

***AdvanceVT* Final Report  
September 2003 – August 2010  
National Science Foundation  
Cooperative Agreement HRD-0244916**

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*“As the world changes, universities also have to change, and the kind of university that existed 25 years ago is not the kind of university that will appeal to the next generation of scientists.”*  
- female science professor, *AdvanceVT* leadership team

## Executive Summary

The overall goal of *AdvanceVT* is to contribute to the development of a national science and engineering academic workforce that includes the full participation of women at all levels of faculty and academic leadership, particularly at the senior academic ranks, through the transformation of institutional practices, policies, climate and culture at Virginia Tech. The program has four major elements: advancing women into faculty careers, increasing the representation of women faculty in science and engineering, empowering women as leaders and scholars, and institutionalizing change.

Virginia Tech has institutionalized many of the *Advance* initiatives, particularly those related to work-life balance and faculty recruiting. The following activities have on-going institutional support:

- The annual Advancing Diversity at Virginia Tech workshop is supported by the Office of the Senior Vice President and Provost and the Vice President for Diversity and Inclusion.
- Dual Career Assistance: A program coordinator, data base, and services have permanent funding through Human Resources and the Office of the Senior Vice President and Provost. In addition, the provost provides bridge funding to assist with some dual career appointments, where appropriate.
- College liaisons: College liaisons in the colleges of science and engineering support faculty searches by meeting with candidates to discuss work/life policies. Liaisons also promote networking and mentoring among women faculty. The College of Engineering and the College of Science provide financial support in form of a course release or administrative supplement for the faculty members serving as college liaisons.
- Faculty recruitment: The *AdvanceVT* Visiting Scholars program to establish relationships with potential future faculty candidates outside the regular search process, and a “Future Faculty” workshop for PhD candidates from underrepresented groups preparing for academic careers are supported by the Office of the Provost.
- Modified Duties: Central funds are committed to provide up to \$10,000 to the department for workload reassignment of faculty members approved for a semester of modified duties to accommodate family responsibilities or other life issues.
- Child care: Each college dean and the university administration have pledged five years of annual support from discretionary private funds for a contract to a local daycare provider to expand daycare in the community. In return for this annual subsidy, the provider guarantees 60% of the 246 new slots to Virginia Tech families.
- Stop-the-clock: An extension of the tenure clock is automatically provided for either parent for the birth or adoption of a child, and may be approved for other special personal or professional circumstances. Language explaining the policy is included in letters requesting external reviews for promotion and tenure.

- The Graduate School continues to provide support for a graduate assistant for *AdvanceVT* who also assists in developing and offering a suite of programs for women doctoral students in STEM fields.
- Graduate student seminars: The graduate school and the provost provide ongoing support for a monthly seminar series for graduate students preparing for faculty careers.
- Faculty networking and mentoring: The provost provides support for micro-grants for pre-tenure faculty to develop mentoring networks and leadership seminars for senior faculty.

Indicators of institutional change:

- The number of women at the rank of professor university-wide has increased from 65 in 2003-04 to 91 in 2009-2010, an increase from 11% to 15%.
- The number and percentage of women tenured and tenure-track faculty in the College of Engineering has increased from 26 (9.4%) in fall 2003 to 40 (13%) in fall 2009.
- With two women named interim department heads this year, the colleges of science and engineering now both have two female department heads.

*“I think Advance has made a big difference in the whole institution...I’ve always believed that anything we do that would be helpful to women on the campus would be helpful to everyone on campus...I’m very excited about how far we’ve come, and I know that we’re not finished, the journey still goes on, we have more to do, but I feel really good about being part of this, the growth of the campus, the changes the campus has undergone.” - male administrator*

## Participants, Organization Partners, and Collaborations

### Program Participants

Over the course of the grant, two individuals served as Principal Investigator and five as co-Principal Investigators, and a total of 15 people have served on the *AdvanceVT* Leadership Team. Eleven graduate assistants have provided support for the program, and nine graduate students were awarded PhD fellowships. Ten post-doctoral researchers received fellowships, 22 pre-tenure faculty members received seed grants, and 22 tenured faculty members participated in the Leadership Development Program or received Leadership Fellowships. Over 100 faculty members and administrators served on an *AdvanceVT* work group or committee. More than 300 faculty members attended a leadership lunch and more than 700 faculty, staff, and administrators participated in an Advancing Diversity workshop.

### Organizational Partnerships and Collaborations

*AdvanceVT* is housed in the Office of the Senior Vice President and Provost, which provides office space and salary support for the program director and fiscal technician. *AdvanceVT* collaborates with units across the university on various activities. These collaborations are making it possible to sustain *AdvanceVT* initiatives.

- The Office for Diversity and Inclusion continues to co-sponsor the annual Advancing Diversity workshop.
- The Colleges of Science and Engineering support college liaisons in their respective colleges.
- The Graduate School supported PhD fellowships during years two through five of the grant and continue to support a graduate assistant in the office of *AdvanceVT*. They also continue to co-sponsor the annual welcome reception for women faculty and graduate students.
- The Organization of Women Faculty co-hosts the welcome reception and other networking events for women faculty.
- The Women's Center and the Women's Studies Program co-host the welcome reception and speakers throughout the year.
- The Office of Institutional Research and Effectiveness provides data on faculty composition and salaries for tracking and reporting.
- The Virginia Tech Center for Survey Research implemented both faculty surveys and assisted with survey development and data analysis.

## Activities and Findings

### Research and Education Activities

In addition to collecting and reporting data on NSF's required ADVANCE program indicators and assessing the impact of specific program activities, *AdvanceVT* conducted research on key issues for science and engineering faculty members in the first five years of their careers, the perceptions of faculty members who were part of a dual-career couple, factors contributing to change at the first two rounds of ADVANCE Institutional Transformation grant recipients, and faculty perceptions of climate and work-life issues at Virginia Tech.

