Developing Diverse Departments at North Carolina State University

Final Report

July 30, 2009 – December 31, 2012

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**Executive Summary**

The Developing Diverse Departments (D3) ADVANCE program at North Carolina State University aims to increase the diversity and inclusivity for women and minority faculty members, in STEM and non-STEM departments across university departments. The program is based on two underlying ideas about what drives change in institutions:

1. Shifts in attitudes occur through interactions with respected colleagues. Hearing about the importance of diversity or learning about unconscious bias from a colleague, department head or dean has a powerful impact
2. The presence of women and minority faculty in full professor and leadership positions in a department or college changes the tone of discussion, thus changing the climate within the department and accelerating change in faculty composition.

To achieve its mission of increasing faculty diversity and improving the climate for women and minority faculty, the D3 program has implemented four major programs/workshops.

1. *ADVANCE Scholars*-A core group of faculty, who made a three-year commitment to meet monthly to study readings on leadership and social bias and to develop an initiative to enhance faculty diversity.
2. *Leadership Workshop*-Workshop series developed to motivate women and minority faculty to pursue line leadership positions
3. *Department Head Climate Workshop*-Workshop series provided information and strategies to improve their departmental climate
4. *Retreat/Annual Meeting*- Meetings and/or retreats scheduled yearly to expand the focus and mission of the program for all D3 participants, university faculty participants and other faculty members in the state of North Carolina

The D3 program has been successful in developing of new and modified university policies, motivating women and minority faculty to pursue leadership roles, being critically involved in the search committee process, and the institutionalization of the Leadership and Climate Head workshops.

*New and Modified Policies*

* **New Parental Leave Regulation**— A new regulation adopted May 1, 2012 which allows eligible graduate students to take leave for the birth or care of a newborn.
* **Revised Tenure Clock Regulation** – Revised language adopted May 1, 2012, which includes domestic partners as family members. This was spearheaded by the Council of the Status of Women.
* **Departmental Workload Reduction Guidelines** —Guidelines adopted by the Statistics Department for faculty workload reduction to accommodate family-related events.

*New Roles for D3 participants*

* **3 new female department heads of color** 
  + Traciel Reid (ADVANCE Scholar) - Political Science, July 1, 2012.
  + Montserrat Fuentes (ADVANCE Scholar, Leadership Development Workshop Series, Climate Workshop Series) - Statistics, July, 2011.
  + Paola Sztajn (ADVANCE Scholar, Leadership Development Workshop Series) - Elementary Education, July 1, 2012
* **Director of African American Cultural Center**
  + Sheila Smith McKoy (Leadership Development Workshop Series)
* **2 female Special Assistants to the Provost (Margery Overton and Laura Severin)**
  + Margery Overton (Leadership Development Workshop Series) – Special Assistant to the Provost, 2012-13
  + Laura Severin (co-PI) – Special Assistant to the Provost, 2012-13
* **Campus Diversity Leadership**
  + Maria Correa (ADVANCE Scholar and Leadership Workshop Series) and Juliana Nfah-Abbenyi (Leadership Workshop Series) served in the first cohort (2011-12) of Faculty Liaisons to the Office for Institutional Equity and Diversity (OIED).
  + Maria Correa (ADVANCE Scholar and Leadership Workshops), Jade Berry-James (Leadership Workshops), and Wendy Krause (ADVANCE Scholar and Leadership Workshops) – 2012-13 Faculty Liaisons to OIED.
  + Heidi Grappendorf (ADVANCE Scholar) – 2011-12 Chair of the Council on the Status of Women (CSW)
  + Paola Sztajn (ADVANCE Scholar) 2011 Assistant Dean for Diversity, College of Education.
  + Juliana Nfah-Abbenyi (Leadership Workshop Series) Director of Diversity Programs and Faculty/Staff Diversity in the College of Humanities and Social Sciences. 2013-
  + Ellen McIntyre (Climate Workshop Series for Department Heads) 2012- College of Education Associate Dean for Academic Affairs and influential member of the College Committee on Multicultural Initiatives and Diversity (COMID).

*Search Committee Process Guidelines and Resources*

* **Chancellor’s Faculty Excellence Search Committee**—Guidelines include emphasis on diversity
  + At first search committee meeting a dean presents the academic case for diversity and provides tools for identifying underrepresented potential candidates
  + At first search committee meeting OIED provides search committee orientation
  + At a subsequent meeting ADVANCE Scholars facilitate a discussion about recognizing and interrupting bias in the process of narrowing the final candidate list.
* **Faculty Search Toolkit**—The faculty search toolkit is a resource for recruiting diverse faculty. Resources include OIED’s faculty search video, a position description template, a candidate evaluation form template, information about job search assistance for partners and some databases to identify potential candidates.
* **Search Committee Presentation**—ADVANCE Scholars presentation on best practices in faculty searches provides an overview on how social biases may work in search committee discussions.

*Institutionalization of Leadership Development Workshop Series and the Climate Workshop Series for Department Heads.*

The D3 Leadership Development Workshop series and the D3 Climate Workshop series for Department Heads, which have been funded by the NSF ADVANCE Developing Diverse Departments grans have been adopted by the Provost’s Office and will be offered by the Office of Faculty Development starting in the 2012-2013 academic year.

*Major Program Outcomes/Findings*

* The total share of female tenured and tenure track faculty has increased from 20% to 22% in the departments reported for College of Agriculture and Life Sciences (CALS) and increased from 9% to 10% in the College of Engineering (COE).
* In the STEM departments there has been a slight increase in the number of women tenured full professors (+4, +3, +2) respectively in CALS, COE, and Physical and Mathematical Sciences (PAMS) from 2008 to 2011, an increase from 14% to 16% of full professors in CALS, from 7% to 8% in Engineering, and 8% to 9% in PAMS
* Department Heads (16/16) surveyed in cohorts 1 and 2 reported improved climate in their departments (69%) and greater confidence in themselves as leaders (87%) and ability to establish and maintain a positive climate (100%).
* Leadership Workshop participants in cohorts in 2010 and 2011 responded when surveyed that they were confident in their ability to perform as change agents in their department, college, and in the university respectively (+1.45, +1.41, +1.10).
* Pre/post data revealed that ADVANCE Emerging Leaders reported higher confidence levels in their groups’ ability to be a force for change on campus (7, 7.33).
* Pre/post data revealed that ADVANCE Senior Leaders reported higher confidence levels in their groups’ ability to be a force for change on campus (5.38, 7.5).

**NSF ADVANCE Program Final Report**

**Developing Diverse Departments**

**North Carolina State University**

**July, 30, 2009 - December 31, 2012**

**HRD#0820013**

**Introduction**

The final report is organized to highlight the four major programs of the D3 ADVANCE programs and the outcomes of the program. The major programs and workshops are briefly described with information about changes to their components over the course of the D3 project, and the key major program findings and outcomes are highlighted.

“The ADVANCE program inspired to apply for the position of head in my department.”

--ADVANCE Scholar

**ADVANCE Scholars**

The first year of the project focused on promoting Scholars’ (Senior Leaders and Emerging Leaders) knowledge of and familiarity with, research on social biases as distorting influences in the evaluation, hiring, and retention of women. Though several readings focused on the experiences of African American women in academia and subsequent literature discussions which followed, the primary focus was on biases in relation to either gender or to race. In the second year of the project, the readings at the center of Scholars’ discussion focused on the theory of intersectionality and the inseparability of gender/race and social identity in understanding the complex manifestations and effects of social biases. In these first two years, scholars developed and enacted initiatives that provided them with opportunities to apply seminar concepts to issues in their fields. Scholars also developed a “Best Practices in Faculty Searches” presentation that could be adapted for multiple settings and audiences to provide an overview of issues, an exercise demonstrating how social biases work in search committee discussions, or a set of recommendations – all designed to promote discussion and an inclusive process within the ADVANCE Project and the university community.

The third year of the project focused on the tangible outcomes (activities, research, programs, and policies) from the Scholars’ initiatives. The first two seminars included review and revision of the “Best Practices” presentation slides, as well as sketching plans for its use. October through February Seminars were devoted to Scholars’ presentations regarding their projects. Both groups also had readings and discussions, though covering different topics. Reading selections were made according to their group interests. The Emerging Leaders, for instance, read selections from Joann Moody’s writings on faculty diversity, including a reading on “Solo Faculty” and “Practices in Retention.” These choices reflect their ongoing concerns about departmental climates. Senior Leaders read a chapter from Sue Rosser’s book, *Breaking into the Lab,* which focused on the increasing importance of patent activity as an indicator of scientific productivity. They also read Carol Cohn’s classic article “Sex and Death in the Rational World of Defense Intellectuals.” Their interest in these two articles emerged from their discussions about how to promote new conversations/insight about seemingly intractable inequalities in RPT outcomes.

This year, members of both groups spent an increased amount of time sharing updates about their experiences in other ADVANCE activities and/or university initiatives. Some scholars have been involved with committees working on “Next Steps” and “Expanding Impact” efforts and so relayed information about those initiatives. Scholars who were involved in the Chancellor’s Faculty Excellence Initiative related to interdisciplinary cluster hires shared news and information about these clusters and the hiring process currently underway. These conversations provided significant evidence that the Scholars’ seminars and other ADVANCE activities had created a strong professional network for participants. These conversations also sparked a successful effort to integrate elements of the “Best Practices in Faculty Searches” presentation into the university’s existing process for supporting committees charged with searches for interdisciplinary faculty hires.

***ADVANCE D3 Participation in Faculty Search Processes***

In Fall 2011, NC State announced a new faculty hiring program called the Chancellor’s Faculty Excellence Program, a new initiative to recruit exemplary faculty to join interdisciplinary clusters of faculty in strategically important areas. Each cluster has been assigned a large search committee of faculty from several disciplines and academic colleges. Hiring faculty into interdisciplinary groups is quite different than the way faculty are traditionally hired at NC State. Consequently, explicit guidelines were developed for the chairs and lead deans of these search committees. Members of the ADVANCE D3 project had significant input into developing the guidelines, which include several elements intended to increase awareness and discussion about faculty diversity within the search process:

1. Use of a template for position descriptions that incorporates language about faculty diversity in the body of the job description. The template was developed by Dan Solomon, co-PI of the D3 project.
2. A short presentation at the first meeting of the search committee by Dan Solomon, Dean of the College of Physical and Mathematical Sciences and project co-PI, or by the cluster lead dean, on the academic and economic case for faculty diversity and providing examples of ways to find candidates from underrepresented groups.
3. A 20-minute orientation to search committee processes and best practices by the Office for Institutional Equity and Diversity, also at the first meeting of the search committee. This and the dean’s presentation are timed to provide information and tools to the search committee so they can attracted the broadest possible pool of candidates.
4. At a meeting of the search committee near the deadline for submission of applications, just before the committee starts reviewing applications, invite ADVANCE Scholars to lead a discussion of bias in the faculty search process. This discussion involves showing and discussing the video “Interrupting Bias in the Faculty Search Process” created by the University of Washington ADVANCE Center for Institutional Change. The meeting is timed to generate discussion as the committee members are beginning to evaluate the candidates and narrow the pool to the list of finalists. Laura Severin, co-PI, and Wendy Krause, ADVANCE Scholar, have led several presentations for the ADVANCE team.

***Interviews of ADVANCE Scholars***

Project evaluator Rebecca Brent conducted hour-long individual interviews of each ADVANCE Scholar during the Spring 2012 semester. The purpose was to explore the experiences of each Scholar and to identify common themes.

*The Interview Questions*

Warm-up: As you look back on this nearly three years in ADVANCE, what stands out to you?

1. What effect (positive or negative) has being a Scholar had on you?
2. What have been the most important aspects of the program for you and why?
3. How have you interacted with your department and college to promote the goals of the ADVANCE project since becoming a Scholar?
4. How would you characterize the climate in your department?

* For recruiting women and underrepresented minorities in your department?
* For women and minorities in the department?
* Have your experiences in ADVANCE changed your perception of the climate?

1. Are you aware of any impact the ADVANCE project has had on any level of the university?
2. Tell me about your project. What impact do you think it has had on you, your department, your college, the university, or your field?
3. What is next for you professionally?
4. Has the ADVANCE experience has any impact on your goals and plans?
5. Are there any other things you’d like me to know about your experience with ADVANCE?

*Findings on effects of the program*

* The one program aspect that was almost universally named as the most significant was the opportunity to establish close ties and community with other faculty across the institution.
  + Emerging Leaders (ELs) talked about the chance to interact with other women and persons of color reducing their sense of isolation within their departments. The interactions often served to validate their personal experiences and help them see the experiences in a larger context.
  + Senior Leaders (SLs) also talked about building community and significant one-on-one relationships as a result of the program. The SLs as a group did not bond as closely and two Scholars took personal responsibility for not attending as faithfully as they should have. The SLs who were department heads or college-level administrators reported getting the most out of the experience. They commented on the support they felt from the other administrators in the group and noted the value of sharing their individual struggles.
* The readings provided context and useful learning for both groups. Scholars saw the readings as a spark for sharing of their own experiences and a chance to learn about the body of literature available. The Scholars in social sciences came in knowing about the existence of the literature, but the STEM faculty were mostly introduced to it for the first time. Both groups appreciated the perspectives offered by such a diverse group and the skillful leadership of Mary Wyer and Laura Severin in helping them navigate the literature.
* The projects were meaningful to all the Scholars. Each interview took on a new spark when I asked the Scholars to talk about their projects. They pursued topics that interested them and most were hopeful about the impact the project had already had or the potential for impact. Some were fearful of not following through one the regular meetings came to an end.
* About half of the Scholars reported major changes in their career plans as a result of their experiences. Several had moved or were about to move into leadership positions. Others wanted to continue to explore the literature or research they had started and many wanted to continue to lead informally within their departments.

*Impact of ADVANCE on departments, colleges, and the university*

* The Scholars who were line leaders in their departments reported the greatest changes as a result of the ADVANCE program. Since they were in positions of responsibility, they were able to be proactive in their departments to incorporate changes in recruitment and retention practices and in changes to enhance the climate.
* Most ELs reported little change in their departments or colleges as a result of ADVANCE although some noted their departments had gone through the Climate Survey.
* Most of the Scholars were hopeful about the impact of the materials they had developed to be used with search committees.
* A few Scholars saw changes in the university and college as a direct result of their work to create communities of support for special populations.

***Workshops, Groups and Resources developed by ADVANCE Scholars***

Below is a list of workshops, groups, and resources developed by Emerging and Senior Leader ADVANCE Scholars:

* **Workshop for NCSU African American Female Faculty. Part I: Creating your Career Trajectory**, May 16, 2012.
* **Faculty Workshop for Women in STEM to Promote Retention and Foster a Sense of Community,** August 5-8, 2012, The target audience is not-yet-tenured female faculty in PAMS, COE, and TECS.
* **Hispanic/Latino UNC System Faculty Forum,** October 6, 2012, Friday Institute. The target audience is all Hispanic/Latino tenured and tenure track faculty at UNC System campuses.
* **Workshop for NCSU African American Female Faculty. Part II: Dr. Cynthia Winston and Dr. Julie Williams**, Fall 2012.
* **Poole College of Management Women Faculty Brown Bag Lunches,** ongoing
* **NCSU Hispanic/Latino Faculty Group,** initiated November 2010
* **Best practices to improve retention of underrepresented faculty in Engineering**

***Campus Diversity Leadership Roles taken on by Scholars***

The following is a list of leadership roles focusing on diversity that ADVANCE Scholars have taken on:

* Maria Correa (ADVANCE Scholar and Leadership Workshop Series) served in the first cohort (2011-12) of Faculty Liaisons to the Office for Institutional Equity and Diversity (OIED).
* Maria Correa (ADVANCE Scholar and Leadership Workshops), Jade Berry-James (Leadership Workshops), and Wendy Krause (ADVANCE Scholar and Leadership Workshops) – 2012-13 Faculty Liaisons to OIED.
* Heidi Grappendorf (ADVANCE Scholar) – 2011-12 Chair of the Council on the Status of Women (CSW)
* Paola Sztajn (ADVANCE Scholar) Assistant Dean for Diversity, College of Education.

***Policy Changes Introduced or Promoted by Scholars***

The Scholars have played a major role in developing or changing several NCSU policies and regulations related to work/life compatibility:

* **New Parental Leave Regulation**— A new regulation adopted May 1, 2012 which allows eligible graduate students to take leave for the birth or care of a newborn. This was introduced into the Faculty Senate by Montserrat Fuentes, a Senior Leader.
* **Revised Tenure Clock Regulation** – Revised language adopted May 1, 2012, which includes domestic partners as family members. This was spearheaded by the Council on the Status of Women, headed by Heidi Grappendorf, an Emerging Leader.
* **Departmental Workload Reduction Guidelines** —Guidelines adopted by the Statistics Department for faculty workload reduction to accommodate family-related events. This was developed by Montserrat Fuentes, Head of the Department of Statistics and a Senior Leader.

***Line Leadership Positions taken on by Scholars***

Three ADVANCE Scholars have taken on the position of department head in 2011-12:

* Traciel Reid - Political Science, July 1, 2012.
* Montserrat Fuentes - Statistics, July, 2011.
* Paola Sztajn - Elementary Education, July 1, 2012

**Climate Workshop Series for Department Heads**

“Just presenting the data to the faculty was important for raising awareness that climate issues are important and that they are the business of the whole department.”

--A department head from the Climate Workshop series

The Climate Workshop Series for Department Heads was designed to assist department heads in cultivating a supportive and inclusive department climate for all department members, with a particular emphasis on diverse faculty members, because climate may affect women and minority faculty members differently than their departmental colleagues. Overall satisfaction and desire to stay at an institution are strongly related to satisfaction within the department. A harmful climate may play a negative role in departmental productivity and effectiveness, particularly for faculty who are not in the mainstream. The workshop series aims to equip department heads to understand their department’s climate, to recognize and address adverse department climate matters and to provide tools to create a positive organizational environment.

