective ways to organize and structure Advisory Committee meetings. I shared some suggestions based on my experiences co-chairing an Internal Advisory Board for the Office of Faculty and Organizational Development on my campus. I suggested that two meetings a semester would be useful (perhaps one as a four-hour retreat and the other scheduled as a two-hour meeting). The Director, with advice from the Co-PIs and the Evaluation Team, can identify several major topics/questions for consideration. Three topics work well for a two-hour period. We have found that the meeting goes well if the Director frames the issue for about 5 minutes, ending with a specific question about the issue on which she would like advice. Then the Chair of the Advisory Board has the job of facilitating the conversation, perhaps asking the Board to divide into small groups for about 15 minutes to discuss and then to report back, followed by a group discussion. At the end of each meeting (in which we have discussed about three issues), the Chair asks for suggestions for important issues that the Advisory Board would like to see on the agenda for future meetings.

- It is often challenging to keep in mind the "big" questions and goals while being very involved with extensive data collection and analysis. Thus, I recommend that at least once each year, the Director/PI group, the senior institutional leaders involved with ADVANCE, the Evaluation Team, and the Internal Advisory Board come together to revisit the major goals and benchmarks for ADVANCE-Nebraska. This may first involve revisiting (re-establishing) the major goals (such as number of hires of women, number of promotions of women, leadership roles held by women, patterns and reasons for departure, measures of institutional climate regarding women). Then I recommend a discussion of the progress toward these goals and the kind of impact ADVANCE is making. Such a discussion would require taking into consideration the specific evaluation findings that the Evaluation Team has been compiling.

7) Consider of the Theory of Change guiding ADVANCE-Nebraska

- From time to time, I recommend that the PI group and Internal Advisory Board consider what theory of change is guiding the project. That is, what do you want to achieve (goals) and what do you think will enable those goals to be reached (strategies or levers for change)? Having this kind of conversation at least once a year helps the leaders of a project such as ADVANCE think carefully about why they are doing what they are doing. What is the rationale for taking certain steps or having certain programs? Is there evidence from the evaluation data that the intended impact is occurring? Should the strategies being used be adjusted? Why or why not? It is easy to "do things" but effective change agents must also step back and ask why and how. This kind of conversation would also be appropriate to put on the agenda of the External Advisory Board.

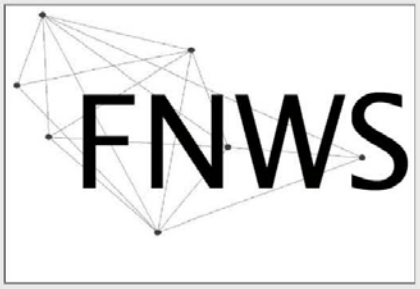
8) Look at other ADVANCE programs for ideas

- ADVANCE-Nebraska leaders might find helpful ideas by looking into the strategies used by other Advance institutions to enhance recruitment and promotion efforts. The University of Washington has a tool kit for searches, I believe, and Michigan State University's Advance Program (currently underway) is focusing on effective recruitment and promotion strategies. The University of Washington and MSU may also be helpful in terms of their experiences expanding ADVANCE efforts beyond the STEM fields (which may be relevant to the interactions between the UNL Diversity Initiative and the ADVANCE Program).

Concluding Comments

The ADVANCE-Nebraska Program has had a strong start. While adjustments are being made due to the move by the lead PI/Senior Vice Chancellor, it is clear that the Director, other Co-PIs, Program Manager, and Senior Personnel are all devoted to the success and impact of ADVANCE-Nebraska. I look forward to learning about the developments in the project over the coming years as I provide consultative advice and assess progress and impact in my role as External Evaluator.

C. FNSW QUESTIONNAIRE



Faculty Networks and Workload Study

Welcome to the UNL *Faculty Networks and Workload Study*. The purpose of this study is to learn about the networks, workload, and job satisfaction of UNL faculty like you. Please be assured that the answers you provide will remain confidential.

We truly appreciate your time and help with this important study.

If you have any questions about the study, feel free to contact Dr. Christina Falci (472-3762; cfalci2@unl.edu). This study has been reviewed and approved by the UNL IRB (#2008028737EP). If you have questions about your rights as a participant in this study, you may contact them at 402-472-6965.

First, we would like to ask about the time you spend on teaching, research and service.

1. **To what extent do you agree or disagree with the following statements about your work time during the current academic year?**

	Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree
I have been able to dedicate enough work time to my research.	☐	☐	☐	☐	☐	☐
I have been able to dedicate enough work time to my teaching.	☐	☐	☐	☐	☐	☐

2. **Thinking about how you spend your work time, how many <u>hours</u> do you spend on each of the following activities in an <u>average week</u> during the <u>current academic year</u>?** *If none, please enter "0".*

	Hours
Classroom teaching, preparing materials for class and grading	
Working with students outside of class (e.g., in meetings, responding to emails, reading theses or dissertations, writing letters of recommendation)	
Working on research	
Fulfilling administrative responsibilities	
Working on committee service responsibilities	
Extension (e.g., programs, outreach)	
Practice (e.g., external paid consulting, medical practice, personal business)	

5. **From January 2008 until now, have <u>any</u> of your scholarly activities been funded through external grants, contracts, or cooperative agreements?** *Please do not include consulting services or internal funding.*

☐ No → **Go to Question #6**

☐ Yes

5a. If yes, approximately how much total funding in dollars have you been awarded since January 2008? *Do not include facility and administration costs (i.e., indirect costs).*

☐ $100,000 or less
☐ $100,001 to $500,000
☐ $500,001 to $1,000,000
☐ $1,000,001 to $2,000,000
☐ $2,000,001 to $3,000,000
☐ over $3,000,000

6. **From January 2008 until now, how many <u>national or regional</u> conferences did you attend?** *If none, please enter "0".*

☐ # of national or regional conferences

7. **From January 2008 until now, how many <u>international</u> conferences did you attend?** *If none, please enter "0".*

☐ # of international conferences

8. **To what extent do you agree or disagree with each of the following statements about your tenure home department?**

	Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree
Faculty in my department value my research.	☐	☐	☐	☐	☐	☐
I have all the resources (e.g., space, equipment, software) necessary to conduct my research.	☐	☐	☐	☐	☐	☐
I am able to find high quality students to work with.	☐	☐	☐	☐	☐	☐
I have received positive feedback about my research from department colleagues.	☐	☐	☐	☐	☐	☐
If I need additional resources for my research, I can usually get them.	☐	☐	☐	☐	☐	☐
Faculty in my department recognize the contributions I make to my field.	☐	☐	☐	☐	☐	☐

Second, we would like to ask about <u>receiving helpful research related support</u> from departmental colleagues in the current academic year. By "helpful research support" we mean anything that helps improve the quality of your research or increase your research productivity. It can come in many forms including: feedback on manuscripts, grant applications, or lab protocols; providing materials useful to your work, such as equipment or books; a conversation that helps with methodology or theory; etc.

11. **<u>During the current academic year</u>, how often have you received helpful research related support from each of the following faculty members from your tenure home department?** *Please leave the row with your own name blank and check "not in this academic year" when applicable.*

	Not in This Academic Year	Once or Twice This Year	Once or Twice a Semester	Once or Twice a Month	Once a Week or More Often
Sam Allgood	☐	☐	☐	☐	☐
Roger Butters	☐	☐	☐	☐	☐
Matthew Cushing	☐	☐	☐	☐	☐
Richard Edwards	☐	☐	☐	☐	☐
Tammie Fischer	☐	☐	☐	☐	☐
Scott Fuess	☐	☐	☐	☐	☐
Seth Giertz	☐	☐	☐	☐	☐
F Gregory Hayden	☐	☐	☐	☐	☐
Benjamin Kim	☐	☐	☐	☐	☐
Craig MacPhee	☐	☐	☐	☐	☐
Ann May	☐	☐	☐	☐	☐
Mary McGarvey	☐	☐	☐	☐	☐
James Schmidt	☐	☐	☐	☐	☐
Eric Thompson	☐	☐	☐	☐	☐
Hendrik Van Den Berg	☐	☐	☐	☐	☐
William Walstad	☐	☐	☐	☐	☐

12. **How satisfied or dissatisfied are you with the research help you receive from faculty from your tenure home department?**

Very Satisfied	Satisfied	Slightly Satisfied	Neither Satisfied nor Dissatisfied	Slightly Dissatisfied	Dissatisfied	Very Dissatisfied
☐	☐	☐	☐	☐	☐	☐

Some faculty interact with UNL faculty outside of their tenure home department. The next three questions are about such interactions. First, we would like to ask you about research collaborations. Again, by "research collaboration" we mean working together on any type of research product.

15. **From January 2008 until now, how many UNL faculty outside of your tenure home department have you collaborated with?** *If none, please enter "0" and go to #16.*

    ☐ # of UNL faculty members outside your department

    15a. Please list the faculty with whom you have collaborated since January 2008.
    Please list your most important collaborators first.

	First Name	Last Name	Department
Person 1			
Person 2			
Person 3			
Person 4			
Person 5			

Second, we would like to ask about receiving helpful research related support from UNL faculty outside your tenure home department in the current academic year. Again, by 'helpful research support" we mean anything that helps improve the quality of your research or increase your research productivity.