### Science and Engineering New Hire Interviews: 2003-04 New Faculty Cohort

The *AdvanceVT* assessment team conducted thirty-one, one-on-one interviews with 13 pre-tenure faculty members (6 females; 7 males) in science and engineering who were first employed at Virginia Tech in 2003-04. The purpose of the interviews was to explore differences by year and gender in the priorities and types of challenges faced by pre-tenure faculty in science and engineering. The interviews in the first year were conducted in person using a semi-structured interview protocol that focused on the experience of being recruited and hired at Virginia Tech. Participants were asked, for example, to describe what first attracted them to Virginia Tech, to describe their experiences during the interview process, and to identify issues that were critical to their hiring negotiations and decision to accept a position at Virginia Tech. The interviews were recorded and transcribed. Interviews in each of the subsequent 4 years were completed either in person or by telephone. They followed a similar format in that participants were asked to discuss how their experiences in teaching, research, and outreach/service changed from the previous years. The interviews were coded and analyzed for major themes. The project concluded with focus groups in January-February 2008 as a "member check" to confirm analysis of the interview findings. The findings were presented at the annual conferences of the American Educational Research Association and the American Society for Engineering Education.

#### Key findings:

- Employment opportunities for a spouse/partner were a consideration for the majority of new faculty.
- Women seemed every bit as savvy about the process of negotiations during hiring as men. Most consulted extensively with peers and mentor(s) during the hiring process.
- Participants were generally satisfied with the outcomes of the negotiations and their start-up packages.
- Many faculty members found their departmental environment and research interests to be important factors in their satisfaction with their position.
- Flexibility and freedom were noted as common reasons for satisfaction in their current positions.
- Participants were satisfied with the location and surroundings of Blacksburg, but were less satisfied with the opportunities for their partners and their ability to balance their personal lives with professional demands.

- Mentoring was noted as a positive addition to gaining comfort in the role of faculty and at Virginia Tech.
- While issues of collegiality, climate, and time management were sources of both challenges and support for new engineering faculty members across the years, key shifts occurred in attitudes about performance expectations and about what is entailed in supervising the activities of a growing research team.
- Between the first and third years, faculty members expressed growing clarity about performance expectations. They continued to struggle with effective strategies to supervise team members, while maintaining personal standards of accuracy and quality.

No significant differences were found by gender in the challenges and priorities of a cohort of pre-tenure faculty members in science and engineering. For most faculty members, priorities shifted from securing to managing external funding and supervising graduate students. Performance evaluations proved to be an important element of the socialization of this group of pre-tenure faculty members. Most of the challenges identified by faculty involved different forms of balance: balancing the different missions of the university (research, teaching, and service); balancing work and personal life; and balancing multiple projects.

Creamer, E. G. , Saddler, T. N., & Layne, M. A. (2008). *Changes in the nature of faculty work in engineering during the first three years*. Research paper. Proceedings of the 2008 American Society for Engineering Education (ASEE) National Conference. Pittsburgh, PA. June 22-25, 2008.

Creamer, E. G. & Saddler, T. N. (2008). *A longitudinal analysis of the priorities and challenges of pre-tenure faculty in engineering and the sciences by gender*. Poster accepted by the Research on Women in Education SIG for presentation at the American Educational Research Association National Meeting. New York City, NY. April 24-28, 2008.

### Dual Career Hires Study

During summer 2004, telephone interviews were conducted with 20 faculty members at Virginia Tech who were identified as part of a dual-career hire (both members of a couple were hired by the university). The Assessment Director subsequently worked with contacts at several other ADVANCE institutions to secure Institutional Review Board approval and obtain names of additional people to interview for a cross-institutional study. Thirty participants were interviewed from three universities: Virginia Tech, University of Wisconsin, and New Mexico State University. Participants were asked about their initial experiences of negotiation of the dual career hire, the climate and atmosphere of dual career hires in general at their university, and personal reactions to their own living arrangement and the influence the process had on their life and career satisfaction. Transcripts of the interviews were shared with the home institution.

#### Key Findings:

- The perception of the university climate related to dual career hiring varies among participants and by department.
- The visibility of other prior dual career couples and the transparency of the process influence the perception of a positive climate.



- The more routine the process seemed to be, the less participants reported a sense of being stigmatized.
- Many participants endorsed the idea that the creation of a university-wide specific policy on dual career hiring was necessary.

Layne, P., Creamer, E. G., Hyer, P. B., & Eckel, C. (2005). *Developing and Implementing Guidelines for Dual-Career Hires*. American Society for Engineering Education (ASEE) Annual Conference & Exposition. Portland, Oregon.

Creamer, E. G. (2004). *The Perceived Impact of Spousal Accommodation Policies on Faculty Productivity and Satisfaction*. Research paper presentation for the symposium, “Enhancing Understanding of Faculty Roles and Work- lives: Research on Organizational Contexts and Gender Equity.” Moderator: Diane Dean, Illinois State University. Association for the Study of Higher Education (ASHE) 2004 National Conference. Kansas City, Kansas.

### **Advance Collaborative Benchmarking Study**

During summer and fall 2005, representatives of the Virginia Tech and University of Michigan ADVANCE programs conducted telephone interviews with two people from the leadership teams of each of the Round 1 and Round 2 ADVANCE institutional transformation grant recipient institutions. During spring 2006, Virginia Tech and University of Michigan collaborated on the coding and analysis of the field notes prepared after each interview. A summary of the findings from this study was presented at the May 2006 ADVANCE PI meeting in Arlington, VA.

A surprising finding was that there was not a significant difference in the extent of institutional change reported by Round 1 and 2 Advance institutions. A second key finding from the study is that while there is a common set of strategies that seem to promote institutional transformation, there were differences in the types of strategies that were associated with different types of interventions. This was particularly true for the types of leadership required. Respected faculty members are critical to transforming recruiting strategies, while top-level administrators were key to policy and procedure change.

A Ph.D. dissertation in Educational Leadership and Policy Studies at Virginia Tech examined how institutional culture promoted or impeded the implementation of round one and two NSF ADVANCE initiatives designed to improve academic climates for women in science and engineering.

Key findings:

- Policies, processes, and programs were implemented by participants at the institutional, departmental, and individual levels and included family friendly and dual career policies at the institutional level, improved departmental faculty search and climate improvement processes, and mentoring programs and training for department heads at the individual level.