***Program Overview***

From 2009 to 2012, twenty-five department heads participated in the D3 climate workshop program. The twenty-five heads represent more than 40% of the NC State department heads, from nine of the ten academic colleges (Physical and Mathematical Sciences 5, Agricultural and Life Sciences 5, Humanities and Social Sciences 3, Management 2, Engineering 2, Veterinary Medicine 2, Natural Resources 2, Textiles 2, and Education 2). The workshop series was modeled on the University of Wisconsin-Madison WISELI 3-part climate workshop series. We have added a session and modified the content and pacing of the series based on our experiences over time.

During the first year of the program, the opening session took place in late fall 2009 and was guest-facilitated by Jeff Russell, Professor and Chair of the Civil and Environmental Engineering Department at the University of Wisconsin-Madison. Dr. Russell gave evidence of substantial change in his own department as a result of participating in this workshop series over a period of 6 years and discussed the impact that department climate has on the retention and recruitment of faculty. During this introductory session, faculty participants discussed climate in general, survey findings about the demographics and climate at NC State, and the heads’ perceptions of the climate within their own departments. The second and third workshops of the series were held in Spring 2010. Between the first and second sessions, we administered a climate survey to department faculty and staff. At the second session each participating department head received the survey results for their department. During this session, Rebecca Brent, the ADVANCE evaluator, discussed how to interpret the results and how the results might be used. In this session, department heads were also given a Department Head’s Climate Resource Guide that was adapted for NC State University with permission from WISELI (the resource guide has been continuously updated). The Guide contains a compilation of information regarding institutional programs, policies, committees, and offices that support the university’s core mission, along with links to websites and contact information for key personnel. At the third session, the participants brainstormed about creating an action plan to address issues uncovered by the survey. During this session participants also offered reflections on any insights gained from the survey results, and shared suggestions on ways to create more inclusive climates.

***Department Head Workshop Changes from Year 1-Year 3***

Over time, the workshop series has been expanded from three workshops to four 2-hour sessions spread over late fall of one year to early fall of the next. A fourth session was added to give department heads more time to discuss results from departmental climate survey with the department faculty and staff and to develop their departmental action plans in response to the survey results. In addition, this gives us time to devote an entire session to unconscious bias, the leader’s role in interrupting micro-aggressions, and the benefits and challenges of diversity. This allows for fuller consideration of the climate for female and minority faculty and conditions that may affect their morale, retention and success.

In the Spring of 2012, a special climate workshop series funded by the College of Physical and Mathematical Sciences for all five of the College’s department heads was offered. This was the first time that the workshop series was offered exclusively to one college and all the participants were from the same college. Initially, there were some concerns about whether the material would be too sensitive for participants from the same college to have open discussions. However, the discussions during the series turned out to be deeper and more open even than in the previous groups, perhaps because the members were all used to working together. Another beneficial factor at play in that group was that four of the five heads had been in that position for a year or less. When the heads are new, there are several advantages: they are trying to learn all they can about the job, about how to be effective in the role, and about the department that they are serving, and in addition, the survey results are not a reflection of their past effectiveness so there is no reason for fear or defensiveness.

The climate workshop series website is <http://oied.ncsu.edu/advance/workshops/climate-workshops-for-department-heads/>.

***Engagement of Department Heads***

In the time following the program’s first year, alumni of the climate workshop series have returned to facilitate small-group discussions about department climate and share information about the impact of the workshop on their departments. They have proved to be important ambassadors to the program.

Department head alumni from this workshop have also been involved with other issues on campus related to diversifying the faculty and improving campus climate. The participation of heads, after the completing the climate workshop, has been a unforeseen and evolving positive programmatic outcome. Heads have broadened their relationships with Marcia Gumpertz, Assistant Vice-Provost for Faculty Diversity and ADVANCE PI, and with the Office for Institutional Equity and Diversity. The developing relationships with department heads have contributed to their involvement in the following additional campus-wide programs:

* *Black Faculty Representation Working Group*—Two Climate Workshop alumni serve on the black faculty working group, which was convened by Provost Warwick Arden to provide guidance on concrete actions to increase the presence of black faculty members in tenured and tenure track positions.
* *External Mentoring Mini-Grant program*—One alumnus served as a reviewer for the External Mentoring Mini-Grant program, a mentoring program for junior faculty to build relationships and expand their professional networks with notable senior faculty in their field, outside of NC State University. External mentoring grants were awarded competitively to a limited number of pre-tenure faculty.
* *Proposal Development* – One alumnus served as co-PI on a grant proposal for applying the insights gained about how unconscious bias affects faculty to the issues surrounding selection and mentoring of graduate students. The aim is to bring awareness and improve the climate, the quality of mentoring, and the success of graduate students from underrepresented groups.
* *College of Education Committee on Multicultural Initiatives and Diversity* (COMID) - One alumna has taken on the role of Associate Dean for Academic Affairs in the College of Education and serves in that capacity as an influential member of the College Committee on Multicultural Initiatives and Diversity (COMID).

***Institutionalization of the Program***

The climate workshop series has become a regular offering of NC State University, funded by the Provost’s Office and offered by the Office of Faculty Development. Rebecca Brent, Education Designs, Inc., provides evaluation support for the program. Margo Daub, head of Plant Biology; Betsy Brown, Vice Provost for Faculty Affairs; and Marcia Gumpertz, Assistant Vice Provost for Faculty Diversity and Professor of Statistics, facilitate the workshop series. A Program Coordinator position has been added in the Office of Faculty Development, which is primarily assigned to faculty awards processes and leadership development and as such provides additional support to the program. Five department heads (1 from Agriculture and Life Sciences, 1 from Veterinary Medicine, 1 from Management, and 2 from Education) are participating in the 2012-13 Climate Workshop Series.

***Major Findings in Evaluation of the Climate Workshop Series***

A summative evaluation of the four cohorts of the Climate Workshop Series was conducted by Rebecca Brent.

*Data Collected*

* Climate surveys received from faculty and staff in 25 departments in four cohorts (2009, 2010, 2011, 2012)
* Follow-up surveys of first two cohorts of dept. heads six months after the workshop series ended

*Results of the Climate Surveys*

Survey Response Rate

|  |  |  |  |
| --- | --- | --- | --- |
|  | Surveys  Sent | Responses  Received | Response  Rate |
| Overall | 1235 | 913 | 74% |
| Faculty | 829 | 625 | 75% |
| Staff | 406 | 288 | 71% |

Overall Climate Ratings (Scale of 1 to 5)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Ratings | | Dept. Range | |
|  | Mean | %neg | Mean | %neg |
| Faculty (N=609)a | 3.90 | 11% | 2.9–4.7 | 0%–42.9% |
| Staff (N=275)b | 3.85 | 9% | 3.0–5.0 | 0%–32.0% |
| STEM (N=679) | 3.79 | 12% | 3.1–4.7 | 0%–32.5% |
| non-STEM (N=205) | 4.07 | 6% | 3.4–4.8 | 0%–25.8% |

On average, high ratings were given to statements regarding the respondents’ sense of the importance of their work, their understanding of their roles and responsibilities, and the respect they received for their opinions and contributions, and relatively low ratings were given to their perceived influence on decisions made in the department, the existence of someone in the department promoting their professional development, and the fairness of resource allocations in the department. There were no consistent patterns of differences between responses of faculty and staff.

The open comments suggest that both faculty and staff would welcome more opportunities for social interactions with their colleagues, greater transparency about department decisions and more opportunities to influence and inform those decisions, and less negative and bullying behavior. Staff in particular wanted more frequent communication about information and events and for others to notice and appreciate the work they do. Faculty sought more mentoring relationships and greater participation by their colleagues in seminars and social events.

The participating department heads received survey results for their departments and reported the results to their faculties and staffs. In some cases they transmitted all the results but more often they summarized response patterns, and then they discussed the results and identified actions that would be taken to improve their department climates. Actions taken included:

* Establishing a task force or standing committee charged with developing plans to improve the climate;
* Organizing more social events to promote interaction and reduce isolation;
* Recognizing staff and faculty accomplishments in regular newsletters or in announcements in faculty meetings;
* Including one or more staff representatives in faculty meetings;
* Organizing brown bag lunches for the department head, faculty, and staff to discuss concerns and increase interaction.
* Departmental retreat with a component to address climate and positive interactions
* Inclusion of community news at departmental meetings
* Targeting hiring a minority faculty member through the university’s Target of Opportunity hiring program
* Sharing the climate survey results and hosting group discussions
* Raising awareness that climate issues are important and that they are the business of the whole department.
* Setting an example for other faculty by regularly congratulating staff in their presence

***Follow-up Survey of Department Heads***

In the year following their participation in the Climate Survey Workshop series, Department Heads in Cohorts 1 and 2 were surveyed and 100% responded (16/16). They reported:

* Improved climate (69%)
* Greater confidence in themselves as leaders (87%)
* Greater confidence in their ability to establish and maintain a positive climate (100%)
* Would recommend workshop to others (94%)

The department heads noted the most valuable parts of the workshop series were (1) the results and report from the climate survey and (2) the interaction with other department heads. All of the respondents reported that the workshop increased their awareness of climate and helped them to identify various issues that can affect climate in a department. Eighty-seven percent thought the workshops (1) helped them better understand how unconscious bias and assumptions may influence climate and (2) gave them useful advice and resources to improve the climate in their departments.

**Leadership Development Workshop Series**

In Spring 2010, the Developing Diverse Departments project offered its first leadership development workshop series for women and faculty of color. The purpose of the leadership workshop series is to motivate tenured women and minority faculty to pursue line leadership positions such as department head, dean and provost. The first iteration of the leadership development workshop series consisted of three panel discussions interleaved with three conjoint discussion sessions designed to motivate tenured women and faculty of color to enter into line leadership roles (e.g., department head, center director, dean, provost). Nine senior faculty members (tenured associate professors and above) attended three panel sessions and engaged in three discussion sessions which reviewed readings focused on the themes of each panel. From 2010-2012, 32 faculty members have attended the workshop series. Women and minority faculty from eight of NC State’s academic colleges (Veterinary Medicine 2, Education 3, Humanities and Social Sciences 9, Textiles 4, Engineering 4, Physical and Mathematical Sciences 4, Agriculture and Life Sciences 5 ) and from St Augustine’s College participated in the D3 Leadership Development Workshop Series.

“The organization of the meetings, the people pulled together for panels, and the discussions led by awesome women mentors have been powerful forces during this semester.”

--A Leadership Development workshop series faculty participant

Faculty in the Leadership Workshop Series were expected to increase their understanding and skills in career planning, self-discovery related to becoming a leader, best practices in increasing diversity. The workshop series gave participants the opportunity to engage in discussions with department heads, deans, and university leaders and to learn about the benefits, challenges, and skills needed in line leadership positions.

***Leadership Workshop Changes from Year 1 to Year 3***

The format of the Leadership Workshop remained similar in subsequent years, in that we alternated discussion sessions with panel sessions.  In year two, we increased the number of workshops in the series to seven. Each year the content was modified based on experiences with previous cohorts. During the Spring 2010 workshops, panel sessions were focused on the success and challenges for leaders in line leadership positions, but in later years the content was broadened to include topics such as “How to get started in administration” and “Issues faced by women administrators”). The last year of the workshop was unique in that we reached out to the surrounding community.  The participants included a faculty member from St. Augustine's College, a private HBCU in Raleigh, and we also invited their Provost as a speaker on one of the panels of university leaders.  That year, each panel included a speaker from another institution, whereas in previous years almost all of the panelists were NC State administrators. Panel discussions concerned issues faced by women in administration, managing time, stress and work-life integration, and how to get started in administration. In the future, we hope to include more participants from Raleigh's private colleges, including Shaw and St. Augustine's, both HBCUs, as well as Meredith and Peace, women's colleges or formerly women's colleges in Raleigh. The last two cohorts of the workshop also included some ADVANCE Scholars as participants. The D3 proposal highlighted that Scholars have a special role of enriching workshop discussions with insights from the research on biases and stereotypes. This actually turned out to be especially beneficial for the Scholars themselves. The combination of serving as an ADVANCE Scholar and participating in the Leadership Workshop Series became a route to taking on leadership roles. To learn more about the leadership workshop series, please see <http://oied.ncsu.edu/advance/workshops/leadership-development-workshops/spring-2012-advance-leadership-development-workshop/>

***Institutionalization of the Leadership Workshop Series***

The D3 Leadership Development Workshop series has been adopted by the Provost’s Office and is now offered by the Office of Faculty Development starting in the 2012-2013 academic year. Betsy Brown, Vice Provost of Faculty Affairs and Laura Severin,Professor of English and Special Assistant to the Provost for Academic Planning*,* co-facilitate the workshop and administrative support is provided by the Office of Faculty Development.

***Major Findings for the Leadership Development Workshop Series***

*Leadership Efficacy of Leadership Development Workshop Participants*

*(Cohorts 2010 and 2011)*

Respondents were asked, “Please rate how confident you are that you can do the things listed below” on a scale from 0 (not at all confident) to 10 (highly confident). Items with changes greater than half a point are in bold.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Pre N=19 | Post N=17 | Change |
| 1. Give directions clearly | 8.11 | 8.12 | + 0.01 |
| 2. Express my thoughts clearly | 7.84 | 8.29 | + 0.45 |
| **3. Persuade others** | **6.42** | **7.18** | **+ 0.76** |
| 4. Communicate my thoughts in an organized way | 8.00 | 8.06 | + 0.06 |
| 5. Perform effectively as a leader | 7.53 | 7.71 | + 0.18 |
| 6. Introduce controversial topics into discussions with peers | 7.11 | 7.35 | + 0.24 |
| **7. Perform as a change agent in my department** | **5.84** | **7.29** | **+ 1.45** |
| **8. Perform as a change agent in my college** | **5.47** | **6.88** | **+ 1.41** |
| **9. Perform as a change agent in the university** | **5.37** | **6.47** | **+ 1.10** |
| **Overall leadership self-efficacy** | **6.85** | **7.48** | **+ 0.63** |

The above table reports on the extent that faculty participants in cohorts 2010 and 2011 believe in their ability to be leaders and a force for changing leadership in their department and college. Data were collected pre-and post-workshop from workshop participants. Participants reported the highest level of change pre and post survey on being change agents in their department, college, and university. A central component of the D3 proposal was that faculty members are motivated to pursue line leadership positions and are confident in their abilities to be change agents inside and outside their academic departments in diversifying the university professorate.

***Leadership Roles Taken on by Workshop Alumnae***

The following is a list of leadership roles and roles focusing on diversity that alumnae of the Leadership Workshop Series have taken on since participating in the series:

* Head, Department of Statistics. Montserrat Fuentes (also an ADVANCE Scholar and Climate Workshop participant)
* Interim Head, Department of Elementary Education. Paola Sztajn (also an ADVANCE Scholar)
* Director of African American Cultural Center. Sheila Smith McKoy
* Special Assistant to the Provost, 2012-13. Margery Overton
* Associate Chair, Department of Biomedical Engineering. Elizabeth Loboa
* Associate Head, Department of Textile Apparel Technology and Management. Cynthia Istook
* Associate Head, Department of English. Maria Pramaggiore
* First cohort (2011-12) of Faculty Liaisons to the Office for Institutional Equity and Diversity (OIED). Maria Correa (also an ADVANCE Scholar) and Juliana Nfah-Abbenyi
* 2012-13 Faculty Liaisons to OIED. Maria Correa (also an ADVANCE Scholar), Jade Berry-James, and Wendy Krause (also an ADVANCE Scholar)
* Assistant Dean for Diversity, College of Education. Paola Sztajn (also an ADVANCE Scholar)
* Director of Diversity Programs and Faculty/Staff Diversity in the College of Humanities and Social Sciences. Juliana Nfah-Abbenyi
* NSF Program Director, DRL. Maria Oliver-Hoyo
* Jefferson Science Fellow. Jean Ristaino.
* William Neal Reynolds Professor. Jean Ristaino

**Retreats/Annual Meeting**

At the conclusion of each year of the D3 program, we hosted a yearly event, either a retreat or a state-wide conference. The yearly events had several different purposes and were targeted to populations that changed from year to year. A brief description of each year’s event is listed below. The events evolved each year, based on the formative evaluation of each year’s activities and the different needs of the program participants as determined by the program leaders.

***Retreat Year 1***

The purpose of the first annual retreat was for the various participants in the disparate D3 workshop groups to come together and learn more about the different project parts. The annual retreat provided a touchstone opportunity for EL and SL Scholars to articulate, practice, and present their insights about becoming change agents in a diversifying professoriate. The retreat also created an opportunity for the various groups of the D3 project (e.g., Senior Personnel and Advisory Committee members) and different components of the project (i.e., ADVANCE scholars, Department Head and Leadership Workshop participants) to come together and meet and share program knowledge and experiences. Over 50 faculty, department heads, and administrators participated in the retreat, including ADVANCE Scholars, Leadership Development Workshop participants, Department Head Workshop participants, project senior personnel, members of the two project advisory committees, and several deans and administrators.

The retreat keynote address was delivered by Sarah A. Rajala, Dean and Professor, Bagley College of Engineering, Mississippi State University. Dean Rajala in her speech described the journey she took to becoming a dean, juggling leadership roles in and out of the academy, and balancing (or not) work and family life. Retreat attendees also participated in a role play of a case study concerning a faculty search committee in a Computer Science and Engineering department. In the search committee role play some conflicts of interest are revealed and some members base judgments on criteria outside the position description. These issues and biases are commonly experiences in real search committees, but become more visible in the role-play.

***Retreat Year 2***

The second retreat was developed as a vehicle to involve participants but to also reach out to the wider university community. Our charge was to address general leadership issues such as recruiting faculty, mentoring departmental faculty, diversifying faculty and academic leadership, and developing collegiality and teamwork. To address issues of faculty diversification and the importance of diverse thought in departments, Dr. Linda P. Brady, Chancellor, University of North Carolina at Greensboro, provided the keynote address. Eve Riskin and … from the University of Washington showed the video “Interrupting Bias” and facilitated a discussion of bias in faculty hiring.

The second year of the retreat took into account the evaluation responses indicating that participants enjoyed the role-play in the first retreat and wanted more interactive activities. During the year, both leadership workshop participants and climate workshop participants expressed concerns about faculty incivility and bullying. To address this concern, we solicited an interactive script to address issues of faculty bullying through an interactive role play. This session was led by Dr. Patricia Cormier, President Emerita, Longwood University. The interactive script was developed by Carol Colatrella, Professor, School of Literature, Communication and Culture and the Co-Director, Georgia Tech Center for the Study of Women, Science, and Technology. She is also the ADVANCE liaison to the Georgia Tech ADEPT project.