16. **During the current academic year, from how many UNL faculty members outside your tenure home department have you received helpful research related support?** *If none, please enter "0" and go to #17.*

    ☐ # of UNL faculty members outside your department

    16a. Please list the faculty from whom you have received helpful research related support during the current academic year. *Please list your most important research support providers first.*

	First Name	Last Name	Department
Person 1			
Person 2			
Person 3			
Person 4			
Person 5			

20. To what extent do you agree or disagree with each of the following statements about your tenure home department?

	Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree
Faculty in my department are supportive of one another.	☐	☐	☐	☐	☐	☐
Faculty in my department are sometimes rude to one another.	☐	☐	☐	☐	☐	☐
Faculty in my department enjoy working together.	☐	☐	☐	☐	☐	☐
Tension among faculty in my department makes working here uncomfortable.	☐	☐	☐	☐	☐	☐
Faculty in my department spend time to get to know one another.	☐	☐	☐	☐	☐	☐

21. To what extent are each of the following aspects of <u>tenure and promotion</u> in your tenure home department clear or unclear?

	Very Clear	Clear	Slightly Clear	Slightly Unclear	Unclear	Very Unclear
The body of academic work considered (i.e., what things are evaluated)	☐	☐	☐	☐	☐	☐
Academic work performance expectations (i.e., the quantity and quality of work)	☐	☐	☐	☐	☐	☐
The steps involved in the process (i.e., from preparing a file to the final decision)	☐	☐	☐	☐	☐	☐

22. Please indicate how much you agree or disagree with the following statement about your tenure home department:

On the whole, <u>tenure and promotion decisions</u> are made primarily on performance-based criteria (e.g., research, teaching, or service) rather than on non-performance-based criteria (e.g., politics, relationships, or demographics).

- ☐ Strongly Agree
- ☐ Somewhat Agree
- ☐ Neither Agree nor Disagree
- ☐ Somewhat Disagree
- ☐ Strongly Disagree

Now we would like to ask about your teaching activities for Summer 2010, Fall 2010 and Spring 2011.

26. In the chart below, please indicate your classroom teaching productivity and classroom support by writing in the appropriate numbered response to each item for each academic term. *"Course credits" refer to the number of credits a student would earn by taking the course. For most courses, students earn 3 or 4 credits. If none, please enter "0"*

	Summer 2010	Fall 2010	Spring 2011
Total number of course credits taught (e.g., typically 3 course credits per class)	☐	☐	☐
Total number of "new" prep (i.e., not previously taught before) course credits	☐	☐	☐
Total number of course credits bought-out of or released from	☐	☐	☐
Total number of students (undergraduate & graduate) taught in all courses	☐	☐	☐
Total number of graduate student teaching assistants being paid to work for you	☐	☐	☐
Total number of undergraduate student teaching assistants being paid to work for you	☐	☐	☐

27. Currently, how many of each of the following types of advisees do you have? *Include students both inside and outside of your tenure home department. If none, please enter "0".*

	# of students for whom you are the CHAIR	# of students for whom you are a READER	# of students for whom you are the OUTSIDE MEMBER
PhD student committees	☐	☐	☐
Master student committees	☐	☐	☐
Undergraduate theses	☐	☐	☐

28. To what extent do you agree or disagree with each of the following statements?

	Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree	N/A
Students value me as a mentor.	☐	☐	☐	☐	☐	☐	☐
Students value me as a teacher.	☐	☐	☐	☐	☐	☐	☐
Students treat me with respect.	☐	☐	☐	☐	☐	☐	☐
Students respect my scholarly expertise.	☐	☐	☐	☐	☐	☐	☐

29. Currently, how many post-docs are being paid to work for you? *If none, please enter "0".*

☐ # of Post-Docs

30. Currently, how many graduate student research assistants are being paid to work for you? *If none, please enter "0".*

☐ # of Graduate Student Research Assistants

Finally, we would like to ask questions about your life outside of UNL.

37. Were you born in the United States?

- ☐ No
- ☐ Yes

38. Do you currently have a spouse or partner?

- ☐ No → **Go to Question #39**
- ☐ Yes

38a. Does your spouse/partner have (or is working toward) an advanced (Masters or PhD) or professional degree (MD, JD, etc.)?

- ☐ No
- ☐ Yes

38b. How many hours does your spouse or partner work in a typical week? Please include paid work, volunteer work and work time devoted to studies if a student.

☐ # of hours in a typical week

39. Are you currently providing care for a dependent adult (e.g., elderly, disabled, or chronically ill)?

- ☐ No
- ☐ Yes

40. Do you have any biological, adopted or step children?

- ☐ No → **Go to Question #41**
- ☐ Yes

40a. How many children within each if the following age ranges <u>currently live with you</u> all or part of the time?

	None	1 Child	2 Children	3 or More Children
Newborn to 4 Years Old	☐	☐	☐	☐
5 to 9 Years Old	☐	☐	☐	☐
10 to 13 Years Old	☐	☐	☐	☐
14 to 18 Years Old	☐	☐	☐	☐
19 Years and Older	☐	☐	☐	☐

41. In total, how many <u>hours in a typical week</u> do you spend on home and family responsibilities? Please include food preparation, shopping, yard work, laundry, cleaning, dependent care, and other home/family responsibilities. *If none, please enter "0".*

☐ # of hours in a typical week

44. To what extent do you agree or disagree with each of the following statements?

	Strongly Agree	Slightly Agree	Neither Agree nor Disagree	Slightly Disagree	Strongly Disagree	N/A
My colleagues are respectful of my efforts to balance work and home responsibilities.	☐	☐	☐	☐	☐	☐
In my department, faculty may comfortably raise personal or family responsibilities when scheduling work activities or meetings.	☐	☐	☐	☐	☐	☐
Meetings in my department are often scheduled at times that conflict with my family responsibilities.	☐	☐	☐	☐	☐	☐
My colleagues do what they can to make family obligations and an academic career compatible.	☐	☐	☐	☐	☐	☐
I am hesitant to talk about my family life with other faculty in my department.	☐	☐	☐	☐	☐	☐
I can easily alter my work schedule to accommodate my family responsibilities.	☐	☐	☐	☐	☐	☐

45. Please rate effectiveness or ineffectiveness for the following policies and practices at UNL.

	Very Ineffective	Somewhat Ineffective	Neither Effective nor Ineffective	Somewhat Effective	Very Effective	Not Offered	N/A
Spousal/Partner hiring program	☐	☐	☐	☐	☐	☐	☐
Paid/unpaid personal leave	☐	☐	☐	☐	☐	☐	☐
Childcare	☐	☐	☐	☐	☐	☐	☐
Stop the clock for parental or other family reasons	☐	☐	☐	☐	☐	☐	☐

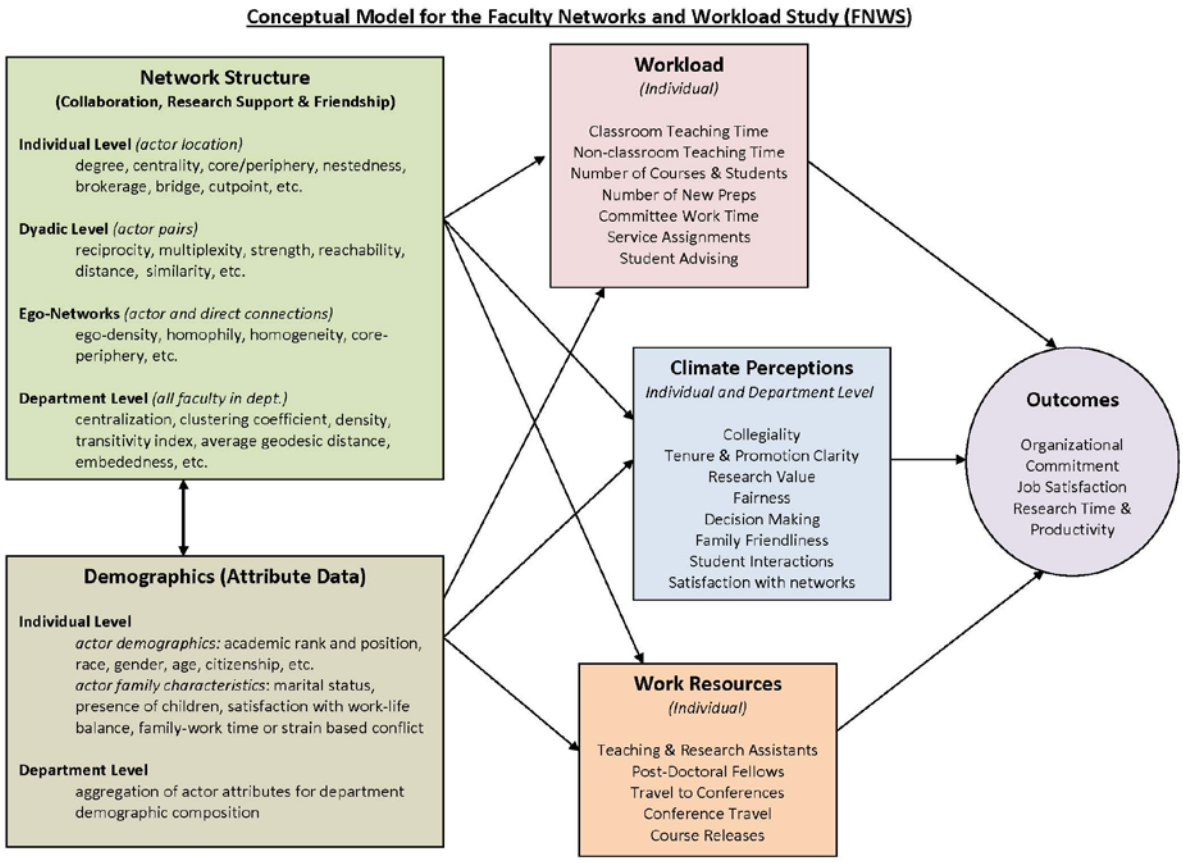
D. FNWS SURVEY IMPLEMENTATION PLAN

Survey Implementation Plan for the Faculty Networks and Workload Study Wave 2 Advance-Nebraska Data Collection (2011)