- Communication and leadership strategies were keys to the successful implementation of policies, processes, and programs designed to achieve institutional transformation. Communication strategies involved shaping change messages to reach varied audiences, often with the argument that change efforts would improve the climate for everyone, not just women faculty members. Administrative and faculty leaders from multiple levels proved important to change efforts.

Plummer, E. W. (2006). *Institutional Transformation: An Analysis of Change Initiatives at NSF ADVANCE Institutions*. Doctoral dissertation completed at Virginia Tech.

Malley, J., & Creamer, E. G. (2006). *Creating changes that last: Institutionalizing Advance transformations*. Presentation at the National Science Foundation Advance PPI Meeting. Washington, D.C. May 18-19, 2006.

Hirt, J., Hyer, P., Creamer, E. G., Ballam, D., Brown, A., & Bensimon, E. (2005). Transforming organizations: Enhancing work-life for faculty women. Joan Hirt, Symposia Chair. Association for the Study of Higher Education (ASHE) National Conference. Philadelphia, PA.

## Faculty Climate Surveys

*AdvanceVT* surveyed the faculty at Virginia Tech twice over the course of the grant. The purpose of both surveys was to assess faculty perceptions of overall job satisfaction and of various attributes of the work environment at Virginia Tech. The 2005 *AdvanceVT* Work-Life Survey was a web-based instrument designed using examples from other Advance institutions (primarily the University of Michigan and University of Wisconsin) and from a review of the literature about factors that predict overall faculty job satisfaction. Drafts of the survey instrument were reviewed by the *AdvanceVT* Leadership Team and various faculty groups, including the Commission on Faculty Affairs. The final questionnaire contained 130 items that were organized in sections about the university climate, departmental climate, work-life and family factors, and recruiting. Most of the questions in the survey used a response option with a 4-point scale (1=strongly disagree, 2=disagree, 3=somewhat agree, 4=strongly agree). Respondents could also select 'do not know' (0).

Within the Faculty Work-Life Survey, groups of questions were combined to form "scales" representing constructs of interest regarding faculty work-life. Scales are used in order to create more valid and reliable measures of topics of interest compared to using single question items. All scales demonstrated acceptable internal consistency reliability as measured by Cronbach's alpha (i.e., greater than 0.70), which measures the correspondence in responses across the question items in a scale. For analyzing and portraying the survey data, responses across all question items for a scale are aggregated to represent that scale. Scales were developed for issues including department climate, department leadership, work-life balance, diversity, job satisfaction, and resources.

The study was reviewed by Virginia Tech's Institutional Review Board and granted exempt status. An electronic version of the survey was distributed by Virginia Tech's Survey Research Center to all tenured, tenure-track, and special research faculty in February 2005 via an email

from the University Provost with an embedded, personalized link. Non-respondents were contacted through a wave of follow-up emails until there was almost no yield of additional respondents. Of the 2,015 tenured, tenure-track, and special research faculty members contacted, 1,209 completed the survey, yielding a response rate of 59%. Of these, 810 respondents were tenured or on the tenure-track.

Key findings, 2005 survey:

- General climate for women and minorities does seem to have an effect on women and minority faculty satisfaction and retention.
- Among individuals who choose to stop the clock, many (69%) feel supported in their decision.
- Women and men differ in their perceptions of women and minority leadership and representation.
- More females (78.3%) than males (48.9%) feel that there are too few women and minorities in leadership positions at Virginia Tech
- Forty-seven percent of women and 32.6% of men feel that recruitment of women and minorities is not made a top priority at Virginia Tech.
- About 40% of participants feel that Virginia Tech does not support their home life or have felt that their home life has slowed their advancement at Virginia Tech.
- The overall campus climate on a variety of factors is rated fairly favorably, but the departmental climates vary in extremes.

*AdvanceVT* used the survey data to develop a statistical model to predict Virginia Tech faculty members' work satisfaction and intent to leave. This analysis confirmed that a number of factors embedded in the organization of the original questionnaire did, indeed, play a significant role in predicting faculty job satisfaction and intent to leave. These are: university and departmental climate; collaboration/networking; resources; work-life/non-work-life balance; balance between teaching, research, service, and outreach; and job security. University and departmental climate had the largest roles in predicting job satisfaction and the effects of gender were mediated by university and departmental climate. This validates the argument that departmental and university climate are key to faculty job satisfaction for both men and women, but particularly women.

*AdvanceVT* also conducted department and college level analyses of the responses to the 2005 faculty survey and presented a comparison of department level responses with the average response for the respective college to the college deans and department heads. For confidentiality reasons, college and department level analyses did not include breakdowns by gender or ethnicity. *AdvanceVT* also performed additional analyses of responses by ethnicity at the university level and shared those findings with the provost's Task Force on Race and the Institution and the university black caucus. Discussions with both of those groups informed plans for the 2008 survey.

Interactions with members of the Task Force on Race and the Institution and the University Black Caucus made it clear that members of the minority community felt that the 2005 faculty climate survey did not fully address their concerns. Some were concerned that members of the minority community were not involved in developing the questions on the initial survey. In

response to these concerns, *AdvanceVT* worked with members of the minority community to develop additional questions for the 2008 re-administration of the questionnaire.

In fall 2008, *AdvanceVT* conducted its second Faculty Work-Life Survey. In order to qualify as a pre-post measure, the 2008 *AdvanceVT* Work-Life Survey was constructed to look as much like the 2005 survey as possible. The order and wording of questions were maintained. A few questions were removed because they were no longer relevant (e.g. a section about cluster hires; questions about the need for a dual career office; a section about time allocation). New questions were inserted in the appropriate section without changing the original numbering, by using numbering like 2.a. A major section to assess faculty productivity was added. Most of the other questions added related to issues of diversity and were the product of multiple, on-going meetings with members of different diversity groups on campus (e.g. Black Caucus, Hispanic Caucus, Commission on Equal Opportunity and Diversity). Open-ended questions were added to the end of each of the major sections in the survey as a result of these conversations. The questionnaire was distributed electronically in January 2009, following procedures that were very similar to the 2005 survey.