***Annual Meeting Year 3***

In the final year of the grant we hosted a one-day state-wide meeting for institutions in North Carolina. The conference sought to bring together faculty members from across the state to learn from national experts and share ideas on how to advance strategic partnerships for women and minority faculty in STEM and other departments. The annual conference focused on how faculty can leverage potential relationships and obtain strategic partnerships to advance professionally. The theme of this meeting was, “Advancing Strategic Partnerships for Women and Minorities in STEM.”

With this in mind, we invited Diane Magrane, M.D., Director, International Center for Executive Leadership in Academics (ICELA) and Director, Executive Leadership in Academic Medicine (ELAM). Dr. Magrane is the director of two leadership training programs for medical, computer science, and engineering faculty. As a champion for leadership development, Dr. Magrane led faculty members in an interactive session focused on leadership development and mentoring. Montse Fuentes, Head of the NCSU Department of Statistics, was invited to speak as an influential member of the NC State community that has successfully leveraged strategic partnerships and embodied the theme of the conference.

Conference committee members were also vested in having a focus on women faculty of color at the statewide meeting. Karen Dace, Deputy Chancellor for Diversity, Access and Equity, University of Missouri-Kansas City, provided a keynote address on issues faced by female faculty of color and building alliance between women of color faculty and white women faculty. She facilitated two additional discussion sessions with faculty the day before the state-wide conference, one with female faculty of color and one open to the entire campus community.

The state-wide meeting was a highly successful event that was attended by 70 faculty members from around the state of North Carolina. Faculty from 11 colleges and universities, including two historically black colleges and universities (Fayetteville State University and Winston Salem State University), and a faculty member from the University of Cincinnati attended.

***Meeting Outgrowths***

The state-wide conference introduced faculty from different campuses to each other, sparking new collaborations. A blog (http://womenminoritystem.blogspot.com/) was started by UNC-Charlotte as a venue for continued conversations following the conference. NCSU has agreed to support to the UNC-Charlotte ADVANCE program’s mid-career mentoring program and to host a meeting of the program at our campus, and we have begun discussions with North Carolina A&T State University to bring Kerry Rockquemore to our campuses.

**Major Outcomes and Findings for D3 Program Goals**

The original grant proposal hypothesized that over the grant period there would be

1. An increase in the rate of hiring of women faculty and faculty of color;
2. An increase in the percentage of faculty of color and women among the professorate and academic leadership;
3. A reduction in the disproportionate risk of junior faculty women leaving before a tenure decision;
4. An increase in the level of employment satisfaction among faculty of color; and
5. An erosion in the relationship between the number of women hired and perceived quality of newly hired faculty (which was negative).

***Hypothesis 1: An increase in the rate of hiring of women faculty and faculty of color.***

We focus on tenured and tenure track faculty hiring in the four academic colleges that are composed primarily of science and engineering departments: CALS (Agriculture and Life Sciences), CNR (Natural Resources), COE (Engineering), and PAMS (Physical and Mathematical Sciences). The female proportion of tenured and tenure track faculty hired increased substantially in PAMS between the 2006-08 years and the 2009-12 years. The proportion also increased, though more modestly, in CALS. The proportion decreased in the College of Natural Resources, however the proportion remained high; 5 out of 11 faculty hired in that college between 2009 and 2012 were female. In the College of Engineering the female proportion hired dipped slightly, but there were gains in the senior faculty - two of the 12 tenured faculty who were hired from 2009-2012 were female. Table 1 shows the number of tenured and tenure track women hired in two cohorts: 2006-2008 and 2009-2012 in these four academic colleges. The tables include part time and full time faculty, but do not include administrators.

Table 2 shows the number of African American, American Indian, Hispanic, and faculty identifying with two or more races hired in two time periods. Note that the way NC State categorizes race and ethnicity was changed in 2009, making comparisons over time inexact. Given this caveat, the Colleges of Agriculture and Life Sciences and of Natural Resources increased the proportion of faculty hired from underrepresented groups. The other two science and engineering colleges saw either decreases in the number of African American, American Indian and Hispanic faculty hired or didn’t hire anyone from these groups in the 2006-2011 period.

Table 1. Tenured and tenure track faculty hired in science and engineering. Number of women hired/Total number hired. Percent female is in parentheses.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Tenure-Track | | Tenured | | Tenured and Tenure Track | |
| College | 2006-08 | 2009-12 | 2006-08 | 2009-12 | 2006-08 | 2009-12 |
| Agriculture and Life Sciences | 19/57 (33%) | 14/39 (36%)**↑** | 4/10 (40%) | 2/5 (40%)↔ | 23/67 (34%) | 16/44 (36%)**↑** |
| Natural Resources | 6/8 (75%) | 4/9 (44%)**↓** | 0/2 | 1/2 (50%)**↑** | 6/10 (60%) | 5/11 (45%)**↓** |
| Engineering | 7/38 (18%) | 6/42 (14%)**↓** | 0/5 | 2/12 (17%)**↑** | 7/43 (16%) | 8/54  (15%)**↓** |
| Physical and Mathematical Sciences | 3/18 (17%) | 10/24 (42%)**↑** | 1/5 (20%) | 0/5**↓** | 4/23 (17%) | 10/29 (34%)**↑** |

Table 2. Number and proportion of tenured and tenure track faculty hired who were African American, American Indian, Hispanic or who indicated two or more races.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Tenure-Track | | Tenured | | Tenured and Tenure Track | |
| College | 2006-08 | 2009-12 | 2006-08 | 2009-12 | 2006-08 | 2009-12 |
| Agriculture and Life Sciences | 5/57 (9%) | 4/39 (10%)**↑** | 1/10 (10%) | 1/5 (20%)**↑** | 6/67 (9%) | 5/44 (11%)**↑** |
| Natural Resources | 1/8 (13%) | 2/9  (22%)**↑** | 0/2 | 0/2**↔** | 1/10 (10%) | 2/11 (18%)**↑** |
| Engineering | 5/38 (13%) | 3/42  (7%)**↓** | 1/5  (20%) | 0/12**↓** | 6/43 (7%) | 3/54 (6%)**↓** |
| Physical and Mathematical Sciences | 3/18 (17%) | 0/24**↓** | 0/5 | 0/5**↔** | 3/23 (13%) | 0/29 **↓** |

***Hypothesis 2: An increase in the percentage of faculty of color and women among the professoriate and academic leadership.***

Representation of women and underrepresented minorities among the NC State tenured faculty has increased from 2006 to the present, not quite as much as we hoped we might be able to achieve but more than we projected if the D3 project had not been in place. The original grant proposal’s Table 1 showed the number of tenured faculty by academic college, the proportion who were women, and projections about what we thought might happen over the next 5 years under two different scenarios. Scenario 1 assumed trends in hiring, promotion, retention and retirement that were current in 2006 would continue. Scenario 2 assumed that each college would retain and promote one additional female assistant professor and each department would hire one tenured female professor in 2006-2011. We have reproduced that table below (Table 3), filling in the actual number of tenured faculty in 2011 and the actual percentage that were female in 2011 and 2012. By 2012 all but two academic colleges had exceeded the scenario 1 projections and 4 colleges had exceeded the scenario 2 projections. We added the 2012 data to match up better with the actual timeline of the D3 project. The projection was for activities from 2007 through 2011, but the grant activities ran from 2009 through 2012. Also, in 2009 and 2010, about half as many faculty were hired as in the previous two years due to the recession, so the opportunities for hiring women and minority faculty were not as great as originally projected.

Table 3. Tenured faculty in 2006, 2011, and 2012 and projections for proportion of women made in 2006 for 2011 under two scenarios.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| College | Num of Tenured Faculty, 20061 | Tenured  % Female 2006 | Projected Num of Tenured Fac, 2011 | Projected % Female 2011 Scen 1 | Projected % Female 2011 Scen 2 | Num of Tenured Faculty, 2011 | Tenured Faculty  %Female 2011 | Tenured Faculty  % Female 2012 |
| CALS | 292 | 16% | 333 | 18% | 23% | 270 | 19% | 22% |
| CED | 35 | 40% | 49 | 44% | 46% | 51 | 49% | 49% |
| CHASS | 154 | 33% | 179 | 37% | 37% | 175 | 38% | 38% |
| CNR | 52 | 15% | 52 | 16% | 22% | 54 | 15% | 13% |
| COE | 167 | 7% | 183 | 8% | 13% | 191 | 10% | 10% |
| COM | 49 | 20% | 54 | 21% | 28% | 51 | 18% | 17% |
| CVM | 75 | 25% | 83 | 26% | 30% | 70 | 24% | 27% |
| Design | 29 | 31% | 30 | 32% | 34% | 21 | 33% | 35% |
| PAMS | 126 | 12% | 142 | 16% | 19% | 134 | 16% | 17% |
| Textile | 26 | 27% | 27 | 29% | 37% | 31 | 32% | 39% |
| Other | 14 | 7% | 15 | 12% | 13% | 5 | 20% | 20% |
| Total | 1019 | 19% | 1146 | 22% | 26% | 1053 | 22% | 24% |

1Full time and part time tenured faculty (administrators are not included). Note that numbers in columns 1 and 2 are slightly different from table 1 of the proposal because an updated dataset was used to create this table.

Table 4. Tenured faculty in 2006 and 2011, and projections for proportion African American, American Indian and Hispanic (ANH) made in 2006 for 2011 under two scenarios.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| College | Number of Tenured Faculty, 20061 | Tenured  % ANH 2006 | Projected Number of Tenured Faculty, 2011 | Projected % ANH 2011 Scenario 1 | Projected % ANH 2011 Scenario 2 | Number of Tenured Faculty, 2011 | Tenured Faculty  % ANH 2011 | Tenured Faculty % ANH 2012 |
| CALS | 292 | 2% | 333 | 3% | 9% | 270 | 3% | 3% |
| CED | 35 | 11% | 49 | 14% | 25% | 51 | 20% | 19% |
| CHASS | 154 | 10% | 179 | 10% | 16% | 175 | 11% | 11% |
| CNR | 52 | 2% | 52 | 3% | 8% | 54 | 9% | 10% |
| COE | 167 | 4% | 183 | 3% | 8% | 191 | 5% | 5% |
| COM | 49 | 10% | 54 | 9% | 16% | 51 | 10% | 9% |
| CVM | 75 | 7% | 83 | 9% | 12% | 70 | 7% | 8% |
| Design | 29 | 24% | 30 | 20% | 36% | 21 | 29% | 30% |
| PAMS | 126 | 6% | 142 | 6% | 9% | 134 | 5% | 6% |
| Textiles | 26 | 4% | 27 | 6% | 12% | 31 | 3% | 3% |
| Other | 14 | 21% | 15 | 18% | 16% | 5 | 0 | 0 |
| Total | 1019 | 6% | 1146 | 7% | 12% | 1053 | 7% | 8% |

1Full time and part time tenured faculty (administrators are not included). Note that numbers in columns 1 and 2 are slightly different from table 1 of the proposal because an updated dataset was used to create the table above.

Table 4 provides similar information about the representation of African American, Native American, and Hispanic faculty among the tenured ranks at NC State. In Fall 2012 all but two academic colleges met or exceeded the projected proportions under scenario 1 and three of the colleges exceeded the scenario 2 projections.

The tables in the Appendix give detailed information for specific science, engineering, and social science disciplines at NC State for 2008, the pre-grant year, and 2012 selected to match up with NSF’s charge. In those disciplines in the College of Agriculture and Life Sciences female representation increased substantially from 14% to 17% of full professors and from 18% to 28% of associate professors from 2008 to 2012. The proportion of women among assistant professors, however, decreased from 38% to 33% in that time period. In the College of Engineering, women also made substantial gains at the associate professor level, increasing from 8% to 14% of associate professors. Female representation at the full and assistant professor level did not change greatly from 2008 to 2012; women made up 7% of full professors in both 2008 and in 2012 and they made up 17% of assistant professors in 2008 and 19% of assistant professors in 2012. In the College of Physical and Mathematical Sciences women’s representation increased modestly at the full and associate level, from 8 to 10% of full professors, from 31 to 33% of associate professors and substantially from 27 to 34% of assistant professors. (Appendix Table 1a).

The number of full professors in the three SBS departments reported here (Psychology, Sociology and Anthropology, Economics) has decreased by 9 faculty from 2008 to 2012. Women have held their own during this time in two of the departments. The proportion of full professors who are female has increased substantially in the Psychology Department (from 31% to 46%) and the Department of Sociology and Anthropology (from 38% to 60%) over the past 5 years. However, there were no female full professors in 2008 and none in 2012 in the Department of Economics (Appendix Table 1b). The proportion of associate professors who are female has decreased in Psychology and in Sociology and Anthropology and has remained at zero in the Economics Department. The number of female assistant professors has more than doubled in the Sociology and Anthropology Department during these 5 years, so that the proportion female has risen from 40% in 2008 to 82% in 2012. The lone female in the Economics Department in both 2008 and 2012 was an assistant professor. In Psychology, the number of female assistant professors has decreased from 3 to 2, but since the department has shrunk, the female proportion of assistant professors has increased from 50% to 67%.

The total share of female tenured and tenure track faculty has increased from 20% to 23% in the departments reported for CALS, from 9% to 11% in Engineering, and from 18% to 20% in PAMS from 2008 to 2012 (Appendix Table 2a). In SBS, women have increased from 29% to 38% of tenured and tenure track faculty (Appendix Table 2a). The departments with the highest female fractions of tenured and tenure track faculty in 2012 are Plant Biology (47%), Computer Science (23%), Statistics (29%), and Sociology and Anthropology (61%), in CALS, Engineering, PAMS and SBS, respectively. On the other hand, Toxicology, Poultry Science, Biomedical Engineering, Chemical Engineering, Industrial and Systems Engineering, Nuclear Engineering, and Economics still had two or fewer women in tenured or tenure track positions in 2012. In 5 of the 9 Engineering departments non-tenure track faculty accounted for 50% or more of the female faculty in the department.

Increases in the presence of female tenured and tenure track faculty of color have been slow in STEM departments, and there has been no change in number of women of color in the SBS departments. In 2008, there were 7 female African American, Latino, and Native American (ALNA), 6 Asian, and 4 international (Int’l) tenured and tenure track faculty in CALS (Appendix Table 2b). In 2012 the number of ALNA women faculty has increased to 9; the number of Asian and international women are the same as they were in 2008. In the COE, the number of ALNA female tenured and tenure track faculty has not changed (it was 3 both years), the number of Asian women has increased from 3 to 6, and the number of international women has decreased from 3 to 1 (Appendix Table 2b). PAMS has lost one ALNA (from 4 to 3) and gained two Asian (from 5 to 7) and two international (from 1 to 3) female tenured and tenure track faculty. In SBS, there were four tenured and tenure track female faculty of color in both 2008 and 2012.

The number of women and minority department heads has increased substantially at NC State from 2006 to the present (Table 5). The representation among deans has stayed about the same; however, the number of female deans dipped to zero in the period between 2006 and 2012. Two of the five deans hired in the past three years have been women (Natural Resources and Education).

Table 5. Women and African American, Native American and Hispanic Department Heads and Deans

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Women | | African American, Native American, Hispanic | |
|  | 2006 | 2012 | 2006 | 2012 |
| Department Heads | 18% (11/60) | 23%  (15/64)  1 Engineering, 2 Social Science, 3 Sciences; 2 interim | 3% (2/60) | 9%  (6/64)  1 sciences; 2 interim |
| Deans | 25% (3/12) | 25%  (3/12)  CNR, Graduate School (interim), Education | 17% (2/12) | 17%  (2/12)  Engineering, Graduate School (interim) |

The gains in female and minority department heads have not occurred in the science, engineering and social sciences disciplines covered by NSF (Appendix Tables 7a and 7b). In 2008 there were four female department heads in STEM disciplines: Plant Biology, Genetics, Horticulture, and Biomedical Engineering (Appendix Table 7a). In 2012 there were three: Plant Biology, Biomedical Engineering and Statistics. In both years the Department of Sociology and Anthropology was the only one of the three SBS departments to be headed by a woman. The number of female deans at NC State bounces around from zero to two. In 2008 there was one female dean, in the College of Education. In 2012 there are two: the College of Education and the College of Natural Resources (Appendix Table 7a).

In 2008 there were no department heads of color in any of the STEM or SBS departments reported in Appendix Table 7b, but in 2012, the Statistics Department is headed by a Hispanic woman. In both years there were one dean (Engineering) and two associate deans of color (College of Engineering Faculty Development, College of Textiles Research). However, the number of STEM faculty of color holding named chairs has increased substantially from 4 to 10 from 2008 to 2012, and the number of women in STEM fields holding named chairs has increased from 7 to 12 over these years. The number of women and minorities on major university committees has not changed greatly from 2008 to 2012 (Appendix Table 7a). The Board of Trustees, however, is currently chaired by a woman.

***Hypothesis 3: A reduction in the disproportionate risk of junior faculty women leaving before a tenure decision***

The risk of not obtaining tenure within the first seven years, adjusted for differences among academic colleges, remains stubbornly high for female assistant professors. It is estimated to be 38% higher for women than for men who joined the NC State faculty between 1996 and 2005 (significant difference, p-value=.01, CMH test). The proportions of women and men who are still at NC State and who have tenure seven years after they were hired as assistant professors are shown for each college in Table 6.