Date	Action
Thursday, February 24	Prenotification letters mailed to faculty home signed by Dean of College, Vice Chancellor of Research, and PI's (Dr. Falci, and Dr. McQuillan); include UNL notepad as incentive
Friday, March 4	*1 week later*: Mail questionnaire to home; include cover letter signed by PI's with web version access link and login information , 'N pin' as incentive, and Frequently Asked Questions (FAQ) page
Tuesday, March 8	*2 work days later*: First follow-up email sent to work account containing web version access link and login information
Monday, March 14	*1 week later*: send Thank you / Postcard reminder with web information to home. Also, college Deans send email to department Chairs asking chair to send email to faculty encouraging them to participate in the survey.
Monday, March 21 (*note*: Spring Break week)	*1 week later*: send replacement questionnaire to nonrespondents via postal mail to home address in bigger envelopes than 8x10; include cover letter signed by PI's with web information and the FAQ page
Monday, March 28	*1 week later*: send second email follow-up email to work account containing web link and login information
Tuesday, April 5	*1 week later*: BOSR emails department Chairs their department-level response rates (as of April 1). Also, email from Deans asking chairs without a 100% response rate to send another email to their faculty encouraging them to participate in the survey.
Tuesday, April 19	*3 weeks later*: Start phone calls to non-respondents. Callers will leave a reminder messages, not administer questionnaire.
Tuesday, May 3	*2 weeks later*: send final email reminder
Friday, May 20	End data collection – one week after the end of the semester

Below is the recruitment protocol for the Wave 2 of the UNL ADVANCE project. The recruitment protocol consists of a (1) mixed mode survey with (2) prenotification and cover letters, (3) non-monetary incentives, and (4) multiple follow-up attempts.

E. FNWS Conceptual Model



F. Highlights of Research Findings

University of Nebraska-Lincoln
ADVANCE-Nebraska Program

Highlights of Research Findings on Faculty Networks, Climate, and Organizational Commitment

Report prepared by Dr. Christina Falci

The UNL ADVANCE Program is supported by a grant from the National Science Foundation.
http://advance.unl.edu

Office Address: 21 Canfield
Lincoln, NE 68588-0420
Phone: 402-472-3304
FAX: 402-472-6276
Advance2@unl.edu

Introduction

The purpose of our research is to use Network Theory and Methods to gain insights into how to *retain* and *promote* faculty, especially women and racial minorities. We do this by asking four general categories of research questions. It is often theorized that a lack of inclusion in critical department networks disadvantages underrepresented faculty in STEM. Yet, no research has collected *complete network data* with the goal of describing the network structure of academic departments and the variation in actor network positions across race and gender. It is also unknown how department network structure and actor positions within those networks are associated with climate. We need to understand these basic research questions to aid in tailoring institutional transformations that promote and retain under-represented faculty in STEM.

Prior to the initiation of ADVANCE-Nebraska, Dr. Christina Falci was awarded an Internal UNL Faculty Seed Grant in spring 2008 entitled "Faculty Networks and Departmental Climates in STEM." This internal grant provided the funding to collect baseline survey data from UNL STEM faculty for ADVANCE-Nebraska. The baseline data collection was comprised of two surveys (a network and a climate survey) and archival data from UNL's Institutional Research and Planning (IRP). The network survey contained a network mapping instrument to identify connections among faculty within STEM departments at UNL. The climate survey was administered by the Collaborative on Academic Careers in Higher Education (COACHE). UNL's COACHE survey administration was unique because it surveyed *all* tenured and tenure-track faculty. Prior to UNL's COACHE survey administration only pre-tenure faculty comprised the population for COACHE surveys administered at other institutions. Information from the two surveys and IRP data were merged into a single data file used in our research.

Contents

A. Research Question #1 ……3
Figure 1 to 4: Network Structures
Table 1: Department Network Statistics
Figure 5: Department Density
Figure 6: Department Centralization
Figure 7: Department Clustering

B. Research Question #2 ……8
Table 2: Correlations with Climate
Figure 8: Promotion Process Clarity
Figure 9 and 10 : Climate Satisfaction
Figure 11: Organizational Commitment

C. Research Question #3 ……11
Figure 12: Actor Centrality
Bar Chart 1: Local centrality by status
Figure 13: Centrality map by status
Bar Chart 2: Global centrality by status
Figure 14: Clustering by status map

D. Research Question #4 ……14
Line Graph 1: Local centrality on climate
Line Graph 2: Global centrality on organizational commitment

A *social network* is a bounded set of actors and the sampled relational ties among the actors. In our study, a network is confined to full-time tenured or tenure-track faculty who share a tenure home department. Our study included 452 faculty in 26 STEM departments. We measured three different relational ties among faculty within their department: committee co-membership, research exchange and friendship. Specifically, faculty were asked to identify: 1) who they serve together with on service or graduate student committees; 2) who they receive research related help, advice, or equipment from (or who they provide it to); and 3) with whom they engage in non-work related interactions (e.g., spend free time or discuss personal matters).

Network theory predicts that both an actor's location within a network and the overall structure of

the network will present opportunities and impose constraints on an actor's behavior and shape the actor's perception of his or her environment. *Network analysis* is a set of statistical methods for systematically identifying connections among actors in a network. The network measures created from network analysis can describe the structure of an entire network or describe the position of actors with a network. There are multiple ways to describe an entire network (e.g., department) and how actors (e.g., faculty) are positioned within it. The research results reported below will show considerable variation in department network structures and actor positions across race and gender that have important implications for climate perceptions.

Research Question #1: What are the characteristics of department network structure?

Department Structure Network Measures

The graphs below exemplify four different ways of describing department network structures. The network structure of a single department may differ across relational ties. For example, research exchange networks may have high levels of clustering, whereas committee co-membership networks may manifest a core-periphery structure. Moreover, the network structure of a single relational tie (e.g., friendship) can vary across departments. For example, one department may have a very dense friendship network, whereas another may manifest a centralized network. Below are descriptions of each network structure and hypotheses about the potential character of social interactions occurring among actors within each structure.

Fig.1: Dense

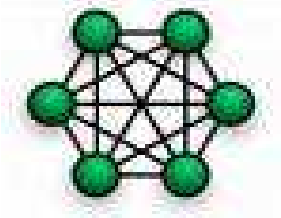


Fig.2: Core-Periphery

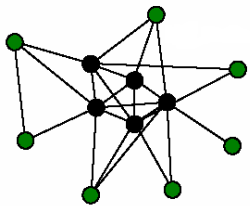


Fig.3: Clustered

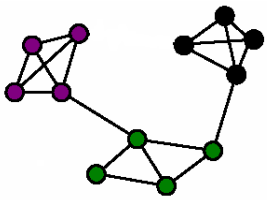
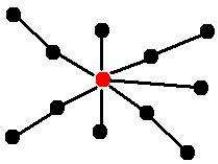


Fig.4: Centralized



Density measures the degree of interconnections among actors within a network by identifying the percentage of all possible ties within a network that are actual ties within the network. This measure ranges from 0 indicating complete fragmentation to 1 where all actors in the network are connected to one another (Fig.1). High density should promote trust and cooperation, and increase the ability to impose informal sanctions on poorly behaving actors. Low levels of density can lead to group instability (i.e., low organizational commitment).

Core-Periphery measures the extent that an inner core set of actors can be identified with the remaining peripheral actors only weakly connected in the network. This measure ranges from zero indicating no sign of a core-periphery structure to one indicating an archetype (Fig.2). Core-Periphery structures can set up a two class system privileging the core group members over peripheral actors. Such a network could lead to feelings of hostility or discrimination among the peripheral actors who may also manifest low organizational commitment.

Clustering measures the degree to which a network is segmented into subgroups. This measure ranges from zero indicating no clustering to one indicating complete clustering (no connections across clusters). Figure 3 illustrates a highly clustered network. Sub-groups within a department represent a set of faculty who interact more frequently with other members of the subgroup than

with faculty outside of the subgroup. Clusters can lead to mistrust and/or factions where very different ideas about the department policies and norms might emerge within each subgroup.

Centralization measures the extent to which one actor in the network is more prominent than all other actors in the network. This measure ranges from 0 indicating no centralization to 1 indicating complete centralization where one actor dominates all connections in the network (Fig.4). Central actors can accelerate the diffusion of information if prominent actors are also important actors. At the same time, within highly centralized networks the most central actor can become a single point of failure for the entire network. Within academic departments we might expect higher levels of centralization as the chair of the department is likely to be a prominent network actor.

Descriptive Findings for Department Network Structure

Table 1 reports summary statistics to describe the typical configuration of department network structures and the variability of those configurations across STEM departments. Note: we have not yet conduced core-periphery analyses. Also, only nineteen of the twenty-six departments had adequate response rates to the Network Survey to be included in these Social Network Analyses.

Table 1: Descriptive statistics of department network structure aross three types of relational ties

	Department Network Structure			
Relational Tie	*Mean*	*Standard Deviation*	*Min*	*Max*
Research Exchange				
Density	.40	.18	.15	.71
Clustering	.65	.10	.39	.83
Centralization	.46	.17	.19	.79
Friendship				
Density	.36	.19	.13	.75
Clustering	.65	.13	.40	.87
Centralization	.42	.11	.24	.63
Committee Co-membership				
Density	.43	.16	.24	.89
Clustering	.66	.13	.38	.90
Centralization	.44	.14	.14	.67

N= 19 STEM departments

On average, UNL STEM departments are highly clustered with moderate levels of density and centralization. There is a large degree of variability in department network structures. For example, some departments have very dense connections (> 70% of all possible ties are actual ties), whereas others are quite fragmented (< 20% of all possible ties are actual ties). Similar variability patterns are shown for clustering and centralization.