The population that received the second survey differed slightly from that of the first. There were 1,570 faculty members in the sample for the 2008 survey, including full-time instructional faculty of all ranks and instructors not in tenured lines, but special research faculty were not included. Extended campus faculty with a status of full-time instructional faculty were also included. Anyone currently on leave without pay was not included, but anyone on leave with pay was included. All of the faculty members receiving the questionnaire were actively employed during the spring 2008 and fall 2008 semesters. The response rate for tenured and tenure-track faculty was lower in 2008 than in 2005, with 700 tenured and tenure-track faculty respondents for a response rate of 45%.

Preliminary findings were presented at the January 12, 2009, Advancing Diversity conference co-sponsored by *AdvanceVT*, summarized in a newsletter, and posted on the website. A comparison of responses by gender and ethnicity was presented to the university's Commission on Equal Opportunity and Diversity in May. College and department level analyses of the survey responses were shared with deans and department heads at the end of the spring semester. Statistical analyses conducted on the 2008 data included tests for significant differences across colleges in 2008 and for significant differences compared to the 2005 administration of the survey for each college and department across the university. Survey findings demonstrated, among other things, a need for improved mentoring of junior and mid-career faculty, and were used to prioritize programs for the coming year.

Key findings, 2008 survey:

- Comparison of 2008 survey responses with those from 2005 indicated little change in faculty perceptions, with the exception of a slight improvement in the perceptions of equity and fair treatment (diversity scale)
- Scores on the work-life balance scale remained low across all colleges
- Regardless of discipline, race, or gender, departmental climate is significantly related to overall job satisfaction for faculty.

- Women and underrepresented minorities continue to have significantly lower scores on many of the scales than majority men

Virginia Tech is now in the process of implementing regular surveys of all employees, and will incorporate some questions from the *AdvanceVT* Faculty Work-Life Surveys into the instrument used for these ongoing surveys.

## COACHE Surveys

During early spring of 2007 and again in the late fall of 2009, Virginia Tech participated in the Collaborative on Academic Careers in Higher Education (COACHE) survey of pre-tenure faculty. Conducted by the Harvard Graduate School of Education, this national survey measures the institutional experiences and job satisfaction of full-time, pre-tenure faculty. The 2007 COACHE survey was distributed to 211 pre-tenure faculty members hired before January of 2006. Seventy-nine percent of these faculty members responded to the survey. The 2009 COACHE survey was distributed to 307 pre-tenure faculty members hired before January 2009, and achieved a 69% response rate.

Survey questions focus on five major themes: tenure; nature of work; policies and practices; climate, culture, and collegiality; and global satisfaction. The results provide descriptive statistics and significant differences within institution by gender, race, discipline, and college. The results were compared to responses from five selected peer institutions and to all university participants in COACHE survey.

Key findings from the COACHE surveys:

- The majority of Virginia Tech faculty are satisfied with their department and the institution as a whole, but not as satisfied as faculty at other institutions.
- There is considerable variation across disciplines and colleges at Virginia Tech in the perceived clarity and reasonableness of tenure expectations.
- Mentoring of junior faculty is seen as important but not particularly effective at Virginia Tech.
- Pre-tenure faculty have very positive perceptions of Virginia Tech's work/life policies (stop-the-clock, modified duties) and believe the institution does what it can to make having children and a tenure-track career compatible, but they still struggle to balance the demands of work and family.
- Child care and dual-career hiring are perceived as important but not particularly effective.
- The responses of male and female faculty were very similar, but faculty of color say they are more likely to leave Virginia Tech than majority faculty.

## Findings

Virginia Tech identified desired outcomes and assessment measures for each element of the ADVANCE program in its original proposal to NSF. Some of the data for the proposed assessment measures proved to be more readily available than others. This section presents the originally proposed outcomes and assessments and available evidence in support of the identified outcomes. Evidence includes numbers of women in various positions across the university,

ongoing programs and policies, and perceptions reported through surveys and interviews. Additional data can be found in Attachment A, Quantitative Indicators of Activity and Progress.

### **Program Element 1: Institutionalizing Change**

*Proposed Measurable Outcome:* A change in the awareness, attitudes, and behaviors of key administrators and faculty members in engineering and the sciences regarding gender equity issues.

*Proposed Outcome Assessments:* Portfolio of the best evidence of commitment to the goal and objectives of this project by faculty and administrators. This portfolio could include documents such as departmental policies or memos; results of questionnaires or surveys; white papers from site visits; and summaries of qualitative research results.

*Evidence in Support of Outcomes:* The best evidence of the commitment of the university to the goals and objectives of *AdvanceVT* is the programs that are currently being sustained following expiration of the grant. Virginia Tech has institutionalized many of the Advance initiatives, particularly those related to work-life balance and faculty recruiting. The following activities have on-going institutional support:

- The annual Advancing Diversity at Virginia Tech workshop is supported by the Office of the Senior Vice President and Provost and the Vice President for Diversity and Inclusion.
- Dual Career Assistance: A program coordinator, data base, and services have permanent funding through Human Resources and the Office of the Senior Vice President and Provost. In addition, the provost provides bridge funding to assist with some dual career appointments where appropriate.
- College liaisons: College liaisons in the colleges of science and engineering support faculty searches by meeting with candidates to discuss work/life policies. Liaisons also promote networking and mentoring among women faculty. The College of Engineering and the College of Science provide financial support in form of course release or administrative supplement for the faculty members serving as college liaisons.
- Faculty recruitment: The *AdvanceVT* Visiting Scholars program to establish relationships with potential future faculty candidates outside the regular search process, and a “Future Faculty” workshop for PhD candidates from underrepresented groups preparing for academic careers are supported by the Office of the Provost.
- Modified Duties: Central funds are committed to provide up to \$10,000 to the department for workload reassignment of faculty members approved for a semester of modified duties to accommodate family responsibilities or other life issues.
- Child care: Each college dean and the university administration have pledged five years of annual support from discretionary private funds for a contract to a local daycare provider to expand daycare capacity in the community. In return for this annual subsidy, the provider guarantees 60% of the 246 added slots to Virginia Tech families.
- Stop-the-clock: An extension of the tenure clock is automatically provided for either parent for the birth or adoption of a child, and may be approved for other special personal or professional circumstances. Language explaining the policy is included in letters requesting external reviews for promotion and tenure.