Table 6. Number and proportion of women and men who were still at NC State in 2011, with tenure, 7 years after hired as assistant professor. Faculty hired from 1996 to 2005.

|  | **Number Promoted with Tenure/Total** | | **Percent** | |
| --- | --- | --- | --- | --- |
| **College** | **Women** | **Men** | **Women** | **Men** |
| **CALS** | 18/34 | 62/81 | 53 | 77 |
| **CED** | 10/26 | 8/16 | 38 | 50 |
| **CHASS** | 29/51 | 28/43 | 57 | 65 |
| **CNR** | 3/5 | 16/18 | 60 | 89 |
| **COE** | 9/13 | 49/65 | 69 | 75 |
| **COM** | 6/12 | 11/18 | 50 | 61 |
| **CVM** | 4/11 | 10/18 | 36 | 56 |
| **Design** | 2/4 | 2/6 | 50 | 33 |
| **PAMS** | 14/22 | 29/41 | 64 | 71 |
| **Textiles** | 3/4 | 3/5 | 75 | 60 |

***Hypothesis 4: An increase in the level of employment satisfaction among faculty of color.***

Comparison of the 2006 Faculty Well-Being Survey results with those of the 2011 COACHE survey gives some indication that satisfaction has improved among African American, Native American and Hispanic (URM) tenured full professors at NC State. Table 7 gives responses to three questions from the 2006 and 2011 surveys: (1) Overall, how would you rate your current satisfaction at NC State; (2) I think my department is doing a good job of actively creating a culture where faculty members can develop to their full potential; and (3) How well does your current department administration resolve internal conflicts in the department quickly and effectively? These three questions are ones in which the responses of URM faculty showed a different pattern than other faculty in the 2006 survey. Some areas for concern remain. A high fraction of URM associate professors reported not being satisfied in both 2006 and 2011. On the questions about department culture and resolving internal conflicts, a substantial fraction of URM assistant and associate professors gave more negative responses in 2011 than other faculty. Note, however, that the response rate was very low for African American, Native American and Hispanic tenure track assistant professors. In 2011, 7/24 (29%) of assistant professors, 24/46 (52%) of associate professors, and 16/26 (62%) of full professors among URM faculty in the tenured and tenure track ranks responded to these questions.

Table 7. 2006 and 2011 Tenured and tenure track faculty survey results.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Overall, how would you rate your current satisfaction at NC State.**  **Percent responding “satisfied” or “very satisfied”** | | | | | |
|  | **African American, Native American, Hispanic** | | | **Other** | |
|  | **2006** | **2011** | **p-value** | **2006** | **2011** |
| **Assistant Professors** | 71% | 71% | 1.0 | 66% | 70% |
| **Associate Professors** | 55% | 50% | .74 | 68% | 71% |
| **Full Professors** | 62% | 81% **↑** | .24 | 64% | 73% |
|  |  |  |  |  |  |
| **I think my department is doing a good job of actively creating a culture where faculty members can develop to their full potential.**  **Percent responding “agree” or “strongly agree”** | | | | | |
|  | **African American, Native American, Hispanic** | | | **Other** | |
|  | **2006** | **2011** | **p-value** | **2006** | **2011** |
| **Assistant Professors** | 59% | 57% | .94 | 62% | 70% |
| **Associate Professors** | 52% | 55% | .89 | 55% | 69% |
| **Full Professors** | 47% | 75% **↑** | .14 | 59% | 74% |
|  |  |  |  |  |  |
| **How well does your current department administration resolve internal conflicts in the department quickly and effectively?**  **Percent responding “poor”** | | | | | |
|  | **African American, Native American, Hispanic** | | | **Other** | |
|  | **2006** | **2011** | **p-value** | **2006** | **2011** |
| **Assistant Professors** | 29% | 33% | .51 | 18% | 17% |
| **Associate Professors** | 39% | 38% | .94 | 24% | 20% |
| **Full Professors** | 33% | 14% **↓** | .25 | 21% | 11% |

**↑ or ↓** indicates a significant difference between years at the .25 level, chi-square test. The numbers of faculty responses are small, so a significance level of .25 represents a fairly large difference, about 20 percentage points.

***Goal 5: Improve attitudes about increasing hiring of women and faculty of color.***

In the original 2007 statistical analysis we found indications of an inverse relationship between faculty responses to the question “I think my department is doing a good job of recruiting the best faculty to accomplish our mission as a department” and the number of women a department had hired in the previous five years. When redoing the analysis for this report using 2012 data, we realized that the original 2007 analysis included responses from non-tenure track faculty as well as tenured and tenure-track faculty and was largely driven by the responses in one department. When the statistical analysis is restricted to tenured and tenure-track faculty, for either 2007 or 2012, no statistically significant relationship appeared between the attitudes about hiring the best faculty and how many women have been hired in the previous five years. We are still studying this question and plan to produce a manuscript discussing the relationship between faculty attitudes and hiring.

There do appear to be improvements in the relationship between tenured and tenure track faculty attitudes about hiring minority faculty and hiring the best faculty. The relationship was positive both years (2006 and 2011) between faculty levels of agreement with the statement “My department actively works to recruit faculty members from historically underrepresented groups” and the level of agreement with the statement “I think my department is doing a good job of recruiting the best faculty to accomplish our mission as a department,” but more strongly positive in 2011 (Spearman’s Rho=.18 in 2006, Rho=.45 in 2011). In 2006, of faculty who strongly agreed that their department was recruiting the best faculty, 35% also strongly agreed that their department was actively recruiting URM faculty. In 2011, that proportion had increased to 54%. Looked at the other way, of those who strongly agreed that their department was doing a good job of recruiting URM faculty, 39% in 2006 and 65% in 2011 strongly agreed that their department was recruiting the best faculty.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| FWBS 2006. | | Dept Recruiting Best Faculty | | | |
| Dept Actively Recruits URM Faculty | Rho=.18. n=808 | Strongly Disagree | Disagree | Agree | Strongly Agree |
| Strongly Disagree | 1% | 2% | 1% | 1% |
| Disagree | 1% | 3% | 7% | 3% |
| Agree | 1% | 6% | 30% | 16% |
| Strongly Agree | 1% | 3% | 13% | 11% |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| COACHE 2011. | | Dept Recruiting Best Faculty | | | |
| Dept Actively Recruits URM Faculty | Rho=.45. n=640 | Strongly Disagree | Disagree | Agree | Strongly Agree |
| Strongly Disagree | 2% | 3% | 1% | 0% |
| Disagree | 1% | 5% | 12% | 3% |
| Agree | 1% | 8% | 29% | 10% |
| Strongly Agree | 0% | 1% | 7% | 15% |

***Department case studies***

*Data Collected*

During the spring semester of 2012, Ming Trammel and Rebecca Brent made site visits to seven STEM departments. The purpose of the visits was two-fold. First we wanted to collect information about the strategies the departments are using (or not using) to recruit and retain a diverse faculty with the goal of sharing best practices more widely across the university community. Second we wanted to get a sense of the impact the D3 project and its participants had on the departments.

The site visits consisted of:

* An interview of each department head accompanied in some cases by an associate head
* A meeting with a group of faculty from the department that included diverse faculty from different ranks

*Selection of Departments*

We selected the departments to include a mix of levels of success on factors such as recruiting and retaining women and minority faculty and different levels of participation in ADVANCE. (See Table 8 for a profile of each department.)

Table 8. Departments visited for case study.

|  |  |  |
| --- | --- | --- |
| **Dept** | **Record-Women & Minority Faculty** | **Participation in ADVANCE D3 project** |
| 1 | Low success  Women faculty 5.3% (national 13.9%)  FOC 2.63% (national ~2%) | High participation  1 ADV Emerging Leader  DH participation in Climate Wksh. Series |
| 2 | High success  Women faculty 21.6% (national 17.4%) plus a good record of reruitment  FOC 10.25% (national ~1%) | Low participation  No participants from department |
| 3 | Low success  Women faculty 5.3% (national 13.9%)  FOC 2.63% (national ~2%) | High participation  1 ADV Emerging Leader/Leadership Workshop  DH participation in Climate Wksh. Series |
| 4 | Low success  Women faculty 15.6% (national 51.3%)  FOC 3.12% (national ~3%) | Middle level of participation  1 ADV Leadership Workshop participant  DH participation in Climate Wksh. Series |
| 5 | High success  Women faculty 23.3% (national 42.8%)  FOC 9.37% (national ~1.5%)  Plus a strong record of recent recruitment of women and FOC | High participation  1 ADV Senior Leader/Leadership Workshop  1 ADV senior personnel  DH participation in Climate Wksh. Series  Many participants at retreats |
| 6 | High success  Women faculty 11.1% (national 25.1%)  FOC 0% (national ~2%)  A strong record of recent recruitment of women and FOC | Low participation  No participants from department |
| 7 | Low success  Women faculty 10.5% (national 36.5%)  FOC 0% (national ~2%) | Low participation  No participants from department |

*Findings*

Three of the seven departments were very successful in recruiting diverse faculty, particularly in hiring women. We made that determination by looking at the department’s makeup compared to the percentage of nationally awarded PhDs and by tracking recent hiring success. In each of those departments, we found certain common practices:

* All had a strong department head who clearly articulated the vision of recruiting and retaining a diverse faculty.
* While the department head and faculty each pointed out the challenges they had with the task of developing a diverse faculty, they quickly moved to a discussion of ways they were addressing the challenges. Most were not satisfied with where they were and continued to make it a priority.
* A large number of faculty were involved in seeking diverse applicants and in communicating with the applicants that the departments were good places to be.
* The departments used multiple strategies for diversifying the applicant pool including looking at the wording of the advertisement and not being too narrow in defining what the applicant’s specialty must be.
* The department heads put together diverse search committees with a commitment to diversity in the search.
* Most looked at the department seminar series as a vehicle for identifying and building relationships with diverse faculty from other places leading to recruiting or having the faculty become a source of referrals.
* The departments were alert to opportunities to move good research faculty from underrepresented groups into tenure track positions or to having former PhD students return to NCSU after working at another institution.
* The department heads paid attention to department climate for all faculty and staff and provided multiple opportunities for faculty to gather in and outside of the office. In one case, external resources were used to provide a weekly lunch for faculty that was well-attended.
* Department heads made an explicit commitment to flexibility in accommodating work/life events (changing schedules, allowing work from home, going beyond written university family leave policies) that all of the faculty we interviewed were aware of.
* In two cases, there was evidence of having reached a “critical mass” of women in the department. Faculty we met with explicitly stated that having more women on the faculty (and women who had made it to the rank of professor) was a major factor in their decision to come to NCSU.
* Each department paid attention to providing support to new faculty (usually in the form of formal mentoring) and clear feedback about their progress from the department head and senior faculty.

Departments that were less successful in recruiting and retaining a diverse faculty shared the following characteristics:

* When asked about diversity in the department, department heads and faculty jumped quickly to explanations about why they could not recruit women or underrepresented minorities and expressed fewer strategies to meet the challenges.
* Search committee makeup was more random or related to the specialty being sought rather than toward having a diverse committee.
* Searches in these departments were narrower and targeted to a particular specialty area. Most were advertised in traditional outlets with few proactive strategies used for recruiting a diverse pool.
* In some cases, the climate was not welcoming to diverse faculty or was generally poor for all faculty.
* Most departments in this category were not doing anything explicit for retaining faculty.

*Impact of ADVANCE D3 Project*

The departments were not selected to give a comprehensive view of the impact of the ADVANCE D3 grant since only a small number of departments were included. We have noted where department heads or faculty did or did not note an impact, but the information should be considered in context and reflects only three Scholars (out of 17) and four department heads (out of 25) completing the Climate Workshop series.

Out of the seven departments visited, three had a faculty member who was an ADVANCE Scholar. In two cases, they were Emerging Leaders and were not credited with having much of an impact on their departments by either their department heads or their faculty colleagues. The department heads viewed their participation as important for the Scholar’s own development. In both cases, though, the Scholars had been members of search committees. In one department, the Scholar was a Senior Leader who became a department head during the period of the ADVANCE grant. In her case, faculty credited her participation in ADVANCE with a number of changes in the department including clearer family leave policies for graduate students, the creation of a regular networking lunch for women faculty and graduate students, and a highly successful recruiting year (3 women hired including one African-American woman out of 6 total hires).

Three departments had one woman who had attended the Leadership Development Workshop series. Again, department heads viewed their attendance as important for their own development and less for its impact on the department. In one case, the attendee went on to become department head (same person described in the previous paragraph).

Four of the departments participated in the ADVANCE Climate Survey and department head workshop series. Two of the four departments had not yet been given their results at the time of the site visit. The two department heads who participated earlier in the grant period both reported that the workshops helped them because of the interaction with other department heads and the ideas they got from the experience. The faculty in both departments remembered the survey and reported that the department head was working on the climate.

Other comments about ADVANCE in the site visits included mention of Christine Grant, a Senior Leader and Associate Dean of Engineering, meeting with departments and department heads and providing extra support for underrepresented minority faculty. A female Assistant Professor also noted that she had received one of the mini-grants and it had been helpful to her.

**Opportunities for Training, Development, and Mentoring Provided by the Project**

***1. D3 External Mentoring Mini-Grant Program***

Tenure track assistant professors were invited to submit proposals to receive funds up to $1200 for activities involving an external mentor. The response to this offering was enthusiastic and we quickly exhausted the funds available for the mini-grants. Recipients of the D3 External Mini-Grant Program, their disciplines, and the funded activities are listed below.

1. *Kim Allen*, 4H and Family and Consumer Sciences, to train with a Master Certified Life Coach. This coach will serve as a technical advisor in designing the coaching concentration for an academic program at NC State.
2. *Chase Beisel*, Chemical and Biomolecular Engineering, to visit Dr. Yiannis Kaznessis, a leader in his field of study at the University of Minnesota, and to invite Dr. Kaznessis to visit NC State in the fall.
3. *Sarah Carrier*, Elementary Education, to invite the President-Elect of the National Association for Research in Science Teaching to meet with her department faculty to discuss policy implications for elementary science education.
4. *Yun Jing*, Mechanical and Aerospace Engineering, to visit a senior mentor’s lab at MIT and invite the mentor to visit NC State.
5. *Eric Laber*, Statistics, to receive guidance and collaborate with a senior faculty member at Penn State University through a one-week visit to Penn State, bi-weekly telephone meetings, and a two-day visit to NC State in the fall during which Eric Laber and his collaborator will present results of their collaboration.
6. *Min Liu*, Civil, Construction and Environmental Engineering, to visit the director of the Project Production Systems Laboratory at UC Berkeley to develop a new scholarly collaboration.
7. *Melissa Pasquinelli*, Textile Engineering, Chemistry, and Science, to visit the Chief Scientist of the Materials and Manufacturing Directorate of the Air Force Research Laboratory at the Wright-Patterson Air Force Base.
8. *Temple Walkowiak*, Elementary Education, to invite a leading scholar on equity for underserved populations in the field of mathematics education to visit NC State.
9. *Hong Wang*, Physics, to visit two senior mentors at the University of Pittsburgh and to invite a senior mentor to visit NC State from Georgia Tech.

***2. ADVANCE Scholar Initiative I:  "Creating Your Career Trajectory and Networking for Success"***

Mini-Workshop for NCSU African American Women Faculty, 5/16/2012, 11:00 am – 3:00 pm

*Synopsis:*The first of two interactive mini-workshops (half day) that celebrated and empowered the African-American women faculty currently at NCSU. ADVANCE Scholar Christine Grant, Workshop Part 1 facilitator, addressed career and professional development, while dialoging on key issues to survive and thrive at NCSU.

*Workshop goal:*to facilitate a rich discussion and collectively empower each other while creating strong road maps for career and professional growth.

NCSU women faculty were invited to:

1. Bring a copy of current CV or PA-2 form
2. Bring a copy of Statement of Mutual Expectations
3. Think about a set of goals that you are working on - both short term and long term.
4. Come ready to interact and work on your own professional development.

***3.******ADVANCE Scholar Initiative II: “Crafting Your Own Best Practices for Career Success!”***

Mini-Workshop for NCSU African American Women Faculty, 12/4/2012, 12:00pm-4:00pm

*Synopsis*: The second of two interactive mini-workshops (half day) that celebrated and empowered African-American women faculty currently at NCSU. ADVANCE Scholar Christine Grant, and Cynthia Winston, Associate Professor, Howard University Psychology Department, addressed career and professional development, while dialoging on key issues to survive and thrive at NCSU.

*Workshop goal:*to facilitate a rich discussion and collectively empower each other while creating strong road maps for career and professional growth.

***4. Office of the Provost and OIED ADVANCE Scholar Awards***

The NC State Provost Office and OIED provided funding for support of ADVANCE Scholar projects. Awards to Scholars ranged from $2,000-$5,000. Funds could be requested for research support for ADVANCE projects, conference fees and travel for presenting on ADVANCE, speakers' fees in support of ADVANCE projects, publication/dissemination costs, and other related expenses. Six ADVANCE Scholar projects were awarded funding this year. The total amount of funding was $16,800.

**Outreach activities**

***Conferences***

1. *State-wide Conference titled Advancing Strategic Partnerships: Women and Minorities in STEM*. The [NC State ADVANCE Developing Diverse Departments project](http://oied.ncsu.edu/advance/) held a one-day statewide conference on Friday, September 28, 2012. The conference focused on developing strategic partnerships and relationships and career development for tenured and tenure-track faculty at North Carolina universities and colleges. Featured speakers included:

* Karen Dace, Deputy Chancellor for Diversity, Access and Equity, University of Missouri-Kansas City
* Montserrat Fuentes, Department Head, NCSU Department of Statistics
* Harriet Hopf, Professor of Anesthesiology and Director of Mentoring, University of Utah Medical School
* Diane Magrane, M.D., Director, International Center for Executive Leadership in Academics

1. *The first UNC System Hispanic/Latino Faculty Forum* was held on October 6, 2012, 9:00 – 4:30 pm. Organized by Maria Correa, ADVANCE Scholar. Speakers and workgroups for this event included:

* Mr. Carlos Flores Vizcarra, Consul General of Mexico
* Dr. Nolo Martinez, Director, UNC-Greensboro Center for New North Carolinians
* Dr. Josephine De Leon, Chief Diversity Officer, University of New Mexico
* Work groups on Hispanic/Latino faculty recruitment and retention; Campus climate and pipeline issues; Campus collaboration, support and administration

**Publications and Products**

***Published Essays***

Trammel, M. & Gumpertz, M. 2012. Maybe We’re Not So Smart: Identifying Bias and Microaggressions in Academia. *Diverse: Issues in Higher Education*, November 8, 2012 http[://diverseeducation.com/article/49342](http://diverseeducation.com/article/49342/)/.