The variability in network structure reported in Table 1 occurs across departments of different size. The network graphs on the next page illustrate this variability across medium sized (~20 faculty) and small sized departments (~10 faculty). These graphs map various relations among faculty within UNL STEM Departments. They are created using a force directed layout algorithm, also called a spring embedding algorithm. The lines of the network are represented as springs. The force exerted by the spring is proportional to the difference between its current length and its natural length. The basic idea is to minimize the energy of the system by moving the nodes and changing the forces between them. Line lengths are changed and nodes are moved iteratively to minimize the total energy. At each iteration, the node with the highest energy gradient is displaced to make it zero. The iterations terminate when the nodes become stationary and the final layout is obtained.

Figure 5: Density in Committee Co-Membership Networks

The average density of relational tie connections in STEM department networks falls somewhere in between Graphs A and C. Table 1 reports 36% for friendship networks and 43% for committee co-membership networks.

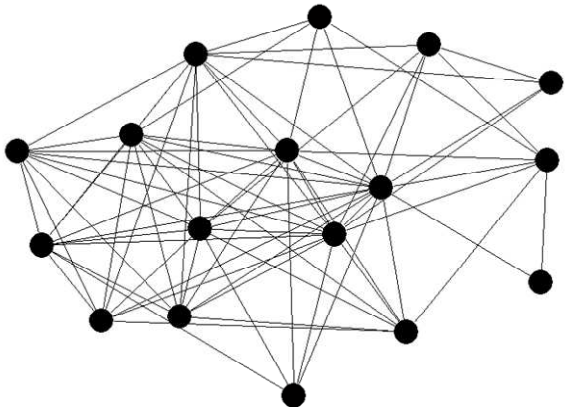
The graphs on this page map **committee co-membership networks** of faculty within four STEM departments.

The two graphs on the left show moderately dense networks for a medium (Graph A) and a small (Graph B) sized network.

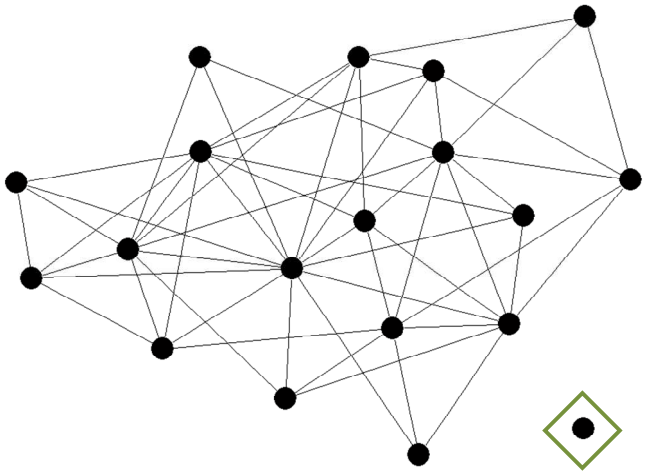
The two graphs on the right show departments with lower levels of density. Consistent with having lower levels of connectivity, Graph C has one isolate and Graph D has two isolates.

An **isolate** is a faculty member who has no relational tie connections to other faculty in their tenure home department. In the these graphs, the faculty member does not serve on committees with any other faculty in their primary department.

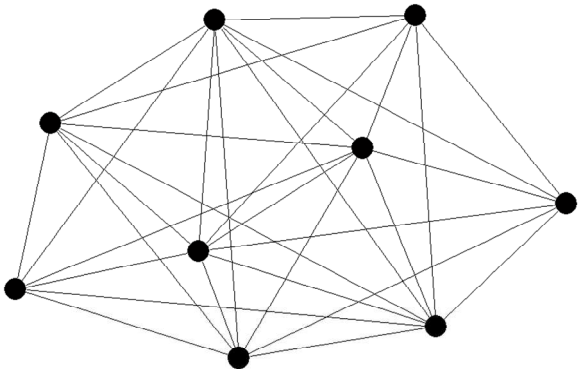
Graph A: density = 55%



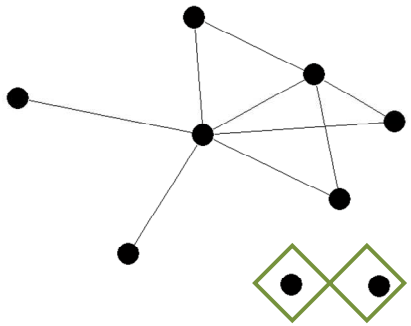
Graph C: density = 32%



Graph B: density = 89%



Graph D: density = 25%



Isolate: an actor with no connections to other actors in the network

Figure 6: Centralization in Friendship Networks

The average centralization of STEM department networks falls somewhere in between Graphs A and C. Table 1 reports .46 as the centralization average in research exchange networks and .42 in friendship networks.

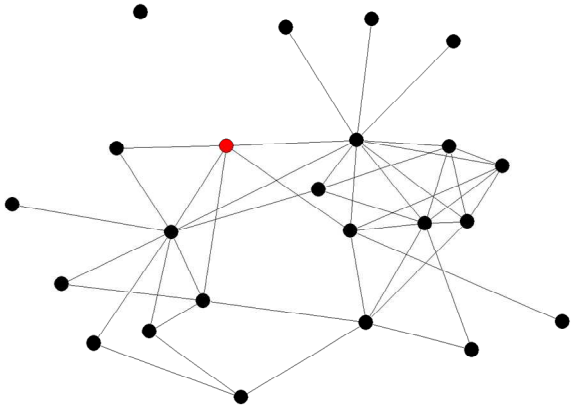
The graphs on this page map the **friendship networks** of faculty within four STEM departments.

The two graphs on the left side show less centralized networks for a medium (Graph A) and a small (Graph B) sized network.

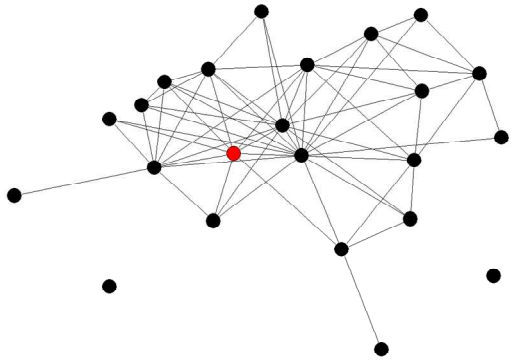
The two graphs on the right show (Graphs C & D) more centralized department networks.

In all graphs, the **red colored dots** identify the chair of each department. On average, department chairs tend to be one of the most central actors in all types of department networks (research exchange, friendship and committee co-membership).

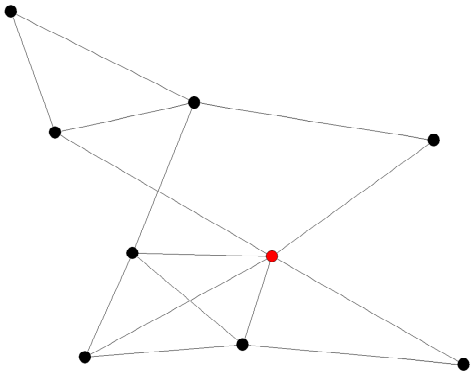
Graph A: centralization = .36



Graph C: centralization = .57



Graph B: centralization = .29



Graph D: centralization = .57

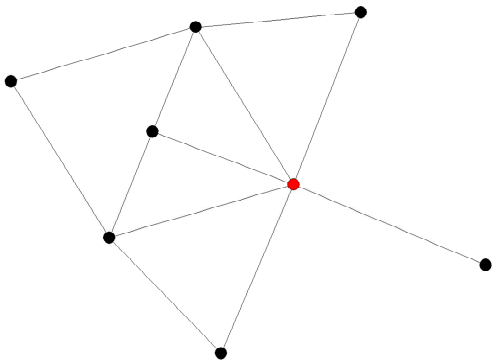


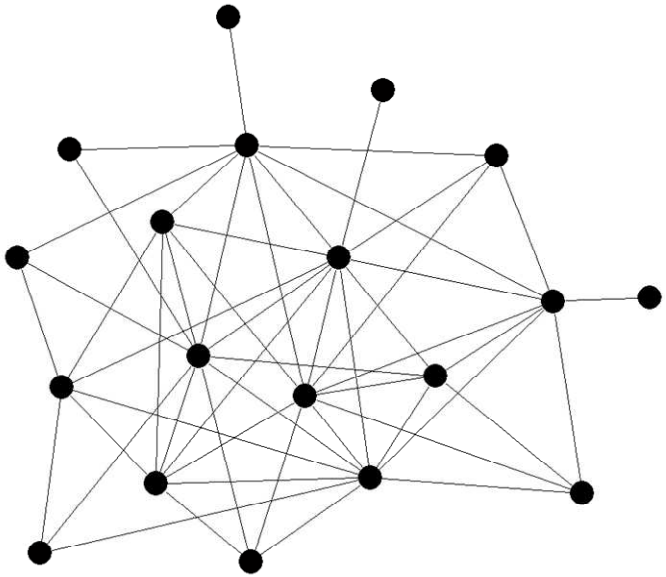
Figure 7: Clustering in Research Exchange Networks

Overall, department networks for research exchange, friendship and committee co-membership ties are highly clustered. The average clustering of STEM department networks falls in between Graphs A and B. Table 1 reports .65 as the average clustering coefficient for research and friendship networks and .66 for committee co-membership networks.