- The Vice President and Dean for Graduate Education continues to provide support for a graduate assistant for *AdvanceVT* who also assists in developing and offering a suite of programs for women doctoral students in STEM fields.
- Graduate student seminars: The graduate school and the provost provide ongoing support for a monthly seminar series for graduate students preparing for faculty careers.
- Faculty networking and mentoring: The provost provides support for micro-grants for pre-tenure faculty to develop mentoring networks and leadership seminars for senior faculty.

Selected quotes from faculty focus groups and video interviews provide qualitative evidence of faculty and administrators' perceptions of the impact of *AdvanceVT*:

*"It's transformed us in many dimensions, not just in providing a richer environment for the success of women, but in growing the diversity and improving our work life environment for everyone who works here, for enabling people to have a voice in how things go at Virginia Tech." - male department head*

*"It has done much more than we ever could have imagined. Just the information that has come out of the assessments, the ability of the campus to really rally behind things, the administration taking the leadership to make changes that are lasting, and then just the kind of hard to put your finger on things that you see across campus in terms of climate and family and all of these things." - female science professor*

*"I think that the grant and the program have created a fundamental shift in the university's culture. Maybe not in every college, but certainly in engineering and science where it's been targeted. Something is really significantly different being aware of all the issues that Advance is about – work/life balance, professional development of faculty, caring about somebody once they're here ... all of these kinds of things. I think it's fundamentally different than before we had the grant. It's been a really positive thing for the university." – female engineering professor*

## **Program Element 2: Empowering Women as Leaders and Scholars**

*Proposed Measurable Outcome:* A significant increase in the percentage of women in visible positions as academic and technical leaders and as senior scholars in engineering and the sciences.

*Proposed Outcome Assessments:* (a) A comparison of the number and percentage of women in designated academic and technical leadership positions before the project and for each year of the project, with the intention of demonstrating a statistically significant increase in the women in leadership roles for participating units overall by the end of the five-year period. (b) Tracking the progress of each female faculty member over the five-year period with the intention of demonstrating their retention and advancement.

*Evidence in Support of Outcomes:* Table 7 in the Quantitative Indicators of Activity and Progress shows the number and percentage of women professors, department heads, associate deans, deans, university center directors, vice-presidents, promotion and tenure committee members,

and eminent scholars for each year from 2003 through 2010. While overall progress is slow, some progress has indeed occurred:

- The number of women at the rank of professor university-wide has increased from 65 in 2003-04 to 91 in 2009-2010, an increase from 11% to 15%.
- The number of female associate deans has increased from 7 (27%) in 2003 to 13 (45%) in 2010.
- The number of women faculty holding endowed chairs (eminent scholars) has increased from 3 (3%) to 8 (7%) in the same time period.
- The number and percentage of women tenured and tenure-track faculty in the College of Engineering has increased from 26 (9.4%) in fall 2003 to 40 (13%) in fall 2009.
- With two women named interim department heads this year, the colleges of science and engineering now both have two female department heads.

Table 1 shows the current status of the women faculty in Virginia Tech’s colleges of science and engineering in 2003. Of the 56 women who were in tenured or tenure-track positions at Virginia Tech in 2003, 24 have been promoted at Virginia Tech, one is currently a department head (physics), two are interim department heads (biological sciences and engineering education), and two are associate deans (college of science). Twenty-three of the 56 have left Virginia Tech, four through retirement, five to become department heads at other institutions, and two to accept endowed professorships at other institutions.

*Table 1. Current Status of Women Science and Engineering Faculty in 2003*

College of Engineering				
Name	Rank 2003	Department	Still at VT?	Notes
Watford, Belee A.	Associate Professor	Engineering Education	Yes	Promoted, Interim Department Head
Bell, Amy E.	Assistant Professor	Electrical and Computer Engineering	No	Promoted, Relocated
Bish, Ebru K.	Assistant Professor	Industrial and Systems Engineering	Yes	Promoted
Chan, Ann	Assistant Professor	Industrial and Systems Engineering	No	Not reappointed
Kampe, Jeanceleste M.	Assistant Professor	Engineering Education	No	Promoted, Department Head, Michigan Tech
Knott, Tamara W.	Assistant Professor	Engineering Education	Yes	Promoted
Lo, Jenny L.	Assistant Professor	Engineering Education	Yes	left tenure track, now advanced instructor
Marr, Linsey C.	Assistant Professor	Civil & Environmental Engineering	Yes	Promoted
Meehan, Kathleen	Assistant Professor	Electrical and Computer Engineering	Yes	Promoted
Reeves, Kari L.	Assistant Professor	Industrial and Systems Engineering	No	Associate Professor, MS State