***Conference Proceedings***

Brent, C. R. 2012. Process evaluation: The vital (and usually) missing piece in educational research. *Proceedings of the American Society for Engineering Education 119th Annual Conference*. San Antonio, June 10-13, 2012.

Brent, C. R. 2012. Department Climate: A Key to Recruiting and Retaining a Diverse and Successful Faculty. 2012 *FIE Proceedings.* Frontiers in Education Conference, Seattle, WA, October.

Gumpertz, M.L. 2012. Developing Diverse Departments (D3) at North Carolina State University. *Proceedings of the American Society for Engineering Education 119th Annual Conference*, San Antonio, June 10-13, 2012.

***Posters***

Trammel, M. 2010. “Developing Diverse Departments: Promoting Institutional Change in Climate and Diversity at NC State University.” Poster presented at Nov, 2010 ADVANCE PI Meeting. Arlington, VA.

Schneider, J. 2010.“The Impact of Gender and Stereotypes of Scientists on Intentions to Pursue a Science Career” Poster presented at the 2010 ADVANCE PI Meeting, Nov 8, 2010. Arlington, VA.

***Webinars***

*Forging Faculty Alliances in Academia*: *White Women/Men and Women of Color in Dialogue*. Leibnitz, G., & Trammel, M. 2012 (Moderators). A webinar presented by David Leonard, Associate Professor, Washington State University, & Christine Grant, Professor, North Carolina State University. WEPAN Professional Development Webinars, November 1, 2012. (This webinar was supported by an NSF supplemental grant to the Washington State University ADVANCE program.)

***Presentations***

Gumpertz, M. 2009. “The Developing Diverse Departments Project at NC State”. Women in Science Symposium. Robeson Regional Biotech Education Consortium, Robeson Community College, Lumberton. NC, April 23-24, 2009.

Henderson, K. (ADVANCE Scholar). “Facilitating Careers of Women Faculty,” College of Natural Resources Diversity Speaker Series, February 1, 2012. <http://cnr.ncsu.edu/about/cfd/documents/PosterforDr.Henderson_000.pdf>

Leibnitz, G., & Trammel, M. 2012. From Barriers to Bridges: A Dialogue for Women in ADVANCE. National Science Foundation JAM 12 Broadening Participation Research, Washington, DC, June 12-15, 2012.

Wyer, M., Severin, L., and Daub, M. “Developing Diverse Departments.” Association of American Colleges and Universities conference on “Building Institutional Capacity to Make Excellence Inclusive,” January 26-29, 2011.

***Papers, Pamphlets, Websites, Resources for NCSU Faculty and Department Heads***

Faculty Search Toolbox: <http://oied.ncsu.edu/advance/resources/faculty-search-toolbox-resources-for-recruiting-diverse-faculty/>

Search Committee Presentation—ADVANCE Scholars’ presentation on best practices in faculty searches

Developing Diverse Departments website: <http://oied.ncsu.edu/advance/>

Developing Diverse Departments brochure: <http://oied.ncsu.edu/advance/wp-content/uploads/2012/01/advance-brochure-2012_accessible1.pdf>

NCSU Department Head’s Climate Resource Guide: <http://oied.ncsu.edu/advance/wp-content/uploads/2012/02/NCSUResourceBookFinal.doc>

2009-10 and 2010-11 NC State Diversity Fact Books, produced by the Office for Institutional Equity and Diversity (<http://oied.ncsu.edu/oied/diversity/diversity_fact_book.php>) with support from the ADVANCE Developing Diverse Departments Project. The Diversity Fact Book is a compilation of information on NC State faculty, staff, and student demographics and survey results.

**Contributions**

***Contributions to the principal discipline(s) of the project***

The Department case studies have yielded information about the common practices of departments that have been successful in recruiting, hiring and retaining women and faculty of color. We are in the process of developing a pamphlet promoting these common practices, for dissemination to faculty, department heads and deans.

The ADVANCE Scholar initiatives include the following research projects related to increasing the representation of women and minority faculty in science and engineering:

* Exploration of COACHE data to determine how faculty well-being might be improved in the NC State College of Engineering.
* A research study of peer institutions to identify and articulate best practices, policies, and procedures to increase numbers and visibility of women faculty in the humanities, social sciences, agricultural and life sciences.
* A study of research support (lab space, start-up, cost sharing on grants), advancement (time to promotion), and compensation (relative to achievements like fellowship in professional societies, grant support, etc.) in the physical and mathematical sciences.
* Stories from women and faculty of color: a qualitative study via online and personal interviews with tenured faculty of successful and unsuccessful strategies for negotiating academia. The goal is to produce a resource for pretenure faculty to avoid pitfalls and find pathways to success.

D3 Project Coordinator Ming Shi Trammel, together with Gretal Leibnitz, at Washington State University, surveyed female faculty of color in science and engineering to understand their strategies leading to success and the barriers that they have faced. This work was presented in a panel discussion at the annual JAM in June 2012.

***Contributions to other disciplines of science or engineering***

Some ADVANCE Scholar initiatives have focused on other disciplines, on student development, or on developing inclusive classrooms. A list of these follows.

1. A study of peer institutions to identify and articulate best practices for advancing women’s academic careers in colleges of Management.
2. A three-year empirical study to explore the combined explanatory power of two popular theories about undergraduate women’s interest and commitment to becoming leaders in STEM careers.
3. A study of women academics in the field of recreation and leisure (natural resource management, sports, parks, recreation, therapeutic recreation) to explore career development behaviors and attitudes, with attention to age-cohort differences. The findings were presented to the College of Natural Resources in February, 2012.
4. Develop a presentation about inclusive communications strategies, based on the literature on leadership, communication, and gender. This material was presented to D3 participants including ADVANCE Scholars and participants of both workshop series at the D3 winter mini-retreat in December 2010.

***Contributions to development of human resources***

All search committees for the Chancellor’s Faculty Excellence Program, in which 12 interdisciplinary clusters are hiring approximately 40 new faculty, have utilized the new 3-part diversity education process developed by the ADVANCE Scholars and D3 senior personnel. The search committee process includes (1) a presentation by a dean on the academic and economic cases for faculty diversity and on practical tools for developing a diverse applicant pool, (2) a search committee orientation by the Office for Institutional Equity and Diversity, and (3) a discussion about interrupting unconscious bias facilitated by an ADVANCE Scholar and co-PI Laura Severin. This search committee process has also been adopted by the College of Education for all of its faculty searches.

The Leadership Workshops and the ADVANCE Scholars have been effective in developing department heads, though not necessarily in STEM fields. One unanticipated outcome is that several of the ADVANCE Scholars have opted to participate in the Leadership Workshop Series. Two who have taken this path have gone on to become department heads: Montserrat Fuentes (Statistics, July 2011) and Paola Sztajn (Elementary Education, July 2012). One additional ADVANCE Scholar, Traciel Reid, become a department chair (Political Science) in July 2012.

Several ADVANCE Scholars and participants in the two workshop series have taken on new roles and responsibilities. A complete list follows.

1. Montserrat Fuentes (ADVANCE Scholar, Leadership Workshop Series, Climate Workshop Series). Head, Department of Statistics
2. Paola Sztajn (ADVANCE Scholar, Leadership Workshop Series). Interim Head, Department of Elementary Education; Assistant Dean for Diversity in the College of Education in 2011.
3. Traciel Reid (ADVANCE Scholar) Chair; Department of Political Science
4. Sheila Smith McKoy (Leadership Workshop Series). Director, African American Cultural Center.
5. Ellen McIntyre (Climate Workshop Series) Associate Dean for Academic Affairs in the College of Education
6. Elizabeth Loboa (Leadership Workshop Series) Associate Chair, Department of Biomedical Engineering
7. Cynthia Istook (Leadership Workshop Series) Associate Head, Department of Textile Apparel Technology and Management.
8. Maria Pramaggiore (Leadership Workshop Series) Associate Head, Department of English.
9. Margery Overton (Leadership Development Workshop Series) Special Assistant to the Provost for the 2012-13 academic year.
10. Laura Severin (co-PI) Special Assistant to the Provost for the 2012-13 academic year.
11. Jean Ristaino (Leadership Workshop Series) William Neal Reynolds Professor; Jefferson Science Fellow with the National Academy of Sciences
12. Maria Oliver-Hoyo (Leadership Development Workshop Series) Program Director for DR-K12 at NSF for 2012-13.
13. Heidi Grappendorf (ADVANCE Scholar) Chair of the Council on the Status of Women for the 2011-12 academic year.
14. Maria Correa (ADVANCE Scholar and Leadership Workshop Series) Faculty Liaison to the Office for Institutional Equity and Diversity (OIED), 2011-2013.
15. Juliana Nfah-Abbenyi (Leadership Workshop Series) Director of Diversity Programs and Faculty/Staff Diversity in the College of Humanities and Social Sciences; OIED Faculty Liaison 2011-12.
16. Wendy Krause (ADVANCE Scholar, Leadership Workshop Series) OIED Faculty Liaison 2012-13.
17. Jade Berry-James (Leadership Workshop Series) OIED Faculty Liaison 2012-13.

***Contributions to the resources that form the infrastructure for research and education***

ADVANCE Scholars were instrumental in initiating three policy changes to support faculty and graduate students with families: (1) including domestic partners in the definition of family in the NC State tenure clock regulation; (2) instituting parental leave for graduate students; and (3) developing a workload reduction policy for faculty requiring flexible work scheduling to accommodate family-related events. Heidi Grappendorf chaired the NCSU Council on the Status of Women. This body proposed changes to the NCSU tenure clock regulation making the language more inclusive so that in the regulation relating to extending the tenure clock, references to “family” or “household” explicitly include domestic partnerships. This change went into effect on May 1, 2012. <http://policies.ncsu.edu/regulation/reg-05-20-31>. Montserrat Fuentes introduced a resolution and draft regulation to provide parental leave for graduate students at NC State. This resolution passed and the regulation was adopted and became official on May 1, 2012. <http://policies.ncsu.edu/regulation/reg-02-15-08>. Dr. Fuentes also developed guidelines for faculty workload reduction to accommodate family-related events for faculty in the Department of Statistics (<http://oied.ncsu.edu/advance/workload-reduction-plan/>). This plan is under review for developing similar university-wide guidelines.

An ADVANCE Scholar and two D3 senior personnel developed a new program of Faculty Liaisons to the Office for Institutional Equity and Diversity. The program offers a mechanism for faculty to pursue initiatives related to increasing diversity and enhancing inclusiveness at NC State. It provides the participating faculty with some resources to implement their initiatives and formal recognition of their role. There were four Faculty Liaisons in year one of the program, and there are four in 2012-13. Initiatives include coordinating the first UNC System Hispanic/Latino Faculty Forum, developing an external advisory board for the Office for Institutional Equity and Diversity, coordinating the 12th Annual Social Equity Leadership Conference to be held in Raleigh in June 2013, and facilitating discussions about unconscious bias with faculty search committees.

***Contributions to other aspects of public welfare***

ADVANCE Scholar Paola Sztajn, in her role as Assistant Dean for Diversity in the College of Education, arranged for a College-Wide workshop for staff and faculty featuring Project SAFE training, a gay, lesbian, bisexual, transgender ally training program.

The Council on the Status of Women, chaired by ADVANCE Scholar Heidi Grappendorf, worked with the University Architect’s Office to greatly expand the number of lactation rooms on campus. They identified spaces for a dozen new lactation rooms and attracted funds from the Provost’s Office and the University Architect’s Office to retrofit the rooms with new paint, furniture, and signage. These rooms will go into operation in fiscal year 2012-13.

**Conclusion**

After three years of meeting, reading and discussing issues together, the ADVANCE Scholars have started to have a real impact on campus. They have introduced and revised university policies, made important innovations in the faculty search process, and have, themselves, taken on many leadership roles. One finding that has been reported by almost all of the Scholars is that they found the Scholar groups to be a supportive community that enabled them to make contacts across the university. Comparison of leadership efficacy at the beginning and the end of the grant period indicates that their confidence rose in their Scholar group’s ability to be a force for change at the university.

**Appendix. Report of External Evaluators**

**North Carolina State University ADVANCE Project: Developing Diverse Departments (D3)**

**External Evaluators’ Report**

**October 2012**

**Prepared by**

**Alice Hogan and Laura Kramer**

**Introduction and Context**

North Carolina State University was awarded a three-year NSF ADVANCE PAID grant (D3: Developing Diverse Departments) in the fall of 2008. The grant proposal defined five ambitious goals for the project:

1. Increase the rate of hiring women and faculty of color
2. Increase the percentage of faculty of color and women among the professoriate and academic leadership
3. Reduce the disproportionate risk of junior faculty women not obtaining tenure or leaving within 7 years
4. Increase in the level of employment satisfaction among faculty of color
5. Improve the relationship between the number of women hired and perceived quality of newly hired faculty.

This report assesses the project as it approaches the end of its funding. The evaluation is based on a recent campus visit and the review of a wide variety of reports and other materials generated during the project. The visit, from September 26-28, 2012, was comprised of meetings with the various groups centrally involved in the project, or representatives: the PI team, the internal evaluator, several ADVANCE Scholars (both Emerging Scholars and Senior Scholars), deans (or their designees) of colleges most involved in the project, and other senior personnel on the project. On the final day of the visit we attended the conference designed as a capstone event for the project.

Before the visit, we were provided with the original proposal; the three annual reports; a sampling of power point presentations for both internal and external audiences; the internal evaluator’s reports on each of the main initiatives of the project; a summary of the projects of all ADVANCE Scholars, and copies of publications and presentations based on the project that were produced by one or more team members.

**Background**

This project coincided with a time of considerable change in university leadership, and also with budget constraints across the state that had a significant impact on the University. It is notable that despite these difficulties, the project retained focus as well as the funding that had been committed by NCSU to the project to augment NSF support. Predictably, one of the most visible impacts of the economic constraints during the period of the grant was the reduced level of hiring from what was originally planned, with about half as many faculty hired in the first two years of the grant as had been hired in the prior two years.

**Initiatives and Outcomes**

The proposal defined approaches to creating opportunities for greater visibility and larger numbers of women at the senior faculty level, and reflected a strategy of individual transformation as a pathway to institutional mechanism. Crucial to that strategy is development of faculty who learn to see themselves as leaders, and who are equipped with knowledge of factors such as unconscious bias and the impact of departmental climate on retention, for example, that may derail institutional progress toward a more diverse faculty. The mechanisms for developing the pool of potential leadership included the ADVANCE Scholars program, the Leadership Development Workshop series, and the Climate Workshop series.

While it is not possible to attribute directly to the grant, the representation of women in leadership positions and roles increased noticeably. In the period of the grant, three women of color who participated in the ADVANCE Scholar program have become department heads. Two of the three participated in the Leadership Development Workshops; and one participated in the Climate Workshop Series. There are now two women appointed as Special Assistants to the Provost, and four women faculty who have served/are serving as Faculty liaisons to the Office for Institutional Equity and Diversity. Additional leadership positions held by project participants include the Chair of the Council on the Status of Women and the Assistant Dean for Diversity, College of Engineering. Engagement with the literature on unconscious bias and the opportunity for in-depth study of the issues seems to have had a profound effect on faculty appointed as ADVANCE Scholars, providing them with a vocabulary and intellectual framework for addressing institutional diversity and equity issues, including in their home departments. As an example, the presentation on search committee processes developed by the Scholars, and the facilitation they provide, should continue to be important as the university moves forward with the cluster hire program.

The Emerging Leaders ADVANCE Scholars, as well as the Senior Scholars, assumed responsibility for projects that examine issues of recruitment, advancement, and retention for women and minority faculty. These projects are ambitious, diverse and often wide in scope, contributing substantially to greater understanding and appreciation of the status and needs of women faculty and faculty of color. It is not clear that the contributions of the Emerging Leader ADVANCE Scholars are as widely recognized at the university, or in their departments, yet their projects are creative and address some core aspects of faculty well-being and success.

The ADVANCE Scholars Program has created a highly motivated and accomplished cadre of faculty leaders that is well-equipped to serve in leadership appointments and in leadership of initiatives across the university. Not all aspire to administrative positions but are certainly capable of providing leadership as effective change agents at the faculty level.

**Goal 1: Increase the Rate of Hiring Women and Faculty of Color**

Progress in meeting this goal was uneven, but there were increases in the proportion of women tenure track faculty hired in the College of Agriculture and Life Sciences (33%→45%) and in the College of Physical and Mathematical Sciences (17%→29%) when 2006-2008 hires and 2009-2011 hires are compared. In contrast, the Colleges of Engineering (18%→9%) and of Natural Resources (75%→33%) had decreases in the proportion of women tenure track faculty hired in that period. Hiring of tenured women faculty increased in all colleges except Physical and Mathematical Sciences during this time period.

For faculty of color, a change in the way that the University categorizes race and ethnicity complicates direct comparisons of the two time periods, but the College of Agriculture and Life Sciences (CALS) increased the proportion of tenure track faculty of color hired (9%→10%) as did the College of Natural Resources (13%→17%). CALS also increased the percentage of faculty of color hired at the tenured level (10%→50%) while there were no faculty of color (African American, American Indian, Hispanic) hired at the tenured level in the Colleges of Engineering, Physical and Mathematical Sciences, or Natural Resources. Despite some apparently significant increases in percentages, the actual numbers of minority faculty remain low.

Although progress in meeting this goal is not uniform across the university, the successes of some colleges are encouraging and suggest that there may be ways in which the attention to effective recruiting processes emphasized in the D3 program could stimulate increased hiring of diverse faculty. Since NSF and university investments in the D3 program have effectively ‘primed the pump,’ it would be rational to extend the search committee presentations to searches university-wide, and to institute such briefings as part of a standardized search procedure. This might be particularly effective in colleges that have not had as much recent success in hiring diverse faculty. It is easy to assume that each college, each department has unique circumstances and needs, but research is clear that evaluation bias is ubiquitous. Clear, transparent processes and standards can help combat bias and illuminate qualities in candidates that might have been overlooked.

**Goal 2: Raise the Percentage of Faculty of Color and Women on Faculty and in Academic Leadership**

The number of women and faculty of color in academic leadership roles has increased significantly from 2006 to 2012, with 15 of 64 department heads being women and 6 of 64 department heads being faculty of color. There are 3 women Deans (out of 12) and 2 Deans (out of 12) who are people of color.