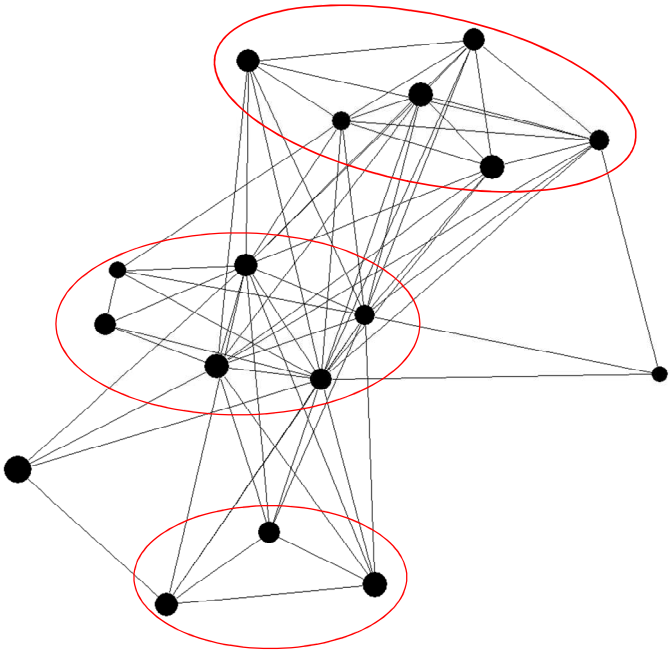
The graphs on this page map the **research exchange** networks within two STEM departments.

Graph A shows moderate clustering and Graph B shows high clustering. The **three red circles** overlaying Graph B highlight the three primary subgroups within this department.

Graph A: clustering = .49



Graph B: clustering = .77



In sum, department network structures tend to show high levels of clustering and moderate levels of density and centralization. The next section of this report explores how measures of department network structure associate with climate.

<u>Research Question #2:</u> How is department network structure associated with climate?

We explored the association between department network structure measures and three measures of academic climate:

- *Department Satisfaction*: a five-item index that sums the answers to survey questions asking faculty to report on their satisfaction with various aspects of their departments climate, such as collegiality and the value other faculty place on their work.
- *Organizational Commitment*: a dichotomous measure where 1 indicates an intention to stay at UNL and 0 no indication of an intention to stay at UNL – this measure excluded faculty who intend to leave because they are approaching retirement
- *Tenure and Promotion Process Clarity*: a five-item index that sums the answers to survey questions asking faculty to identify the degree of clarity in various aspects of the tenure and promotion process within their department, such as the body of scholarship that is evaluated and the performance expectations for scholarship.

We focus on associations with network centralization and clustering, as network density did not predict academic climate. We further focus on these associations for research exchange and friendship networks, as network measures for committee co-membership networks also did not predict academic climate.

Findings for the association between Department Network Structure and Academic Climate

Table 2 shows the bivariate associations between department network structure and academic climate. Several trends are evident in this table. First, centralization in research exchange or friendship networks is associated with more positive perceptions of academic climate (see Figures 8 & 9). Second, clustering in research networks is associated with *only one* climate measure. Departments with high clustering in research exchange networks report more department satisfaction (see Figure 10). Third, clustering in friendship networks is associated with *less* positive climate perceptions in three out of the four measures. Departments with high clustering in friendship networks report lower organizational commitment (see Figure 11) and less clarity in the tenure and promotion processes.

Table 2: Correlations for a Department's Network Structure with Acadmic Climate

	Department Mean Score on Climate Measure			
Department Network Structure	Department Satisfaction	Organizational Commitment	Tenure Process Clarity	Promotion Process Clarity
Centralization	*r*	*r*	*r*	*r*
Research Network	.40	.31	.41	.58
Friendship Network	.49	.37	.31	.46
Clustering				
Research Network	.37	-.14	.02	.02
Friendship Network	-.06	-.41	-.30	-.30

N= 19 Departments

The scatter plots shown in Figures 8 to 11 visually display the associations between network structure and academic climate. These graphs plot a department's network score for the relational tie (horizontal axis) by the department's average for the measure of academic climate (vertical axis). Each graph overlays a trendline across these points and reports the correlation coefficient from Table 2.

Figure 8: Centralization in Friendship Networks on Promotion Process Clarity

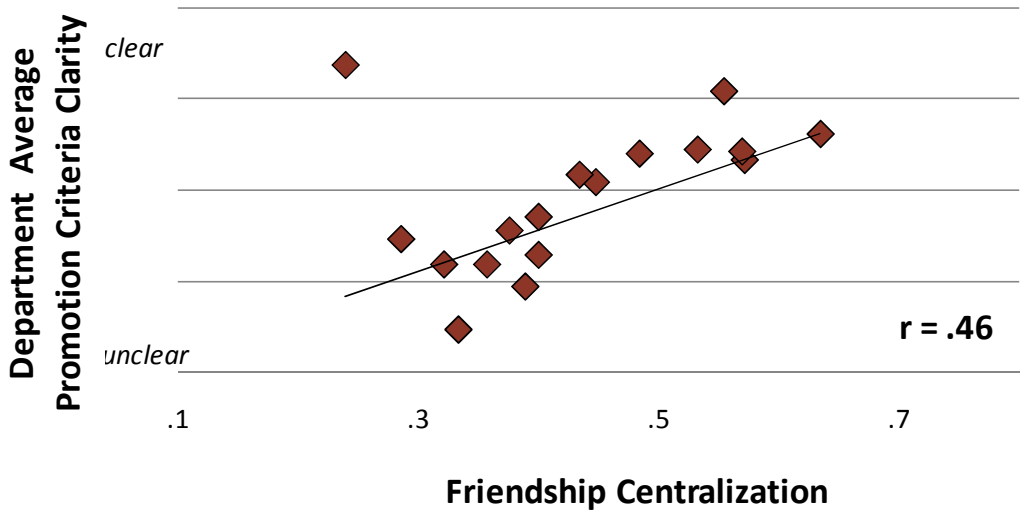
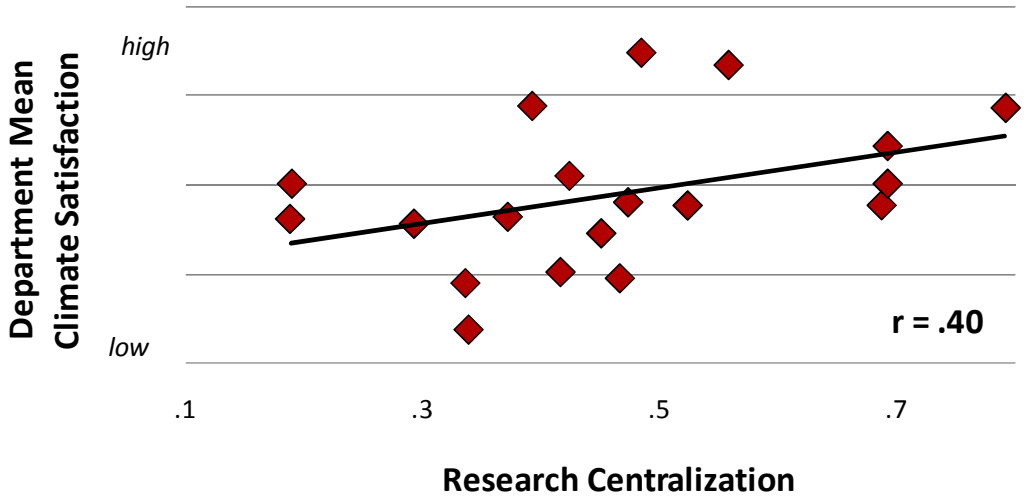


Figure 9: Centralization in Research Networks on Department Climate Satisfaction



Centralization and Climate: Clearly, having one or a few highly prominent faculty members within a department (i.e., high levels of network centralization) is associated with more positive academic climates. As reported earlier, department chairs are likely to be one of the most central actors in department networks.