Roberts-Wollmann, Carin L.	Assistant Professor	Civil & Environmental Engineering	Yes	Promoted
Sandu, Corina	Assistant Professor	Mechanical Engineering	Yes	Promoted
Smith-Jackson, Tonya L.	Assistant Professor	Industrial and Systems Engineering	Yes	Promoted
Dietrich, Andrea M.	Associate Professor	Civil & Environmental Engineering	Yes	Promoted
Ellis, Kimberly P.	Associate Professor	Industrial and Systems Engineering	Yes	
Hovakimyan, Naira V.	Associate Professor	Aerospace & Ocean Engineering	No	Promoted, now at U Illinois
Kasarda, Mary E.	Associate Professor	Mechanical Engineering	Yes	
Love, Nancy G.	Associate Professor	Civil & Environmental Engineering	No	Promoted, Department Head, U Michigan
Marand, Eva	Associate Professor	Chemical Engineering	Yes	Promoted
Santos, Eunice E.	Associate Professor	Computer Science	No	Department Head, UTEP
Tatar, Deborah	Associate Professor	Computer Science	Yes	Tenured
Van Aken, Eileen M.	Associate Professor	Industrial and Systems Engineering	Yes	
Williams, Kimberly F.	Associate Professor	Chemical Engineering	No	Relocated, adjunct
Farkas, Diana	Professor	Materials Science & Engineering	Yes	
Liu, Yilu	Professor	Electrical and Computer Engineering	No	Endowed Chair, UT Knoxville
Scott, Elaine P.	Professor	Mechanical Engineering	No	Department Head, Seattle Pacific
Thole, Karen A.	Professor	Mechanical Engineering	No	Department Head, Penn State
<b>College of Science</b>				
Adler, Lynn S.	Assistant Professor	Biological Sciences	No	Assoc. Prof, U Mass
Bates, Samantha C.	Assistant Professor	Statistics	No	Assist. Prof., JMU
Dunsmore, Julie C.	Assistant Professor	Psychology	Yes	Promoted
Gibas, Cynthia J.	Assistant Professor	Biological Sciences	No	Assoc. Prof., UNCC
Hagner, Caren I.	Assistant Professor	Physics	No	U. Hamburg
Schreiber, Madeline E.	Assistant Professor	Geosciences	Yes	Promoted
Sible, Jill C.	Assistant Professor	Biological Sciences	Yes	Promoted twice, Associate Dean
Stevens, Ann M.	Assistant Professor	Biological Sciences	Yes	Promoted twice
Anderson-Cook, Christine M.	Associate Professor	Statistics	No	Now at Los Alamos
Ball, Sheryl B.	Associate Professor	Economics	Yes	
Bell, Martha A.	Associate Professor	Psychology	Yes	Promoted
Brewer, Karen J.	Associate Professor	Chemistry	Yes	Promoted
Cooper, Robin P.	Associate Professor	Psychology	Yes	
Dove, Patricia M.	Associate Professor	Geosciences	Yes	Promoted
Etzkorn, Felicia A.	Associate Professor	Chemistry	Yes	Promoted
Foti, Roseanne J.	Associate Professor	Psychology	Yes	

Lederman, Muriel	Associate Professor	Biological Sciences	No	Retired
Letzter, Gail R.	Associate Professor	Mathematics	No	Promoted, now at NSA
Lloyd, Gwendolyn M.	Associate Professor	Mathematics	No	Promoted, now at Penn State
Scarpa-Friedman, Angela	Associate Professor	Psychology	Yes	
Andrews, Robin M.	Professor	Biological Sciences	No	Retired
Crawford, Helen J.	Professor	Psychology	No	Retired
Eckel, Catherine C.	Professor	Economics	No	Endowed Chair, UT Dallas
McNabb, Florence M.	Professor	Biological Sciences	No	Retired
Renardy, Yuriko	Professor	Mathematics	Yes	
Riffle, Judy S.	Professor	Chemistry	Yes	
Ross, Nancy L.	Professor	Geosciences	Yes	Associate Dean
Schmittmann, Beate	Professor	Physics	Yes	Department Head
Winkel, Brenda S.	Professor	Biological Sciences	Yes	Interim Department Head

### Program Element 3: Increasing the Representation of Women and Building a Critical Mass

*Proposed Measurable Outcome:* A significant increase in the percentage of women faculty in S&E at Virginia Tech.

*Proposed Outcome Measure:* A comparison of the number and percentage of women faculty in participating departments before the project and for each year of the project, with the intention of demonstrating a statistically significant increase in the women faculty over the course of the project.

*Evidence in Support of Outcomes:* The percentage of women tenured and tenure-track faculty members at Virginia Tech increased from 21% in 2001 to almost 26% in 2009, and the percentage of full professors who are female has increased from 10% to 15%. The number of women tenured and tenure-track faculty in the College of Engineering increased from 26 in fall 2003 to 40 in fall 2009, using the first year of *AdvanceVT* as the baseline, with a corresponding percentage increase from 9.4% to 13%. The number of women tenured and tenure-track faculty in the College of Science increased from 29 in fall 2003 to 35 in fall 2009, with the percent of women increasing from 14.9% to 17%. Note that the total number of faculty university-wide decreased between 2001 and 2003 due to budget reductions during that period.

Table 2 illustrates the change in the number of women faculty in each department of the target colleges of engineering and science between 2001, when Virginia Tech's ADVANCE proposal was prepared, and 2009. Note that the departments and colleges at Virginia Tech were reorganized between 2001 and 2003, so the departments are shown here in the colleges to which they are currently assigned rather than how they were presented in the proposal. Additional data on numbers and percentages of women faculty by appointment type, rank, and gender can be found in Appendix A, Quantitative Indicators of Activity and Progress.

Table 2: Number of tenured and tenure track women faculty in the Colleges of Engineering and Science, Fall 2001 and Fall 2009

College of Engineering	# Women 2001	# Women 2009	College of Science	# Women 2001	# Women 2009
Aerospace & Ocean	0	1	Biology	8	10
Biomedical	-	0	Chemistry	3	4
Chemical	2	2	Economics	4	2
Civil & Environmental	3	7	Geological Sciences	3	3
Computer Science	3	4	Mathematics	7	2
Electrical & Computer	2	4	Physics	2	4
Engineering Education	3	6	Psychology	5	7
Engineering Science & Mechanics	0	2	Statistics	2	3
Industrial & Systems	5	4			
Materials Science	1	4			
Mechanical	3	5			
Mining & Minerals	0	1			
<b>College Total</b>	<b>22</b>	<b>40</b>	<b>College Total</b>	<b>34</b>	<b>35</b>

#### Program Element 4: Advancing Women into Faculty Careers

*Proposed Measurable Outcome:* A significant increase in the percentage of women in engineering and the sciences who choose faculty careers.

*Proposed Outcome Assessment:* A comparison of the number and percentage of women graduate students and post-doctoral fellows in participating departments before the project and for each year of the project who intend to pursue faculty careers, with the intention of demonstrating a statistically significant increase in the women faculty candidates over the course of the project.