Changes in the number of women tenured faculty were modest, and largely positive, although the Colleges of Management and of Veterinary Medicine showed slight decreases in the percent of tenured faculty who are women.

Changes in the number of tenured faculty of color were quite modest, and largely positive, although the Colleges of Physical and Mathematical Sciences and of Textiles had slight decreases in the percent of tenured faculty of color.

**Goal 3: Reduce the Higher Risk of Faculty Women’s Attrition Before or at Tenure Review**

The available data suggested that the risk of not obtaining tenure within the first seven years was higher for women than for men, based on analysis of tenure outcomes for faculty hired between 1996 and 2005. While outcomes varied by college, PAMS data show proportionally fewer women left NCSU pre-tenure and CALS data show a relatively high number of pre-tenure women faculty leaving. It is notable that PAMS made greater use during this period of tenure clock extension options. Given the high cost of recruiting new faculty in the sciences, this is an area where identification and analysis of the factors contributing to women faculty leaving the institution or moving off the tenure track could be profitable for the university. One critical element of a strategy to address this greater risk of pre-tenure attrition is systematic data collection about policy use, to understand if the policies the university has in place are being used as intended. It is not unusual for department heads and senior faculty to be unaware of policies such as tenure clock extension or modified duties, or to believe that use of the policies is risky for untenured faculty. Lack of knowledge, or subtle, well-meaning suggestions from department heads that women not take advantage of hard-won family friendly university policies can discourage women faculty and can encourage attrition. This is costly to the university and clear signals from the Provost’s Office and from the Deans that the university sees these policies as an asset and a tool for retaining faculty are important.

**Goal 4: Increase the Level of Employment Satisfaction among Faculty of Color**

The project leadership is in the process of reviewing several relevant attitude items on the COACHE survey administered during the 2011-12 academic year. The final report of the project should include this information.

Highly visible aspects of the 3D project that are likely to have had a positive impact on the level of job satisfaction among faculty of color. In particular, there have been ADVANCE Scholar organized workshops for African American women faculty and a statewide conference of Latina faculty. The movement of several faculty women of color into leadership positions on campus is also likely to have contributed to an improved sense of the campus climate relevant to race and ethnicity among the faculty.

**Goal 5: Improve the relationship between the number of women hired and perceived quality of newly hired faculty**

The changing of leaders’ thinking through the variety of workshops and the involvement of ADVANCE scholars in campus culture was expected to improve attitudes about the quality of new faculty members from nontraditional groups. There is a relevant COACHE survey item that will inform whether this shift in views about women and faculty of color is occurring. The final report should include information about this item.

A study of seven NCSU departments conducted by the internal evaluator and the project coordinator has produced useful insights about practices common among the three departments with particularly strong records for faculty diversity. The report for all department heads and chairs will be produced later this semester and should be a significant project product that will be useful in the next phase of working on department climate.

**Project Management and Internal Evaluation**

Project management has been smooth; issues of decision-making processes that arose early in the project were discussed in formative evaluations at the end of year one, and some adjustments were made in the project leadership process. This illustrates the useful role of the internal evaluator and her contributions to development of the project over the period of funding. More generally, the internal evaluations have yielded formatively helpful information as the initiatives moved forward.

**Sustainability**

Several aspects of the program have received commitments of ongoing support. The Provost has committed resources to ensure the continuation of Climate Workshops for department heads and the Leadership Workshops, and the recruitment training materials developed during the D3 project are being used in all current searches for the thirty eight tenure/tenure track faculty positions in newly established interdisciplinary clusters throughout the University.

**Recommendations**

**Recruitment:**

* Institute, for all searches, the extensive diversity training now provided to cluster search committees. The training developed for the cluster hire search committees has been well received. It will be essential for the diffusion of these practices across campus to clarify the responsibilities for training; at this time there are a number of different units that are involved.
* Faculty participation in recruitment training should be maintained, because the involvement of peers is particularly effective. It is necessary, though, to ensure that faculty who serve as trainers receive recognition (i.e., that this counts as their university service) and/or compensation of some kind for this labor intensive activity.
* Review data that show when in the searches the disparities occur between proportions female nationally and in NC State pool (I.e., applications, phone interview list, fly ins, offers, acceptances). Understanding at what point(s) during the search the numbers are disproportionately white males (relative to the national pool) is an important step in designing effective interventions. This is likely to vary by department, so should be disaggregated by department. The results should be reviewed with subsequent search committees in the departments.
* In future rounds of cluster hires, the solicitation for proposals should require a) a discussion of the gender and racial-ethnic composition of the specialty areas from which participants would be recruited and b) a plan for recruitment that shows an understanding of best practices for developing a diverse candidate pool and for successfully recruiting a diverse group of colleagues. Proposals for the cluster hires should include a discussion of how incoming cluster hires will be mentored.

**Departmental climate:**

* Develop a plan to assist deans in their mentoring of department leaders. Both the changing departmental composition of several colleges and new college level leadership make this an opportune moment for reviewing and enhancing administrative development opportunities.
* Departmental Climate Training: Make climate training for all heads and deans a part of leadership training. Develop training focused on reinvigorating departmental climates to achieve strategic goals. Equip departmental heads and emerging leaders with best practices for recruitment, retention and advancement, including the importance of transparency and equity in use of family friendly policies. After departmental leaders receive information about their unit’s climate, they should have on-going assistance in working toward its improvement, with help in addressing specific needs identified in the surveys.
* Convene the Engineering Heads to undergo the climate study process as it is currently underway in PAMS. Suggest the Dean direct Heads to participate, and make climate improvement a priority for the College.
* Convene periodic meeting for heads where they regularly (e.g. twice a semester) get together and discuss issues of their choice without others present. Facilitate scheduling and support (i.e. lunch). Identify particularly effective Heads (CS, Materials?) to present and to lead discussion the first few times.

**University-wide:**

* ADVANCE Scholars are an institutional resource; we recommend that the Provost meet with them to learn about the variety of projects the Scholars have undertaken.
* Build on the successful development of emerging and senior leaders during 3D, to keep these individuals engaged in the work of institutional change.
* The ADVANCE grant has provided opportunities for leadership development among a wide group of faculty who are eager and equipped to contribute. We urge the Provost’s Office to draw on these faculty for leadership (both formal and informal) of strategic initiatives.
* Establish a timeline, in consultation with the academic deans, to ensure that the modified duties policy adopted by the Statistics Department will be considered by each of the University's departments in a timely fashion.
* Monitor use of policies such as tenure extension and other family-friendly university policies to identify whether there may be internal barriers to policy use. Support the idea that use of these policies is a right not a special favor granted by a Head to faculty.
* Continue to attend to the alignment of SMEs and expectations for tenure and promotion. Consider how to strengthen departmental level recognition of University or system level service emanating from projects of the ADVANCE Scholars/emerging leaders.

**Appendix Tables**

**Table 1a** **- 2008**. Number and Percent of Women Tenured and Tenure Track Faculty in STEM by Rank and Department Fall 20081

**Women Men %Women**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Full | Associate | Assistant | Full | Associate | Assistant | Full | Associate | Assistant |
| **CALS** | **25** | **12** | **27** | **160** | **55** | **45** | **13.5%** | **17.9%** | **37.5%** |
| Animal  Science | 2 | 1 | 3 | 13 | 7 | 3 | 13.3% | 12.5% | 50% |
| Bio & AG Egineer | 0 | 0 | 3 | 11 | 3 | 8 | 0 | 0 | 27.2% |
| Biochemistry | 2 | 1 | 1 | 7 | 4 | 1 | 22.2% | 20% | 50% |
| Botany (Plant Biology) | 5 | 1 | 2 | 3 | 2 | 2 | 62.5% | 33% | 50% |
| Crop Science | 3 | 1 | 2 | 24 | 3 | 4 | 11.1% | 25% | 33.3% |
| Entomology | 0 | 0 | 3 | 14 | 4 | 3 | 0 | 0 | 50% |
| Environ & Molecular  Toxicology | 0 | 1 | 0 | 2 | 3 | 4 | 0 | 25% | 0 |
| Food Science | 4 | 1 | 1 | 13 | 1 | 3 | 23.5% | 50% | 25% |
| Genetics | 2 | 0 | 1 | 4 | 3 | 1 | 33.3% | 0 | 50% |
| Horticulture | 4 | 2 | 4 | 14 | 7 | 3 | 22.2% | 22.2% | 57.1% |
| Microbiology | 0 | 1 | 0 | 5 | 3 | 3 | 0 | 25% | 0 |
| Plant Pathology | 1 | 0 | 3 | 12 | 6 | 1 | 7.7% | 0 | 75% |
| Poultry Science | 0 | 1 | 1 | 12 | 1 | 4 | 0 | 50% | 20% |
| Soil Science | 1 | 1 | 2 | 12 | 4 | 3 | 7.6% | 20% | 40% |
| Zoology | 1 | 1 | 1 | 14 | 4 | 2 | 7.1% | 20% | 33% |
|  |  |  |  |  |  |  |  |  |  |
| **COE** | **8** | **6** | **7** | **116** | **66** | **34** | **6.5%** | **8.3%** | **17.1%** |
| Biomedical | 0 | 0 | 2 | 1 | 4 | 2 | 0 | 0 | 50% |
| Chemical | 1 | 0 | 0 | 13 | 2 | 3 | 7.1% | 0 | 0 |
| Civ. Construct & Eviron Engineer | 1 | 0 | 2 | 20 | 11 | 5 | 4.8% | 8.3% | 0 |
| Computer Science | 2 | 3 | 3 | 13 | 14 | 4 | 13,3% | 17.6% | 42.9% |
| Elec & Comp Eng | 3 | 1 | 0 | 24 | 11 | 10 | 11.1% | 8.3% | 0 |
| Industrial | 0 | 0 | 1 | 13 | 2 | 2 | 0 | 0 | 33.3% |
| Materials | 1 | 0 | 1 | 10 | 6 | 3 | 9.1% | 0 | 25% |
| Mech & Aerospace | 0 | 2 | 0 | 17 | 13 | 5 | 0 | 13.3% | 0 |
| Nuclear | 0 | 0 | 0 | 6 | 5 | 2 | 0 | 0 | 0 |
|  |  |  |  |  |  |  |  |  |  |
| **PAMS** | **7** | **13** | **12** | **86** | **26** | **32** | **7.5%** | **31%** | **27.3%** |
| Chemistry | 0 | 1 | 3 | 14 | 1 | 6 | 0 | 50% | 33.3% |
| Marine Earth | 1 | 4 | 1 | 13 | 5 | 7 | 7.1% | 44.4% | 12.5% |
| Mathematics | 2 | 5 | 2 | 30 | 9 | 6 | 6.3% | 35.7% | 25% |
| Physics | 2 | 2 | 2 | 20 | 4 | 5 | 9.1% | 33.3% | 28.6% |
| Statistics | 2 | 1 | 4 | 9 | 7 | 8 | 18.2% | 12.5% | 33.3% |

1Tables include full time and part time faculty on the NC State payroll at the fall census date. Note that USDA faculty and UNC- CH faculty (e.g. in Biomedical Engineering) are not included. Faculty on phased retirement and faculty serving in other offices, such as the Deans Office are excluded.

**Table 1a - 2012**. Number and Percent of Women Tenured and Tenure Track Faculty in STEM by Rank and Department Fall 20121.

**Women Men %Women**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Full | Associate | Assistant | Full | Associate | Assistant | Full | Associate | Assistant |
| **CALS** | **29** | **22** | **19** | **145** | **57** | **38** | **17%** | **28%** | **33%** |
| Animal  Science | 3 | 3 | 0 | 13 | 4 | 4 | 19% | 43% | 0% |
| Bio & Ag Engineer | 0 | 3 | 0 | 7 | 8 | 4 | 0% | 27% | 0% |
| Biochemistry | 2 | 0 | 1 | 6 | 3 | 0 | 25% | 0% | 100% |
| Botany | 6 | 1 | 2 | 3 | 4 | 3 | 67% | 20% | 33% |
| Crop Science | 3 | 2 | 1 | 21 | 4 | 3 | 13% | 33% | 25% |
| Entomology | 0 | 0 | 3 | 13 | 2 | 1 | 0% | 0% | 43% |
| Environ & Molecular  Toxicology | 0 | 1 | 0 | 3 | 4 | 1 | 0% | 20% | 0% |
| Food Science | 5 | 0 | 2 | 9 | 1 | 4 | 36% | 0% | 33% |
| Genetics | 2 | 0 | 1 | 4 | 5 | 1 | 33% | 0% | 50% |
| Horticulture | 5 | 3 | 3 | 13 | 6 | 5 | 28% | 33% | 38% |
| Microbiology | 0 | 1 | 2 | 6 | 4 | 2 | 0% | 20% | 50% |
| Plant Pathol | 1 | 2 | 1 | 12 | 2 | 1 | 8% | 50% | 50% |
| Poultry Science | 0 | 1 | 1 | 10 | 4 | 1 | 0% | 20% | 50% |
| Soil Science | 1 | 2 | 1 | 12 | 3 | 3 | 8% | 40% | 25% |
| Zoology | 1 | 3 | 1 | 13 | 3 | 2 | 7% | 50% | 33% |
|  |  |  |  |  |  |  |  |  |  |
| **COE** | **10** | **9** | **10** | **136** | **54** | **42** | **7%** | **14%** | **19%** |
| Biomedical | 0 | 1 | 0 | 1 | 4 | 3 | 0% | 20% | 0% |
| Chemical | 1 | 0 | 0 | 14 | 1 | 6 | 7% | 0% | 0% |
| Civ. Construct & Eviron Engineer | 1 | 0 | 5 | 26 | 6 | 4 | 4% | 0% | 56% |
| Computer Science | 2 | 4 | 3 | 16 | 12 | 3 | 11% | 25% | 50% |
| Elec & Comp Eng | 3 | 1 | 0 | 28 | 12 | 8 | 10% | 8% | 0% |
| Industrial | 0 | 1 | 0 | 13 | 3 | 2 | 0% | 25% | 0% |
| Materials | 2 | 1 | 1 | 12 | 4 | 6 | 14% | 20% | 14% |
| Mech & Aerospace | 1 | 1 | 1 | 18 | 9 | 7 | 5% | 10% | 13% |
| Nuclear | 0 | 0 | 0 | 8 | 3 | 3 | 0% | 0% | 0% |
|  |  |  |  |  |  |  |  |  |  |
| **PAMS** | **7** | **13** | **12** | **86** | **26** | **32** | **10%** | **33%** | **34%** |
| Chemistry | 1 | 2 | 2 | 14 | 2 | 7 | 7% | 50% | 22% |
| Marine Earth | 3 | 3 | 0 | 15 | 8 | 3 | 17% | 27% | 0% |
| Mathematics | 2 | 7 | 1 | 32 | 9 | 3 | 6% | 44% | 25% |
| Physics | 2 | 2 | 3 | 25 | 3 | 4 | 7% | 40% | 43% |
| Statistics | 3 | 2 | 5 | 11 | 10 | 4 | 21% | 17% | 56% |

1Tables include full time and part time faculty on the NC State payroll at the fall census date. Note that USDA faculty and UNC- CH faculty (e.g. in Biomedical Engineering) are not included. Faculty on phased retirement and faculty serving in other offices, such as the Deans Office are excluded.

**Table 1b - 2008.** Number and Percent of Women Tenured and Tenure Track Faculty in Social Sciences by Rank and Department Fall 2008

**Women Men %Women**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Full** | **Associate** | **Assistant** | **Full** | **Associate** | **Assistant** | **Full** | **Associate** | **Assistant** |
| **SBS** | **11** | **7** | **8** | **32** | **18** | **13** | **26%** | **28%** | **38%** |
| Psychology | 5 | 3 | 3 | 11 | 8 | 3 | 31% | 27% | 50% |
| Sociology & Anthropology | 6 | 4 | 4 | 10 | 5 | 6 | 38% | 44% | 40% |
| Economics | 0 | 0 | 1 | 11 | 5 | 4 | 0 | 0 | 20% |

1Tables include full time and part time faculty on the NC State payroll at the fall census date. Note that USDA faculty and UNC- CH fauclty (e.g. in Biomedical Engineering) are not included. Faculty on phased retirement and faculty serving in other offices, such as the Deans Office are excluded.

**Table 1b - 2012**. Number and Percent of Women Tenured and Tenure Track Faculty in Social Sciences by Rank and Department Fall 2012

**Women Men %Women**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Full** | **Associate** | **Assistant** | **Full** | **Associate** | **Assistant** | **Full** | **Associate** | **Assistant** |
| **SBS** | **12** | **5** | **12** | **22** | **19** | **6** | **35%** | **21%** | **67%** |
| Psychology | 6 | 3 | 2 | 7 | 10 | 1 | 46% | 23% | 67% |
| Soc iology & Anthropology | 6 | 2 | 9 | 4 | 5 | 2 | 60% | 29% | 82% |
| Economics | 0 | 0 | 1 | 11 | 4 | 3 | 0% | 0% | 25% |

1Tables include full time and part time faculty on the NC State payroll at the fall census date. Note that USDA faculty and UNC- CH fauclty (e.g. in Biomedical Engineering) are not included. Faculty on phased retirement and faculty serving in other offices, such as the Deans Office are excluded.