Figure 10: Clustering in Research Networks on Department Climate Satisfaction

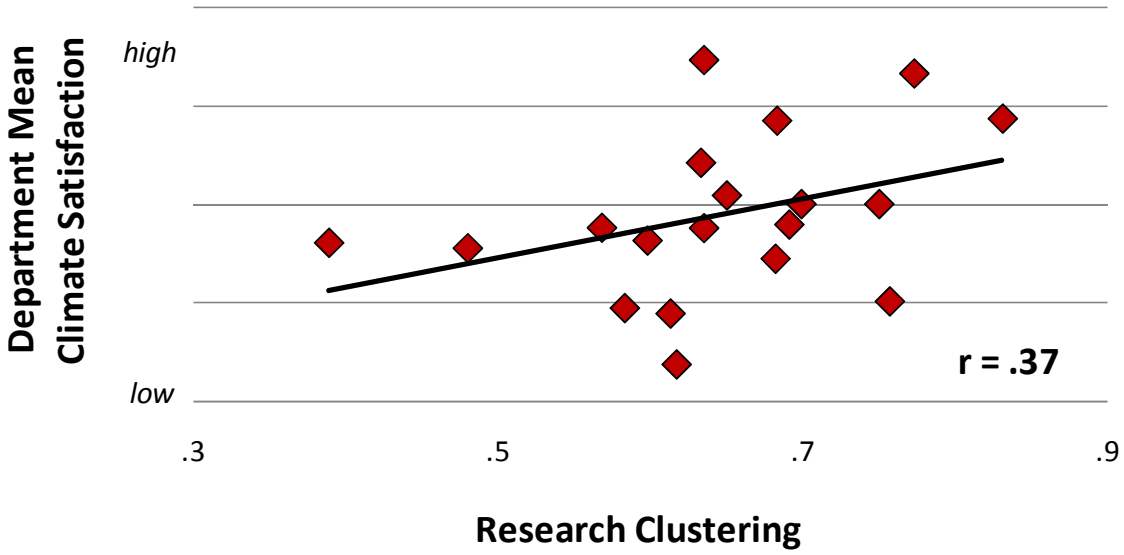
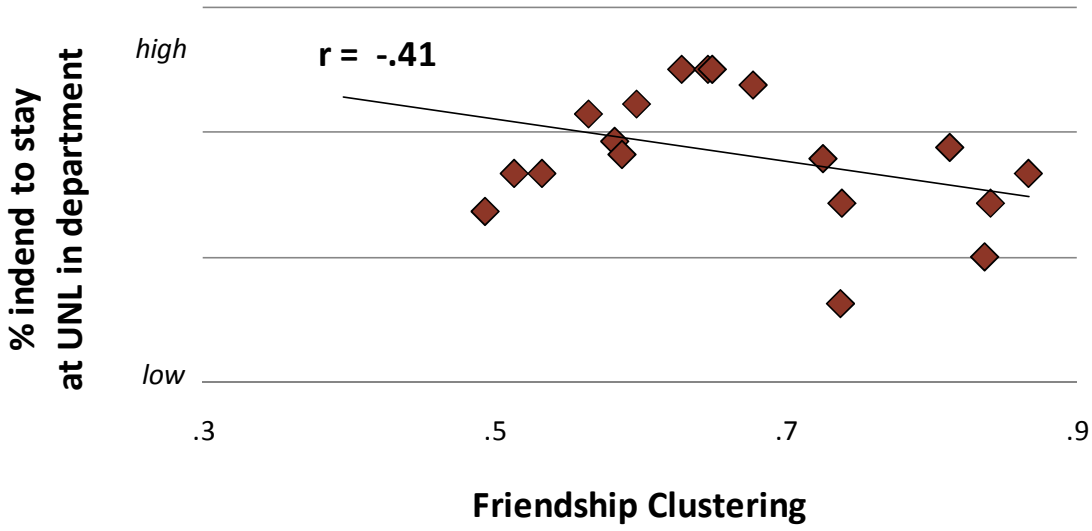


Figure 11: Clustering in Friendship Networks on Organizational Commitment



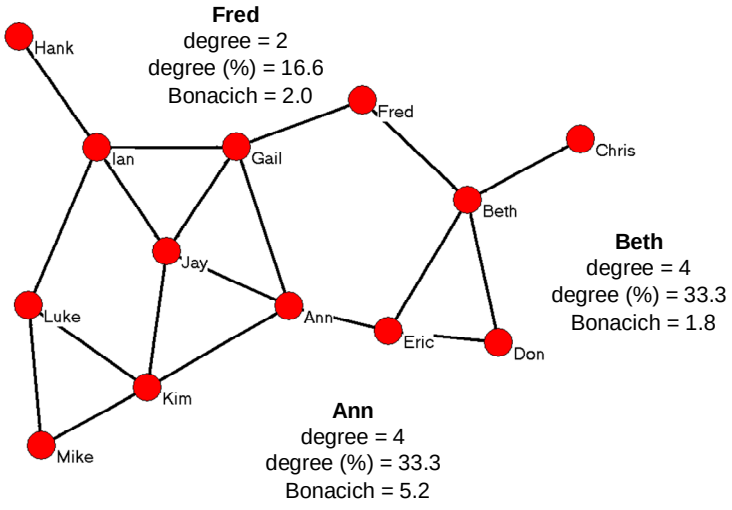
Clustering and Climate: Whether or not network clustering is good for climate depends on the relational tie under investigation. High clustering in friendship networks shows a clear pattern of *less* positive climate perceptions. In contrast, high clustering within research exchange networks is positively associated with one measure of climate. Thus, research clusters within departments may be beneficial as long as friendship cliques are not also forming within the research clusters.

<u>Research Question #3:</u> Do faculty network positions vary by race and gender?

Here we examine variation in actor network positions by race and gender. We focus on one measure of an actor's network position: *centrality*. Network measures of actor centrality identify the most prominent or central actors within a network. The flip side of central actors are the least central or most peripheral actors within the network. The actual meaning of an actor's centrality score will depend on the relational tie network used to calculate it. Within friendship networks, for example, central faculty should have more access to informal departmental knowledge, such as promotion and tenure requirements. Within research exchange networks, central faculty should have the most research support (e.g., collaborators and/or colleagues who review manuscripts, help with research protocols, etc.). It is important to consider multiple relational ties as gender and race differences in actor centrality scores may be more likely to occur within informal (e.g., friendship) networks than formal ones (e.g., committees).

For each relational tie (friendship, research exchange and committee co-membership), we compare two measures of actor centrality. The local centrality measure, *degree centrality*, captures the number of direct connections a faculty member has to other faculty in their department (i.e., their personal network size). In the standardized form, it ranges from 0 to 1 identifying the percentage possible ties in a network that are actual ties. The global centrality measure, *Bonacich Centrality*, captures an actor's reach across the entire department by taking into account the number of connections held by a faculty member's direct ties. It is important to explore both local and global centrality, as personal network size does not necessarily capture the degree of social capital available to an actor. In Figure 12, Ann and Beth both have a personal network size of 4. Ann's connections, however, are to well-connected actors (e.g., Gail, Jay and Kim all have four ties). In contrast, Beth is connected to actors with much smaller personal networks (except for Eric, all direct ties have only two ties). In theory, Ann should have greater social capital than Beth, even though they have similar personal network size.

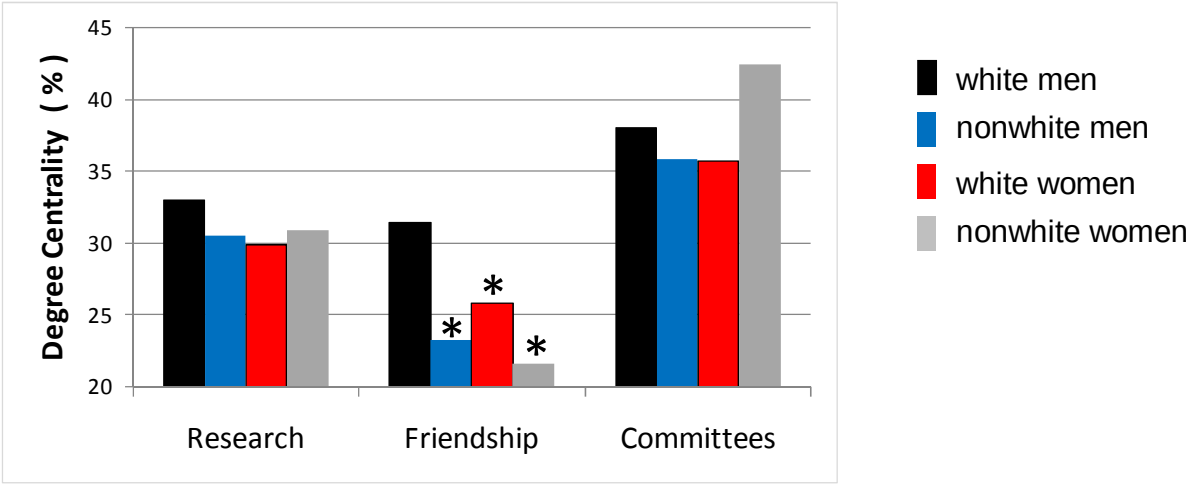
Figure 12: An Example Network to Illustrated Local and Global Actor Centrality



Findings for variation in actor centrality by race and gender

We conducted a series of linear regression analyses with a four-category gender by race variable predicting actor centrality scores - all models control for academic area and faculty rank. The predicted mean actor centrality score for each group (white men, nonwhite men, white women, and nonwhite women) based on the regression results are given in Bar Charts 1and 2.