*Evidence in Support of Outcomes:* Detailed data on the career plans of doctoral recipients and post-doctoral scholars are not readily available. There is in fact no data on the career plans of post-doctoral scholars. According to the National Science Foundation’s Survey of Earned Doctorates, Virginia Tech awarded between 49 and 82 doctorates to women in science and engineering fields each year between 2003 and 2008, the most recent year for which data are available. Of those degree recipients, between 32 and 59 indicated definite commitments for post-doctoral employment. Among respondents who indicated definite employment commitments, between 50% and 78% indicated that they had obtained academic employment, including those who had obtained postdoctoral positions. Since the numbers are relatively small and vary considerably from year to year, no significant trend can be reported.

#### Training, Development, and Mentoring

The majority of *AdvanceVT* activities fall in the area of training, development, and mentoring. As proposed, the project had four major program elements: (a) institutionalizing change, (b) empowering women as leaders and scholars, (c) increasing the representation of women and building a critical mass, and (d) advancing women into faculty careers. Each program element aimed to address institutional barriers that have constrained Virginia Tech's ability to advance women faculty members in engineering and the sciences. Program elements were designed to directly target institutional culture, practices, and leadership development needs specific to Virginia Tech. This section describes the activities that were proposed and how they were actually implemented.

### **Program Element 1: Institutionalizing Change**

*Proposed Activity:* Retreats and work groups to build awareness among faculty and departmental/college leaders: *AdvanceVT* will hold annual retreats including S&E department heads and faculty, involving 50 participants per year for a total of 250 participants.

*Process Assessment:* Record of attendance at ADVANCE related programs with the intention that one-third of tenure-track faculty and all departmental and college administrators in participating disciplines will participate in at least one ADVANCE related program over the five-year period.

*Actual Activities:* Since 2004, *AdvanceVT* has hosted an annual workshop geared toward advancing diversity at Virginia Tech. Throughout the evolution of this initiative, feedback from the workshops has been overwhelmingly positive and the annual workshop has become a signature event for *AdvanceVT*. The speakers and breakout sessions inform participants about research and programs related to broadening participation in academic careers, provide examples of successful approaches to institutional change, and both energize and challenge attendees to examine their own biases and consider new ways to engage in diversity work.

The first annual workshop in 2004 focused on issues related to women in academic science and engineering careers and was held at the Hotel Roanoke in Roanoke, VA. This event was organized soon after Virginia Tech received its NSF ADVANCE Institutional Transformation grant in September 2003, and served as an opportunity to educate the university community about the ADVANCE initiative and to begin discussing opportunities for change at Virginia Tech. In response to feedback from the 2004 workshop that indicated many participants would prefer events to be held in Blacksburg, the 2005 workshop was held on campus at the Donaldson Brown Hotel and Conference Center under the title of "Advancing Women at Virginia Tech." In 2006, the annual workshop was moved to the new Inn at Virginia Tech and Skelton Conference Center, and the 2007 – 2010 workshops were also held at this facility. After the first few years of the *AdvanceVT* initiative, the focus of the annual workshops was expanded to address other underrepresented groups in academe in addition to women. By 2009, registration for the annual workshop had grown to approximately 300 participants.

Since 2008, *AdvanceVT* has co-hosted the annual workshops with Virginia Tech's Office for Diversity and Inclusion (formerly the Office for Multi-Cultural Affairs, then Office for Equity and Inclusion). In response to the university community's desire to broaden the focus of the annual workshops to address the advancement of all underrepresented groups in academe, the title of the annual workshop was changed to the more inclusive "Advancing Diversity at Virginia

Tech”. Topics discussed at multiple workshops include faculty recruitment, inclusive excellence, mentoring, and department climate issues. The workshops also include status reports from the provost, who is the principal investigator on Virginia Tech’s ADVANCE grant, and the Vice-President for Diversity and Inclusion. Workshop participants have consistently rated the external speakers invited to present at the annual workshops very highly and commented that they appreciate the opportunity to learn from the successes of other universities and organizations. More details, including feedback from annual surveys of workshop participants, can be found in Attachment B, *AdvanceVT* Annual Workshop.

*Proposed Activity:* Visits to and interaction with other ADVANCE project sites, or peers with successful programs addressing gender in S&E.

*Process Assessment:* Record of participation by project staff, department heads, and faculty.

*Actual Activities:* *AdvanceVT* co-PIs and members of the leadership team participated in annual NSF ADVANCE PI meetings. In the early years of the program, *AdvanceVT* invited representatives from previous ADVANCE Institutional Transformation grant recipient institutions (Georgia Tech, University of Washington, University of Michigan, Hunter College, University of Wisconsin, New Mexico State University) to visit Blacksburg, to speak at an annual workshop or special event and meet with the leadership team. As additional rounds of grants were awarded, *AdvanceVT* responded to requests from subsequent grant recipients to share lessons learned as they embarked on their programs.

*Proposed Activity:* Focus groups and/or qualitative interviews with women faculty members in S&E to explore their experience in male-dominated fields and to provide the basis for training materials that can be used with retreats and work groups.

*Process Assessment:* Record of participation by faculty women in focus groups or qualitative interviews and record of how the results are used in project-related activities.

*Actual Activities:* *AdvanceVT* held both formal and informal interviews and focus groups with male and female faculty members over the course of the grant, and used that input to modify proposed and existing programs. Interviews with a cohort of newly hired faculty members in the colleges of science and engineering are described in the section on Research and Education activities. A series of interviews with faculty members who were part of dual career couples is also described there. The first *AdvanceVT* annual workshop in January 2004 included facilitated small group discussions to identify and prioritize issues related to climate, recruitment, retention, leadership development, mentoring, work/life balance, and issues specific for graduate students and non-tenure-track faculty. In spring 2005, 62 male and female faculty members from across the university participated in a series of focus groups on the topic of work/life balance. Twenty-two faculty members from underrepresented groups participated in focus groups in spring 2007 to identify specific areas of concern and potential follow up actions. An informal focus group of tenured women faculty in the spring of 2009 identified a need for programs addressing the needs of tenured faculty, including promotion from associate to professor.

*Proposed Activity:* Review of institutional policies and programs: Using what is learned from interview data with women about perceived barriers and desired improvements, and an informed view of current policies and options at other universities, we will examine and modify our

policies and practices to determine how they might better support women's participation and advancement in faculty and administrative careers.