**Table 2a** **- 2008**. Fall 2008 STEM and SBS Departmental Gender Composition

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Tenured and Tenure Track** | | | **Non-Tenure Track** | | | **Non-Tenure Track as % All Women** |
| **All Faculty** | **Women** | **% Women** | **All Faculty** | **Women** | **%**  **Women** |  |
| **CALS** | **324** | **64** | **20%** | **48** | **30** | **63%** | **32%** |
| Animal Science | 29 | 6 | 21% | 3 | 1 | 33% | 14% |
| Bio & Agricultural Engrg | 25 | 3 | 12% | 4 | 1 | 25% | 25% |
| Biochemistry | 16 | 4 | 25% | 2 | 2 | 100% | 33% |
| Plant Biology (Botany) | 15 | 8 | 53% | 4 | 3 | 75% | 27% |
| Crop Science | 37 | 6 | 16% | 4 | 2 | 50% | 25% |
| Entomology | 24 | 3 | 13% | 1 | 1 | 100% | 25% |
| Env & Molec Toxicol | 10 | 1 | 10% | 3 | 1 | 33% | 50% |
| Food Science | 23 | 6 | 26% | 1 | 0 | 0 | 0 |
| Genetics | 11 | 3 | 27% | 6 | 5 | 83% | 63% |
| Horticulture | 34 | 10 | 29% | 4 | 3 | 75% | 23% |
| Microbiology | 12 | 1 | 8% | 1 | 0 | 0 | 0 |
| Plant Pathology | 23 | 4 | 17% | 2 | 1 | 50% | 20% |
| Poultry Science | 19 | 2 | 11% | 0 | 0 | 0 | 0 |
| Soil Science | 23 | 4 | 17% | 0 | 0 | 0 | 0 |
| Biology (Zoology) | 23 | 3 | 13% | 13 | 10 | 77% | 77% |
|  |  |  |  |  |  |  |  |
| **COE** | **246** | **23** | **9%** | **61** | **15** | **25%** | **39%** |
| Biomedical | 9 | 2 | 22% | 4 | 2 | 50% | 50% |
| Chemical and Biomolecular | 19 | 1 | 5% | 7 | 3 | 43% | 75% |
| Civil, Const, Env Engrg | 39 | 3 | 8% | 8 | 2 | 25% | 40% |
| Computer Science | 39 | 8 | 21% | 4 | 2 | 50% | 20% |
| Electrical & Computer | 49 | 4 | 8% | 16 | 3 | 10% | 43% |
| Industrial and Systems | 20 | 1 | 5% | 4 | 0 | 0 | 0 |
| Materials Science | 21 | 2 | 10% | 9 | 1 | 11% | 33% |
| Mechan & Aerospace | 37 | 2 | 5% | 9 | 2 | 22% | 50% |
| Nuclear Engineering | 13 | 0 | 0 | 0 | 0 | 0 | - |
|  |  |  |  |  |  |  |  |
| **PAMS** | **176** | **32** | **18%** | **53** | **20** | **38%** | **38%** |
| Chemistry | 25 | 4 | 16% | 15 | 6 | 40% | 60% |
| Marine Earth Atmosph | 31 | 6 | 18% | 6 | 2 | 33% | 25% |
| Mathematics | 54 | 9 | 17% | 11 | 7 | 64% | 44% |
| Physics | 35 | 6 | 17% | 13 | 1 | 8% | 14% |
| Statistics | 31 | 7 | 23% | 8 | 4 | 50% | 36% |
|  |  |  |  |  |  |  |  |
| **SBS** | **89** | **26** | **29%** | **37** | **21** | **57%** | **45%** |
| Psychology | 33 | 11 | 33% | 7 | 6 | 86% | 35% |
| Sociol & Anthropology | 35 | 14 | 40% | 24 | 14 | 58% | 50% |
| Economics | 21 | 1 | 5% | 6 | 1 | 17% | 50% |

**Table 2a - 2012**. Fall 2012 STEM and SBS Departmental Gender Composition

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Tenured and Tenure Track** | | | **Non-Tenure Track** | | | **Non-Tenure Track as % All Women** |
| **All Faculty** | **Women** | **% Women** | **All Faculty** | **Women** | **%**  **Women** |  |
| **CALS** | **310** | **70** | **23%** | **64** | **36** | **56%** | **34%** |
| Animal Science | 27 | 6 | 22% | 4 | 2 | 50% | 25% |
| Bio & Ag Engrg | 22 | 3 | 14% | 5 | 1 | 20% | 25% |
| Biochemistry | 12 | 3 | 25% | 6 | 2 | 33% | 40% |
| Plant Bio(Botany) | 19 | 9 | 47% | 4 | 3 | 75% | 25% |
| Crop Science | 34 | 6 | 18% | 3 | 1 | 33% | 14% |
| Entomology | 22 | 3 | 14% | 4 | 1 | 25% | 25% |
| Env & Molec Tox | 9 | 1 | 11% | 1 | 1 | 50% | 50% |
| Food Science | 21 | 7 | 33% | 2 | 1 | 50% | 13% |
| Genetics | 13 | 3 | 23% | 6 | 5 | 83% | 63% |
| Horticulture | 35 | 11 | 31% | 5 | 2 | 40% | 15% |
| Microbiology | 15 | 3 | 20% | 2 | 1 | 50% | 25% |
| Plant Pathology | 19 | 4 | 21% | 2 | 1 | 50% | 20% |
| Poultry Science | 17 | 2 | 12% | 1 | 1 | 100% | 33% |
| Soil Science | 22 | 4 | 18% | 0 | 0 | - | 0% |
| Biology (Zoology) | 23 | 5 | 22% | 19 | 14 | 74% | 74% |
|  |  |  |  |  |  |  |  |
| **COE** | **261** | **29** | **11%** | **62** | **23** | **37%** | **44%** |
| Biomedical | 9 | 1 | 11% | 4 | 3 | 75% | 75% |
| Chemical | 22 | 1 | 5% | 7 | 2 | 29% | 67% |
| Civil, Const, Envir | 42 | 6 | 14% | 6 | 1 | 17% | 14% |
| Computer Sci | 40 | 9 | 23% | 8 | 5 | 63% | 36% |
| Electrical | 52 | 4 | 8% | 20 | 7 | 35% | 64% |
| Industrial | 19 | 1 | 5% | 4 | 1 | 25% | 50% |
| Materials | 26 | 4 | 15% | 4 | 1 | 25% | 20% |
| Mech & Aero | 37 | 3 | 8% | 9 | 3 | 33% | 50% |
| Nuclear | 14 | 0 | 0% | 0 | 0 | - | - |
|  |  |  |  |  |  |  |  |
| **PAMS** | **188** | **38** | **20%** | **57** | **21** | **37%** | **36%** |
| Chemistry | 28 | 5 | 18% | 17 | 8 | 47% | 62% |
| Marine Earth | 32 | 6 | 19% | 12 | 1 | 8% | 14% |
| Mathematics | 54 | 10 | 19% | 11 | 6 | 55% | 38% |
| Physics | 39 | 7 | 18% | 9 | 0 | 0% | 0% |
| Statistics | 35 | 10 | 29% | 8 | 6 | 75% | 38% |
|  |  |  |  |  |  |  |  |
| **SBS** | **76** | **29** | **38%** | **33** | **21** | **64%** | **42%** |
| Psychology | 29 | 11 | 38% | 8 | 6 | 75% | 35% |
| Sociol & Anthro | 28 | 17 | 61% | 20 | 12 | 60% | 41% |
| Economics | 19 | 1 | 5% | 5 | 3 | 60% | 75% |

**Table 2b - 2008**. Fall 2008 STEM and SBS Departmental Race/Ethnicity Composition of Women Faculty

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Tenured and Tenure Track** | | | **Non-Tenure Track** | | |
|  | **ALNA** | **Asian** | **Intl** | **ALNA** | **Asian** | **Intl** |
| **CALS** | **7** | **6** | **4** | **4** | **1** | **1** |
| Animal Science | 0 | 1 | 1 | 0 | 0 | 0 |
| Bio & Ag Engr | 1 | 2 | 0 | 0 | 0 | 0 |
| Biochemistry | 1 | 0 | 1 | 1 | 0 | 0 |
| Botany (Plant Biol) | 1 | 1 | 0 | 0 | 1 | 0 |
| Crop Science | 1 | 0 | 0 | 1 | 0 | 0 |
| Entomology | 1 | 0 | 0 | 0 | 0 | 1 |
| Env and Mol Tox | 0 | 1 | 0 | 0 | 0 | 0 |
| Food Sciences | 0 | 0 | 0 | 0 | 0 | 0 |
| Genetics | 0 | 0 | 1 | 0 | 0 | 0 |
| Horticulture | 1 | 0 | 0 | 0 | 0 | 0 |
| Microbiology | 0 | 0 | 0 | 0 | 0 | 0 |
| Plant Pathology | 0 | 0 | 1 | 0 | 0 | 0 |
| Poultry Science | 0 | 0 | 0 | 0 | 0 | 0 |
| Soil Science | 1 | 1 | 0 | 0 | 0 | 0 |
| Zoology/Biology | 0 | 0 | 0 | 2 | 0 | 0 |
| **COE** | **3** | **3** | **3** | **1** | **2** | **1** |
| Biomedical | 0 | 0 | 0 | 0 | 0 | 0 |
| Chemical | 0 | 0 | 0 | 0 | 0 | 1 |
| Civil Const, Env Engr | 0 | 1 | 1 | 0 | 0 | 0 |
| Computer Science | 2 | 1 | 1 | 0 | 0 | 0 |
| Industrial Engrg | 1 | 0 | 0 | 0 | 0 | 0 |
| Electrical and Computer Eng | 0 | 1 | 0 | 1 | 2 | 0 |
| Materials Science | 0 | 0 | 1 | 0 | 0 | 0 |
| Mechanical and Aerospace | 0 | 0 | 0 | 0 | 0 | 0 |
| Nuclear | 0 | 0 | 0 | 0 | 0 | 0 |
| **PAMS** | **4** | **5** | **1** | **2** | **3** | **1** |
| Chemistry | 1 | 1 | 0 | 1 | 1 | 0 |
| Marine Earth Atmos Sci | 0 | 1 | 0 | 0 | 2 | 0 |
| Mathematics | 0 | 1 | 0 | 0 | 0 | 0 |
| Physics | 1 | 0 | 0 | 0 | 0 | 0 |
| Statistics | 2 | 2 | 1 | 1 | 0 | 1 |
| **SBS** | **3** | **1** | **0** | **2** | **0** | **0** |
| Economics | 0 | 0 | 0 | 0 | 0 | 0 |
| Psychology | 1 | 0 | 0 | 0 | 0 | 0 |
| Soc & Anthropology | 2 | 1 | 0 | 2 | 0 | 0 |

**Table 2b - 2012**. Fall 2012 STEM and SBS Departmental Race/Ethnicity Composition of Women Faculty

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Tenured and Tenure Track** | | | **Non-Tenure Track** | | |
|  | **ALNA** | **Asian** | **Intl** | **ALNA** | **Asian** | **Intl** |
| **CALS** | **9** | **6** | **4** | **2** | **3** | **1** |
| Animal Science | 1 | 1 | 0 | 0 | 1 | 0 |
| Bio & Ag Engr | 1 | 2 | 0 | 0 | 0 | 0 |
| Biochemistry | 0 | 0 | 1 | 1 | 0 | 0 |
| Botany (Plant Biol) | 2 | 1 | 0 | 0 | 1 | 0 |
| Crop Science | 1 | 0 | 1 | 0 | 0 | 0 |
| Entomology | 1 | 0 | 0 | 0 | 0 | 1 |
| Env and Mol Toxicology | 0 | 1 | 0 | 0 | 0 | 0 |
| Food Science | 0 | 0 | 0 | 0 | 0 | 0 |
| Genetics | 0 | 1 | 1 | 0 | 0 | 0 |
| Horticulture | 2 | 0 | 0 | 0 | 0 | 0 |
| Microbiology | 0 | 0 | 0 | 0 | 1 | 0 |
| Plant Pathology | 0 | 0 | 0 | 0 | 0 | 0 |
| Poultry Science | 0 | 0 | 0 | 0 | 0 | 0 |
| Soil Science | 1 | 0 | 1 | 0 | 0 | 0 |
| Zoology/Biology | 0 | 0 | 0 | 1 | 0 | 0 |
| **COE** | **3** | **6** | **1** | **1** | **3** | **1** |
| Biomedical | 0 | 0 | 0 | 0 | 0 | 0 |
| Chemical | 0 | 0 | 0 | 1 | 0 | 0 |
| Civil Const, Env Engr | 0 | 2 | 0 | 0 | 0 | 0 |
| Computer Science | 1 | 2 | 0 | 0 | 0 | 0 |
| Industrial Engrg | 1 | 0 | 0 | 0 | 0 | 0 |
| Electrical and Computer Eng | 1 | 1 | 0 | 0 | 3 | 1 |
| Materials Science | 0 | 0 | 1 | 0 | 0 | 0 |
| Mechanical and Aerospace | 0 | 1 | 0 | 0 | 0 | 0 |
| Nuclear | 0 | 0 | 0 | 0 | 0 | 0 |
| **PAMS** | **3** | **7** | **3** | **4** | **3** | **0** |
| Chemistry | 1 | 1 | 0 | 2 | 1 | 0 |
| Marine Earth Atmos Sci | 0 | 1 | 0 | 0 | 0 | 0 |
| Mathematics | 0 | 1 | 0 | 0 | 1 | 0 |
| Physics | 1 | 1 | 2 | 0 | 0 | 0 |
| Statistics | 1 | 3 | 1 | 2 | 1 | 0 |
| **SBS** | **3** | **0** | **1** | **5** | **1** | **0** |
| Economics | 0 | 0 | 0 | 1 | 0 | 0 |
| Psychology | 0 | 0 | 0 | 2 | 1 | 0 |
| Soc & Anthropology | 3 | 0 | 1 | 2 | 0 | 0 |

**Table 5a.** Years in rank at the associate professor level. Hired as assistant professor\*.

|  | STEM | | | | SBS | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Years in Rank | Women | % of Women | Men | % of Men | Women | % of Women | Men | % of Men |
| 1 to 2 | 12 | 29 | 25 | 24 | 1 | 25 | 2 | 15 |
| 3 to 5 | 21 | 50 | 40 | 38 | 0 | 20 | 5 | 38 |
| 6 to 8 | 5 | 12 | 12 | 11 | 2 | 50 | 2 | 15 |
| 9 to 11 | 2 | 5 | 8 | 8 | 0 | 0 | 0 | 0 |
| 12 to 14 | 1 | 2 | 8 | 8 | 0 | 0 | 1 | 8 |
| 15 or more | 1 | 2 | 13 | 12 | 1 | 25 | 3 | 23 |

\*Includes faculty hired at the rank of lecturer or instructor. These tables include all faculty who were tenured or tenure track associate professors in Fall 2012. Years as associate professor is computed for their entire time as associate professor, even if they previously served in a non-STEM or non-SBS department.

**Table 5b.** Years in rank at the associate professor level. Hired as associate professor.

|  | STEM | | | | SBS | | | |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Years in Rank | Women | % of Women | Men | % of Men | Women | % of Women | Men | % of Men |  |
| 1 to 2 | 4 | 67 | 6 | 16 | 0 | 0 | 0 | 0 |  |
| 3 to 5 | 0 | 0 | 9 | 24 | 0 | 0 | 1 | 17 |  |
| 6 to 8 | 1 | 17 | 9 | 24 | 0 | 0 | 0 | 0 |  |
| 9 to 11 | 0 | 0 | 2 | 5 | 0 | 0 | 0 | 0 |  |
| 12 to 14 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 |  |
| 15 or more | 1 | 17 | 10 | 27 | 1 | 100 | 5 | 83 |  |

These tables include all faculty who were tenured or tenure track associate professors in Fall 2012. Years as associate professor is computed for their entire time as associate professor, even if they previously served in a non-STEM or non-SBS department.

**Table 6a**. Number of STEM and SBS tenured and tenure track faculty who left NCSU from 2008-2011 for any reason other than retirement or death, by gender.

| **Agriculture and Life Sciences** | | **Assistant** | | **Associate** | | **Full** | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Women** | **Men** | **Women** | **Men** | **Women** | **Men** |
| **Animal Science** | **2009** | . | 1 |  | . |  | . |
| **Bio & Agric Engineering** | **2009** | . | . |  | . |  | 1 |
| **Biochemistry** | **2010** | . | . |  | . |  | 1 |
| **2012** |  |  |  |  | 1 |  |
| **Crop Science** | **2008** | . | . |  | 1 |  | . |
| **2011** | 1 | . |  | . |  | . |
| **Entomology** | **2012** |  | 1 |  |  |  |  |
| **Food Science** | **2012** |  | 1 |  |  |  |  |
| **Genetics** | **2011** | . | . |  | 1 |  | . |
| **Horticultural Science** | **2008** | . | . |  | . |  | 1 |
| **2009** | 1 | . |  | . |  | . |
| **Plant Biology** | **2011** | . | 1 |  | . |  | . |
| **Plant Pathology** | **2008** | 1 | . |  | . |  | . |
| **2009** | . | . |  | 1 |  | . |
| **2012** |  |  |  | 1 |  |  |
| Toxicology | **2012** |  | 1 |  |  |  |  |
| **CALS Total** | | 3 | 5 | 0 | 4 | 1 | 3 |

Departments with no faculty exits: Microbiology, Poultry Science, Soil Science.

| **Engineering** | | **Assistant** | | **Associate** | | **Full** | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Women** | **Men** | **Women** | **Men** | **Women** | **Men** |
| **Biomedical Engineering** | **2010** | . | . |  | 1 |  | . |
| **2012** | 1 |  |  |  |  |  |
| **Computer Science** | **2008** | . | 1 |  | . |  | . |
| **Electrical & Comp Engineering** | **2008** | . | 1 |  | . |  | . |
| **2009** | . | . |  | . |  | 1 |
| **2010** | . | 1 |  | 2 |  | . |
| **2011** | . | . |  | . |  | 1 |
| **Materials Science** | **2009** | . | . |  | 1 |  | 1 |
| **Mech & Aero Engineering** | **2008** | 1 | 1 |  | . |  | . |
| **2012** |  |  |  |  |  | 1 |
| **Nuclear Engineering** | **2011** | . | . |  | 1 |  | . |
| **COE Total** | | 2 | 4 | 0 | 5 | 0 | 4 |

Departments with no faculty exits: Chemical Engineering, Civil Engineering, Industrial and Systems Engineering.