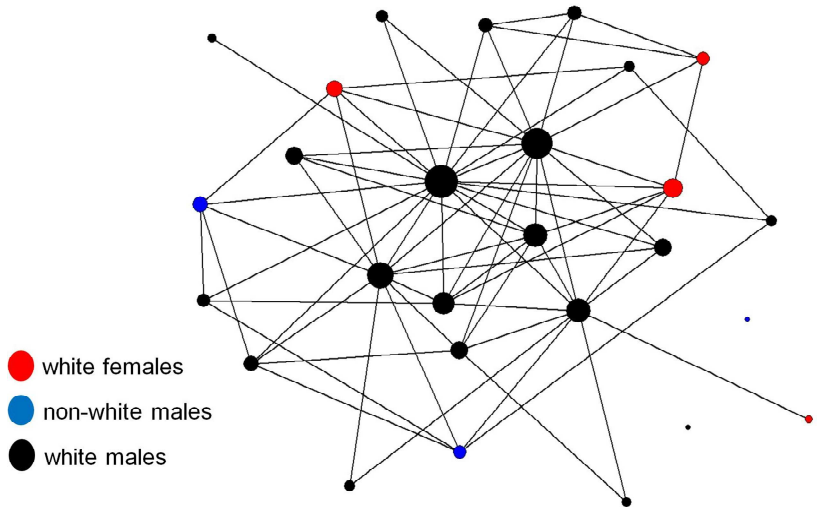
Bar Chart 1: Variation in Local Actor Centrality by Race and Gender



∗ significant mean difference from white men (p<.10)

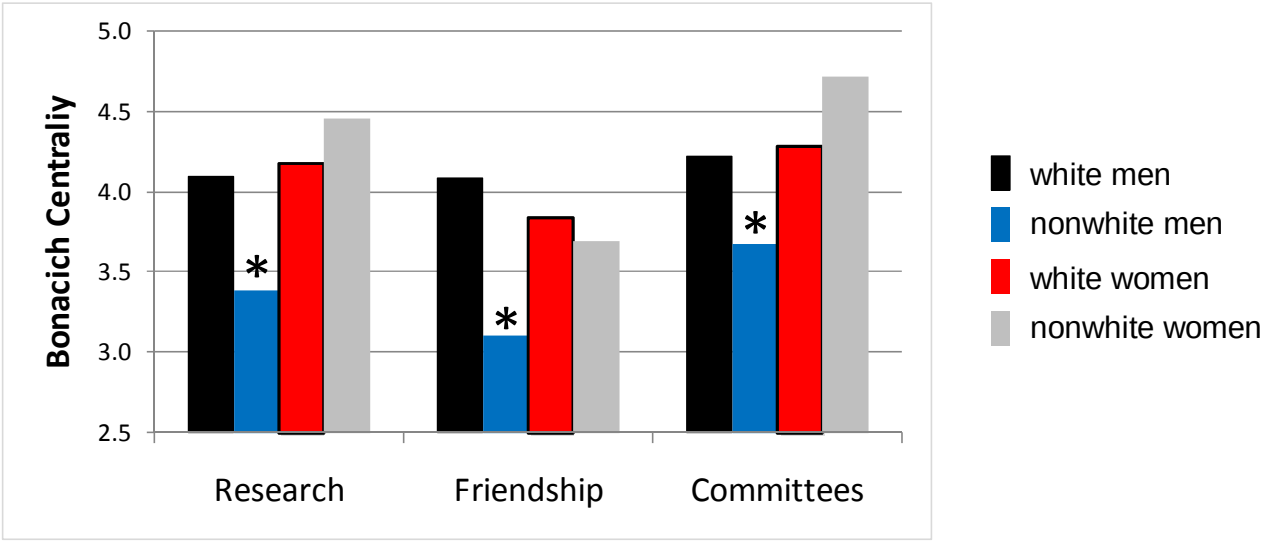
Women and nonwhite men have fewer direct faculty connections (i.e., lower degree centrality) in friendship networks compared to white men. The network map in Figure 13 clearly illustrates this trend for one department in the study. Degree centrality, however, did not vary by gender or race within more formal network ties: research exchange and committee co-membership.

Figure 13: Actor Centrality within a Friendship Network by Race and Gender



node size is proportional to the degree centrality

Bar Chart 2: Variation in Global Actor Centrality by Race and Gender

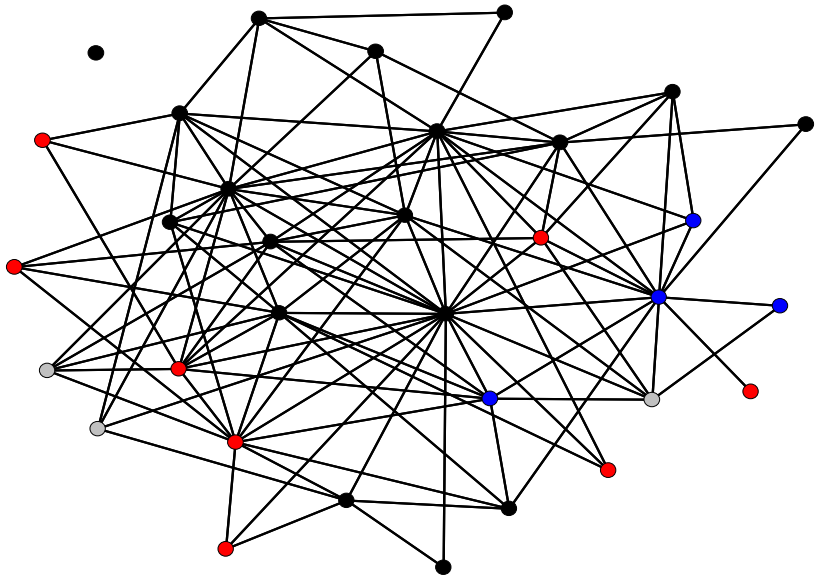


* significant mean difference from white men (p<.10)

In contrast to local centrality, the above bar chart shows that women were not more likely to be globally peripheral actors (i.e., no significant differences in Bonacich centrality) in any networks compared to white men. Thus, women are likely to have connections to the most prominent actors in the department (in most cases the chair). Nonwhite men had lower Bonacich centrality in all department networks (friendship, research exchange, and committee co-membership) compared to white men and women. Thus, nonwhite men are the most globally peripheral actors in all types of network. This occurs because the direct ties held by nonwhite men tended to be to other peripheral faculty members in the department.

Supplemental analyses further revealed that nonwhite men were more likely to have ties to other nonwhite men more often than what we would expect due to chance. Thus, nonwhite men may be forming subgroups within research, friendship and committee networks that often include other nonwhite men. Furthermore, these subgroups groups are likely to be more peripheral in the overall network structure of the department network. This pattern of tie formation is illustrated in Figure 14. Nonwhite men (blue dots) are all grouped in the same area of the network and one locally central nonwhite male connects all other nonwhite males. One nonwhite woman (grey dot) also figures prominently in this subgroup. Furthermore, this sub-grouping of actors is not well embedded in the network overall. The primary racial minority group at UNL is Asian, and the vast majority of nonwhite men at UNL are Asian.

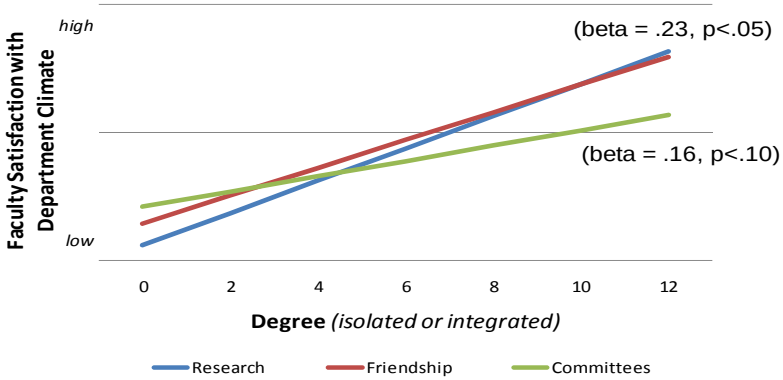
Figure 14: Friendship network by race and gender



Research Question #4: How is a faculty member's network position associated with climate?

The last research question explores the effect of actor centrality on department satisfaction and organizational commitment. We conducted a series of linear regression analyses with actor centrality scores predicting climate– all models control for gender, race, rank and discipline. Line Graphs 1 and 2 visually display those results and report standardized regression coefficients.

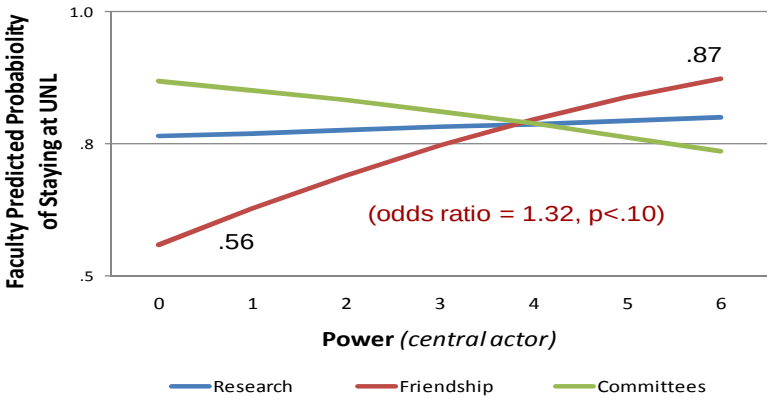
Line Graph 1: The effect of actor centrality on satisfaction with department climate



Faculty with larger research and friendship networks report more satisfaction with department climates than faculty with smaller networks (red and blue lines in Graph #1). Actor centrality in committee co-membership networks showed a similar trend, but the effect is not as strong (green line in Line Graph #1). The same results hold when we use a global measure of actor centrality. In other words, faculty with ties to central actors also report more positive department climates.

Only actor centrality in department *friendship networks* significantly predicts organizational commitment. Faculty with friendship ties to well-connected faculty (i.e., central actors) are more likely to remain at UNL (red line in Graph#2). The predicted probability of intending to staying at the UNL is .85 for globally central actors and .56 for globally peripheral actors. The same results hold when we use a local measure of actor centrality. Faculty with larger sized friendship networks are more likely to intend to stay at UNL than faculty with small friendship networks.

Line Graph 2: The effect of actor centrality on organizational commitment



G. ADVANCE RATIONALE

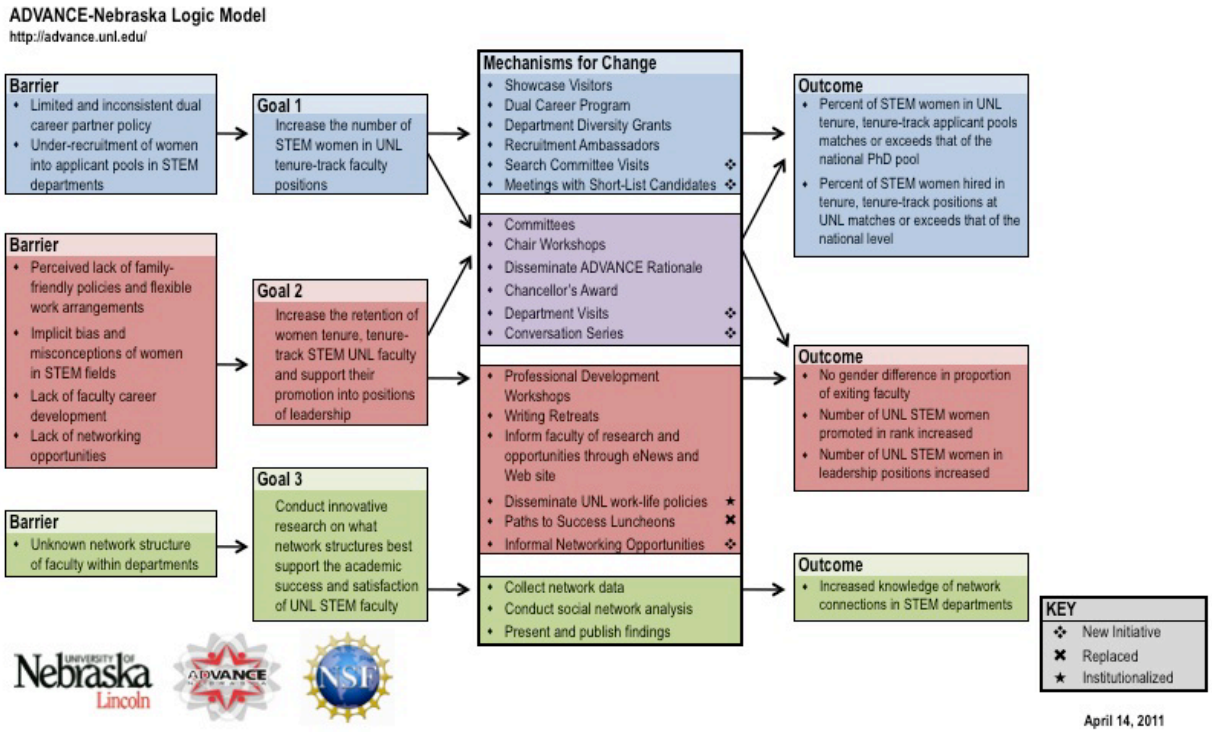
THE ADVANCE-NEBRASKA MESSAGE
Advancing Women, Advancing STEM

America's future prosperity requires talented men and women in Science, Technology, Engineering and Math (STEM) fields.

The University of Nebraska-Lincoln endorses the vital goal of recruiting, retaining, and promoting more women in STEM fields because:

- To grow Nebraska's economy and compete for talented workers, UNL must support all potential and existing employees.
- Having women faculty attracts more women students into STEM fields.
- A competitive UNL creates a workplace that welcomes and supports all potential faculty regardless of gender.
- National funding agencies require and reward diverse research teams and efforts to reach diverse student and general populations.
- The quality of research and creative solutions are enriched by diverse views, perspectives, and critical analyses.

H. LOGIC MODEL



H. CALENDAR OF EVENTS

ADVANCE-Nebraska Calendar

Date	Activity/Event	Short Description
8/18/2010	New Faculty Orientation for STEM women	City Union, introduce all new women STEM faculty, meet & greet
8/30/2010	Internal Advisory Board	Meeting to discuss plan of activities for new year
9/8/2010	Evaluation Meeting	
9/22/2010	Evaluation Meeting	
9/22/2010	Advance Panel Discussion	All these people, All these tasks: Starting up and managing a research lab, East Campus Union, Marjorie Lou, Mehmet Can Vuran, David Hage as speakers
9/29/2010	Advance Panel Discussion	Casting a Wide Net: Best Practices for Recruiting a diverse faculty, speakers were members of the Recruit committee
10/6/2010	Evaluation Meeting	
10/11/2010	Recruit/Promote Meeting	
10/15/2010	Advance Panel Discussion	Pitfalls & Promote of Candidate Evaluation, Joyce Yen, University of Washington ADVANCE Center for Institutional Change
10/20/2010	Advance Panel Discussion	Here they come: What the on-campus interview should look like, member of the Promote Committee, Evelyn Jacobson, Jerry Hudgins, Steve Waller
10/21/2010	Evaluation Meeting	
10/25/2010	ADVANCE PI Meeting	
11/3/2010	Evaluation Meeting	
11/07/2010 - 11/09	Advance PI Meeting, Alexandria VA	Mary Anne Holmes, Julia McQuillan, Evelyn Jacobson, Jill Hochstein, Christina Falci, & Megumi Wantanabe went to the annual ADVANCE PI meeting, spoke, and presented poster sessions
11/5/2010	Advance PI Meeting	
11/17/2010	Advance Panel Discussion	Nominating for the good of all - putting colleagues forward for prestigious awards, presenting Jim Van Etten, Paul Black, Mary Anne Holmes
11/18/2010	Evaluation Meeting	
11/22/2010	STEM Mixer - State Museum	Mixer for STEM faculty to meet and collaborate. Reception at the Nebraska State Museum
11/20/2010	Joint Recruit/Promote Meeting	
12/8/2010	Advance Panel Discussion	Sustaining a consistent stream of research publications, speaking ws Chris Fielding, Anu Subramanian, Sheila E Scheideler
12/5/2008	Evaluation Meeting	making sense of the COACh data

12/6/2010	Advance PI meeting	
12/15/2010	Evaluation Meeting	
1/6/2011	Evaluation Meeting	
1/10/2011	Recruit/Promote Meeting	
1/11/2011	Institutionalization Meeting	Discussion of proposals that should move forward for Advance institutionalization, ie. Dual career, Office program
1/13/2011	Advance Panel Discussion	Rising Above the Gathering Storm: Teaching to Attract and Retain STEM Majors, speaking on the panel was Cheryl Bailey, Jon Pederson, Jack Morris, Stephen Hartke
1/13/2011	Evaluation Meeting	Dicussion of COACh data and new charts to review
1/19/2011	Recruitment Ambassadors to Washington	Elizabeth Jones & Andy Nowak went to an Engineering conference in Washington D.C.
1/21/2011	STEM Chairs Breakfast	Julia McQuillan presented data from the Coache survey results, started talking points for recruitment strategies
1/25/2011	Lise Eliot	Author of Pink Brain, Blue Brain spoke two sessions at UNL, Advance hosted a luncheon for her to give her insights
1/26/2011	Advance Panel Discussion	Teaching Challenges…and Solutions, presenting was Ted Pardy, Gary Bailey, and Helen Moore
1/26/2011	Ann Austin Vist	Ann Austin, UNL's external evaluator visited campus to the 28th
1/27/2010	ADVANCE Chancellor's Award	Chancellor presented an award to UNL's Electrical Engineering for the most improvements on campus to attract & retain STEM women
2/2/2011	Evaluation Meeting	
2/10/2011	Advance Panel Discussion	If I were in Charge: Opportunities to become a Campus Leader, speakers were Susan Fritz, Dave Sellmyer, Pat Dussault
2/16/2011	Evaluation Meeting	Discussion of Data
2/17/2011	Recuit-NE and Promote-NE Meeting	Joint meeting to combine committees - change in charge
2/21/2011	COACh Professional Development Workshop	Two workshops: The Art of Strategic Performance and Strategies for Leading Change by Lee Warren and Nancy Houfek from Harvard University
2/23/2011	Advance Web Meeting	changes to website for the 3rd year site visit
2/25/2011	Melanie Sanford - Showcase Visitor for Chemistry	
2/28/2011	Advance faculty committee	Meetings of the advance committees to plan activities for the remaining of the year
3/1/2009	Second Interim Report Due	
3/2/2011	Evaluation Meeting	

03/11/0211	Advance Faculty Meeting	creating roadmaps for recruiting, working on P&T documents
03/08/2011-03/10/2011	NSF SITE Visit	
3/15/2011	Emily Monosson	Joint lecture with women & Gender Studies for lecture with Emily Monosson
3/16/2011	Evaluation Meeting	
3/25/2009	Web Meeting	Meet with Advance web team
3/18/2011	Advance faculty committee	
3/28/2011	Advance PI Meeting	
3/31/2011	Advance Panel Discussion	Now I have Tenure - What's Next, discussion panel with Lily Wang, Sheri Fritz, and Melanie Simpson - East Campus
4/4/2011	Londa Schiebringer	Schiebinger is the John L. Hinds Professor of History of Science: Director, Gendered Innovations in Science, Medicine, and Engineering Project. Standford University. Her colloquium talk is : Gendered Innovations in Science & Engineering
4/8/2011	Jacqueline K. Barton - Showcase Visitor for Chemistry	Showcase Visit : Jacqueline K. Barton, Arthur and Marian Hanisch Memorial Professor and Chair, Division of Chemistry and Chemical Engineering, California Institute of Technology.
4/13/2011	Evaluation Meeting	
4/21/2011	Full Professor Women in STEM	Meeting for Full Professor Women in STEM to get-together, luncheon sponsored by Advance-NE
4/22/2011	Advance faculty committee	Working with EAD Linda Crump to work out 1-page documents for recruiting and retention
4/25/2011	Advance PI meeting	
4/27/2011	Evaluation Meeting	
5/6/2011	Advance faculty committee	
5/16/2011	PI Meeting	
05/16/2011-05-20-2011	Writing Retreat	Love Library Writing Retreat