| **Physical and Mathematical Sciences** | | **Assistant** | | **Associate** | | **Full** | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Women** | **Men** | **Women** | **Men** | **Women** | **Men** |
| **Chemistry** | **2008** | . | . |  | 1 |  | . |
| **2011** | . | . |  | . |  | 1 |
| **Marine Earth Atmospheric Sciences** | **2008** | 1 | . |  | . |  | . |
| **2009** | 1 | . |  | . |  | . |
| **Mathematics** | **2008** | . | 2 |  | . |  | . |
| **2009** | . | 1 |  | 2 |  | . |
| **Statistics** | **2011** | . | 1 |  | . |  | . |
| **2012** |  | 1 |  |  |  |  |
| **PAMS Total** | | 2 | 5 | 0 | 3 | 0 | 1 |

No tenured or tenure track faculty left the Physics department from 2008 to 2012.

| **Social and Behavioral Sciences** | | **Assistant** | | **Associate** | | **Full** | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Women** | **Men** | **Women** | **Men** | **Women** | **Men** |
| **Economics** | **2008** |  | . | . |  |  | 1 |
| **2010** |  | 1 | . |  |  | . |
| **2012** | 1 |  |  |  |  | 1 |
| **Psychology** | **2011** |  | . | 1 |  |  | . |
| **Sociology & Anthropology** | **2009** |  | 1 | . |  |  | 1 |
| **2010** |  | 1 | . |  |  | . |
| **2012** |  | 1 |  | 1 |  |  |
| **Social and Behavioral Sciences Total** | | 1 | 4 | 1 | 1 | 0 | 3 |

**Table 6b.** Number of tenured and tenure track faculty who left NCSU from 2008 to 2011 for any reason other than retirement or death, by race/ethnicity/nationality.

| **Agriculture and Life Sciences** | | **Assistant** | | | | **Associate** | | | **Full** | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Int’l** | **US: Other** | **US: White** | | **Int’l** | **US: Other** | **US: White** | **Int’l** | **US: Other** | **US: White** |
| **Animal Science** | **2009** | . |  | | 1 |  |  | . |  |  | . |
| **Bio & Ag Engr** | **2009** | . |  | | . |  |  | . |  |  | 1 |
| **Biochemistry** | **2010** | . |  | | . |  |  | . |  |  | 1 |
| **2012** |  |  | |  |  |  |  |  | 1 |  |
| **Crop Science** | **2008** | . |  | | . |  |  | 1 |  |  | . |
| **2011** | . |  | | 1 |  |  | . |  |  | . |
| **Entomology** | **2012** |  |  | | 1 |  |  |  |  |  |  |
| **Food Science** | **2012** |  |  | | 1 |  |  |  |  |  |  |
| **Genetics** | **2011** | . |  | | . |  |  | 1 |  |  | . |
| **Horticultural Science** | **2008** | . |  | | . |  |  | . |  |  | 1 |
| **2009** | . |  | | 1 |  |  | . |  |  | . |
| **Plant Biology** | **2011** | 1 |  | | . |  |  | . |  |  | . |
| **Plant Pathology** | **2008** | . |  | | 1 |  |  | . |  |  | . |
| **2009** | . |  | | . |  |  | 1 |  |  | . |
| **2012** |  |  | |  |  |  | 1 |  |  |  |
| **Toxicology** | **2012** |  |  | | 1 |  |  |  |  |  |  |
| **CALS Total** | | 1 | 0 | | 7 | 0 | 0 | 4 |  | 1 | 3 |

| **Engineering** | | **Assistant** | | | **Associate** | | | **Full** | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Int’l** | **US: Other** | **US: White** | **Int’l** | **US: Other** | **US: White** | **Intl** | **US: Other** | **US: White** |
| **Biomedical Engr** | **2010** | . |  | . |  | . | 1 | . |  | . |
| **2012** |  | 1 |  |  |  |  |  |  |  |
| **Computer Science** | **2008** | . |  | 1 |  | . | . | . |  | . |
| **Electrical & Comp Eng** | **2008** | . |  | 1 |  | . | . | . |  | . |
| **2009** | . |  | . |  | . | . | . |  | 1 |
| **2010** |  | 1 | . |  | 1 | 1 | . |  | . |
| **2011** | . |  | . |  | . | . | . |  | 1 |
| **Materials Science** | **2009** | . |  | . |  | . | 1 | 1 |  | . |
| **Mech & Aero Engr** | **2008** |  | 2 | . |  | . | . | . |  | . |
| **2012** |  |  |  |  |  |  |  | 1 |  |
| **Nuclear Engr** | **2011** | . |  | . |  | 1 | . | . |  | . |
| **Engineering Total** | | 0 | 4 | 2 | 0 | 2 | 3 | 1 | 1 | 2 |

| **Physical and Mathematical Sciences** | | **Assistant** | | | **Associate** | | | **Full** | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Intl** | **US: Other** | **US: White** | **Int’l** | **US: Other** | **US: White** | **Int’l** | **US: Other** | **US: White** |
| **Chemistry** | **2008** | . |  | . |  |  | 1 |  |  | . |
| **2011** | . |  | . |  |  | . |  |  | 1 |
| **Marine Earth Atmos Sc** | **2008** | . |  | 1 |  |  | . |  |  | . |
| **2009** | . |  | 1 |  |  | . |  |  | . |
| **Mathematics** | **2008** | 2 |  | . |  |  | . |  |  | . |
| **2009** | . |  | 1 |  |  | 2 |  |  | . |
| **Statistics** | **2011** | 1 |  | . |  |  | . |  |  | . |
| **2012** |  | 1 |  |  |  |  |  |  |  |
| **PAMS Total** | | 3 | 1 | 3 | 0 | 0 | 3 | 0 | 0 | 1 |

| **Social and Behavioral Sciences** | | **Assistant** | | | **Associate** | | | **Full** | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Int’l** | **US: Other** | **US: White** | **Int’l** | **US: Other** | **US: White** | **Int’l** | **US: Other** | **US: White** |
| **Economics** | **2008** |  | . | . |  | . |  | 1 |  | . |
| **2010** |  | 1 | . |  | . |  | . |  | . |
| **2012** |  |  | 1 |  |  |  |  |  | 1 |
| **Psychology** | **2011** |  | . | . |  | 1 |  | . |  | . |
| **Soc & Anthropology** | **2009** |  | . | 1 |  | . |  | . |  | 1 |
| **2010** |  | . | 1 |  | . |  | . |  | . |
| **2012** |  |  | 1 |  |  | 1 |  |  |  |
| **SBS Total** | | 0 | 1 | 4 | 0 | 1 | 1 | 1 | 0 | 2 |

**Table 7a -2008**. Women in Leadership Positions in Fall 2008

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | All | Women | Women in STEM | Women in SBS |
| Tenured Full Professors | 738 | 122 | 40\* | 11\* |
| All Full Professors | 770 | 126 | 42\* | 11\* |
| STEM Department Heads | 27 | 4 | 4\* | - |
| SBS Department Heads | 3 | 1 | - | 1\* |
| Academic Deans | 10 | 1 | 0† | 0†† |
| Associate Deans | 29 | 8 | 3† | 2†† |
| Chanc, Vice Chanc, Prov, Vice Prov | 13 | 4 | - | - |
| Named Chairs | 99 | 10 | 7\* | 1\* |
| University Promotion & Tenure Cmte | 13 | 6 | 2 | 0 |
| PAMS Promotion & Tenure Cmte | 5 | 0 | 0 | na |
| CALS Promotion & Tenure Cmte | 8 | 2 | 2 | na |
| University Space Cmte | 3 | 0 | na | na |
| NCSU Board of Trustees | 13 | 2 | na | na |

\*Includes only the departments listed in Table 1. Note that the head of Biomedical Engineering is female and is included in the count above, but her primary institution is UNC – Chapel Hill.

†Includes the colleges of Physical and Mathematical Sciences; Agriculture and Life Sciences; and Engineering

††Includes the College of Humanities and Social Sciences and the College of Management

**Table 7a - 2012.** Women in Leadership Positions in Fall 2012

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | All | Women | Women in STEM | Women in SBS |
| Tenured Full Professors | 754 | 141 | 50\* | 12\* |
| All Full Professors | 791 | 147 | 53\* | 12\* |
| STEM Department Heads\* | 29 | 3 | 3 | - |
| SBS Department Heads\* | 3 | 1 | - | 1 |
| Academic Deans | 10 | 222Uthon for people outside the | 0† | 0†† |
| Associate Deans (of Acad Colleges) | 22 | 10 | 5† | 2†† |
| Chanc, Vice Chanc, Prov, Vice Prov | 13 | 3 | - | - |
| Named Chairs | 125 | 16 | 12\* | 1\* |
| University Promotion & Tenure Cmte | 13 | 4 | 3 | 0 |
| PAMS Promotion & Tenure Cmte | 5 | 0 | 0 | na |
| CALS Promotion & Tenure Cmte | 8 | 1 | 0 | na |
| University Space Cmte | 3 | 1 | na | na |
| NCSU Board of Trustees | 13 | 3 | na | na |

\*Includes only the departments listed in Table 1. Note that the head of Biomedical Engineering is female and is included in the count above, but her primary institution is UNC – Chapel Hill.

†Includes the colleges of Physical and Mathematical Sciences; Agriculture and Life Sciences; and Engineering

††Includes the College of Humanities and Social Sciences and the College of Management

**Table 7b - 2008.** Faculty of Color in Leadership Positions in Fall 2008

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | All Fac | Fac of Color\*\* | Faculty of Color in STEM | Faculty of Color in SBS |
| Tenured Full Professors | 738 | 60 | 35\* | 1\* |
| All Full Professors | 770 | 62 | 37\* | 1\* |
| STEM Department Heads | 27 | 0 | 0\* | - |
| SBS Department Heads | 3 | 0 | - | 0\* |
| Academic Deans | 10 | 1 | 1† | 0†† |
| Associate Deans | 29 | 3 | 1† | 0†† |
| Chanc, VCs, Prov, VPs | 13 | 3 | - | - |
| Named Chairs | 99 | 7 | 4\* | 0\* |
| University P &T Cmte | 13 | 1 | - | - |
| PAMS P& T Cmte | 5 | 1 | 1 | - |
| CALS Promotion ions in Fall 2011 department heads have not occured & Tenure Cmte | 8 | 0 | 0 | - |
| University Space Cmte | 3 | 0 | - | - |
| Board of Trustees | 13 | 1+ | - | - |

\*Includes only the departments listed in Table 1.

†Includes the colleges of Physical and Mathematical Sciences; Agriculture and Life Sciences; and Engineering

††Includes the College of Humanities and Social Sciences and the College of Management

\*\*Faculty of Color includes all faculty except those identified as white or international.

+ Faculty of color may be an undercount since we do not have complete information for people outside NCSU

**Table 7b - 2012.** Faculty of Color in Leadership Positions in Fall 2012

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | All | Fac of Color\*\* | Fac of Color in STEM | Fac of Color in SBS |
| Tenured Full Professors | 754 | 99 | 65\* | 3\* |
| All Full Professors | 791 | 101 | 66\* | 3\* |
| STEM Department Heads | 29 | 1 | 1\* | - |
| SBS Department Heads | 3 | 0 | - | 0\* |
| Academic Deans | 10 | 1 | 1† | 0†† |
| Associate Deans (of Academic Colleges) | 22 | 2 | 1† | 0†† |
| Chanc, VCs, Prov, Vice Prov | 13 | 3 | - | - |
| Named Chairs | 125 | 12 | 10\* | 0\* |
| University P & T Committee | 13 | 2 | 1 | 0 |
| PAMS P& T Committee | 5 | 0 | 0 | - |
| CALS P & T Cmte | 8 | 0 | 0 | - |
| University Space Cmte | 3 | 0 | - | - |
| NCSU Board of Trustees | 13 | 1+ | - | - |

\*Includes only the departments listed in Table 1

†Includes the colleges of Physical and Mathematical Sciences; Agriculture and Life Sciences; and Engineering

††Includes the College of Humanities and Social Sciences and the College of Management

\*\*Faculty of Color includes all faculty except those identified as white or international.

+ Faculty of color may be an undercount since we do not have complete information for people outside NCSU

**Appendix – Table of ADVANCE Scholar Projects**

| **ADVANCE Scholars** | **Project Title and Description** | **Timetable** | **Progress Update** |
| --- | --- | --- | --- |
| Robin Abrams  Design  (SL) | Diversity in the Professoriate: Develop support/mentoring network for minority students to improve recruitment & retention in dept/college. Increase diversity of faculty through strategic recruitment. | Long term goals of leadership as department head. | Identification of influential mentor in area; networking event held for grad students; search comm. participation on 2 faculty positions. |
| Maria Correa  Vet Med  (EL) | Furthering Careers of Hispanic Faculty at NC State and in Higher Education: Development of a Hispanic faculty network at NC State and in UNC system. | 2010-2011: Establishment of Hispanic Faculty Group at NC State; 2011-2012 development of Faculty Liaison for Diversity appts; 2012-2013, statewide conference | Hispanic Faculty Group began meeting monthly in 2010-2011. Approval & appt. of Faculty Liaison 2012; conference funding identified and planning underway. Presentation to scholars Mar. 2012 |
| Margo Daub  CALS  (SL) | ADVANCE Dept. Climate Workshops: Organize and facilitate workshops that fit needs of NCSU department heads. | Offer workshop in each of 3 years of project, for 3 cohorts of dept. heads (6-8 each year). Follow up surveys to assess change. | Workshop offered for three years. Add’l workshop offered to focus on one college (PAMS). Data collection and evaluation underway. |
| Julie Earp  Management  (EL) | Best Practices for Advancing Women in Colleges of Management: Research study of peer institutions to identify and articulate best practices for advancing women’s academic careers in Management colleges. | 2011-2012. Resulted in development of women faculty networking group in her college to discuss challenges/strategies. Invited speakers and readings. | Presentation to scholars, Oct. 2011. Have met monthly 2011-2012. |
| Joel Ducoste and Kara Peters  Engineering  (ELs) | Improving Faculty Well Being in the NC State College of Engineering: Exploration of the COACHE data to determine how faculty well being might be improved in the College of Engineering. | Disseminate results and recommendations in spring 2012. | Data analysis underway; presentation to scholars in Jan. 2012 |

|  |  |  |  |
| --- | --- | --- | --- |
| **ADVANCE Scholars** | **Project Title and Description** | **Timetable** | **Progress Update** |
| Montse Fuentes  PAMS  (SL) | Work/Life Initiative: Identify models and practices to increase family friendly options at university for grad students and faculty. | Ongoing as goal of leadership as department head. | Resulted in new university policy related to grad student family leave. Presentation to scholars, Oct. 2011. |
| Christine Grant  Engineering  (SL) | Leading Change: A targeted roundtable series featuring national leaders in STEM administration, for a broad university constituency. | 2011-2012, to foster future ADVANCE opportunities | Organized and announced first in series, featuring Lilia Abron, June 15, 2011. |
| Heidi Grappendorf  CNR  (EL) | Opting into Leadership: Three-year empirical study to explore combined explanatory power of two popular theories re: women’s interest and commitment to becoming leaders in STEM careers. | Write and submit NSF grant proposal, Feb. 2011; identify cooperating faculty for national survey, spring/summer 2011 | Grant declined but competitive. Resubmitted Jan. 2012. Under review at NSF ($524,000). Revised pilot study, collected responses (n=221), analyses underway. Presentation to scholars, Mar. 2012 |
| Amy Grunden  CALS  &  Traciel Reid  CHASS  (ELs) | Best Practices for Faculty Recruitment and Retention in Humanities, Social Sciences, Agricultural and Life Sciences Colleges: Research study of peer institutions to identify and articulate best practices, policies, and procedures to increase numbers and visibility of women faculty across fields. | Data collection 2011. Disseminate results in spring 2012. | Data collection and analyses completed. Presentation to scholars, Oct. 2011. |
| Karla Henderson  CNR  (SL) | Women in Higher Education: A study of women academics in the field of recreation and leisure (natural resource management, sports, parks, recreation, therapeutic recreation) to explore career development behaviors and attitudes, with attention to age-cohort differences. | Online survey Aug/Sept; data analyses Oct; draft article Nov; prepare presentation for college Jan 2012; deliver presentation for CNR Diversity Seminar and other venues, Feb-May. | Data collection and analyses completed. Presentations delivered to scholars (Jan. 2012) and to CNR (Feb. 2012). |
| **ADVANCE Scholars** | **Project Title and Description** | **Timetable** | **Progress Update** |
| Wendy Krause  Textiles  (EL) | Workshop for STEM Women: Three-day workshop intended to build community among women in STEM and offer strategies for success. | Workshop to be held spring 2012. | Resources identified; event planning underway May 2012. Presentation to scholars, March 2012. |
| Thomas Schaefer  PAMS  (SL) | Status of Women in PAMS: A study of research support (lab space, start-up, cost sharing on grants), advancement (time to promotion), and compensation (relative to achievements like fellowship in professional societies, grant support, etc.) in PAMS and physics | Data collection spring/summer 2011; analyses fall 2011. Preparation and delivery of college presentation spring 2012. Collection of PAMS data underway. Collection of DOE data completed and preliminary analyses fall 2011. | Data collection and analyses completed. Presentation to scholars, Oct. 2011. |
| Paola Sztajn (with Jessica DeCuir-Gunby)  Education  (SL & EL) | Pearls of Wisdom: Stories from Women and Faculty of Color. Qualitative study, via online and personal interviews with tenured faculty ref: successful and unsuccessful strategies for negotiating academia. Goal is to produce resource for untenured faculty to avoid pitfalls and find pathways to success. | fall 2010, complete IRB, develop on-line survey, and recruit potential participants; spring 2011, distribute survey and conduct interviews; fall 2011, analyze data; spring 2012, write up and disseminate findings. | Interviews completed and transcribed; data analyses yielded 12 arenas of strategies; article draft underway. Presentation to scholars Nov. 2011. |
| Kenneth Zagacki  (SL) | “Invitational” communication strategies for administrators. Develop presentation of inclusive comm. strategies, based on literature on leadership, communication, and gender. | Fall 2010, offer grad seminar in comm.; Dec. 2010 draft presentation to ADVANCE; spring/summer 2011, multidisc literature review; Dec 2011 revised presentation to ADVANCE; spring 2012, draft article for publication. | Grad seminar offered, initial overview presentation given; identification of relevant theoretical lit and practical exemplars. Presentation to scholars, Nov. 2011. |