*Process Assessment:* Summary of policies and programs in place that affect the gender climate. Recommendations for policy revision to the administrators responsible for their implementation.

*Actual Activities:* *AdvanceVT's* 2008 Faculty Work/Life Survey showed that 59% of tenured and tenure-track faculty members at Virginia Tech believe it is difficult to have a personal life and earn tenure and 48% feel that their family responsibilities have slowed their career advancement. Female faculty members indicated that they have considered leaving the university in order to obtain better career opportunities for their spouse or partner (43%), as well as to achieve a better personal/professional balance (50%). To address these university-wide concerns, *AdvanceVT* has led the development and implementation of new and revised work/life policies, including stopping the tenure clock, modified duties, and part-time employment, educated the university community about the availability of these policies, led efforts to increase the availability of child care in the Blacksburg community, and created a dual-career hiring assistance program. These initiatives are described in more detail in Attachment C, *AdvanceVT Work/Life Policies*.

## **Program Element 2: Empowering Women as Leaders and Scholars**

*Proposed Activity:* Two half-time placements per year for women to serve in key administrative or technical leadership roles. Administrative placements will be negotiated based on need and interest, but are expected to include roles within either or both deans' offices, the Research Division, initiatives reporting to the Provost, or other key assignments.

*Process Assessment:*

- Record of placements (at least 6 over the five-year period)
- Participant evaluations of the impact of these placements on their professional development (showing positive impact)

*Actual Activities:* *AdvanceVT* originally planned to fund two half-time placements each year for senior women faculty in the colleges of science and engineering to develop leadership skills. Because few proposals for leadership fellowships were received early in the program, *AdvanceVT* decided to also develop and offer an intensive leadership coaching program for a small number of tenured women faculty. The program selected three cohorts of women from across the university who demonstrated an interest in and potential to assume leadership roles for individualized coaching and skill development. Both fellowships and the leadership development program were offered during years three through five of the grant, and are described in Attachment D, *AdvanceVT Leadership Development Programs*.

*Proposed Activity:* Competitive research grant support for projects within VTICT priorities, designed to increase productivity and competitiveness of female PIs in sciences and engineering.

*Process Assessment:*

- Record of grants awarded (one or more each year)
- Recipient evaluations of impact of ADVANCE project funds in increasing their competitiveness for major research grants (showing positive impact)

*Actual Activities:* *AdvanceVT* research seed grants were awarded in years two through five of the grant, and provided funding to support pre-tenure, tenure-track women faculty in developing successful proposals for external grant funding. Recipients were selected via a competitive process by an interdisciplinary committee with representatives from multiple academic colleges. Over a four-year period, 69 seed grant applications were received and 22 grants were awarded. Recipients represented all five of the eligible academic colleges. In addition to research equipment and supplies, seed grants provided travel funds to visit colleagues at other universities and funds to support graduate students to help acquire data needed to write more competitive proposals. Although the dollar amount of the seed grant awards varied, recipients received an average of \$10,000 from *AdvanceVT* that was matched by their respective college and/or department. As of September 2010, seed grant recipients had fared well in the university promotion and tenure process. Ten seed grant recipients had received tenure and were still at Virginia Tech; one seed grant recipient had received tenure and left Virginia Tech; one recipient was denied tenure; eight recipients were still at Virginia Tech but had not yet reached their tenure review dates; and two recipients had left Virginia Tech prior to their tenure review dates. Of the 22 women faculty receiving *AdvanceVT* seed grants, five were successful in securing NSF CAREER Awards. More details about the seed grant program can be found in Attachment E, *AdvanceVT* Seed Grants.

*Proposed Activity:* Faculty Success program. ADVANCE activities will include exploration and implementation of Faculty Success initiatives for both women and men, including traditional mentoring, peer mentoring which we have used successfully with several groups of women in the sciences (Lederman, La Berge & Zallen, 1994), and other strategies to create communities of scholars. Exemplary departments will be recognized and presented with an ADVANCE Award for Excellence.

*Process Assessment:*

- Record of participation in faculty success programs
- Description of models to promote faculty success
- Impact evaluations from participants (showing positive impact)

*Actual Activities:* In fall 2005, *AdvanceVT* initiated a series of “Leadership Lunches” for women faculty. The purpose of the lunches is to provide women faculty with the opportunity to learn from and interact with current academic leaders, both male and female, as well as to meet and network with other women from across campus. The lunches are open to all, but are advertised primarily to women faculty. Speakers have included current and former provosts, a president emeritus, vice-presidents, deans and associate deans, department heads, research center directors, and professional society leaders. Participants interact informally over a buffet lunch prior to introduction of the speaker(s). The atmosphere is casual (speakers use no slides or other audio/visual technology), and time is reserved for questions and discussion following the speaker’s remarks. Participants are asked to respond to a brief survey at the end of each year, and feedback has been generally positive. The survey respondents represent slightly more than 1/3 of all participants, and are self-selected, so the respondents may be more invested in the program than those who chose not to respond. However, the fact that an average of 25 to 30 individuals made the time to attend each event, and a total of 267 faculty and administrators attended at least one event over the course of the grant, with many individuals attending more than one event, indicates that the leadership lunches do meet a need for these women. By

providing the opportunity to interact with faculty and administrators from across the university as well as providing information about the various career paths and challenges associated with leadership roles in higher education, the lunches demystify leadership and build community among the participants. A complete description of the program and feedback from participants can be found in Attachment F, *AdvanceVT* Leadership Lunches. A comment from a participant illustrates an unanticipated outcome of these events:

*“I am leading a major interdisciplinary proposal that unites faculty from three colleges. I met some of the participating faculty through VT ADVANCE events.”*

*Proposed Activity:* Named lecture series to bring visibility to work by women in S&E.

*Process Assessment:*

- Documentation of scholars’ visits (at least two scholars per year over four years, including research presentation and interactions with students and faculty)

*Actual Activities:* Table 3 summarizes distinguished lecturers hosted by *AdvanceVT*.

*Table 3. AdvanceVT Distinguished Lecturers, 2004 – 2010*

<b>Name</b>	<b>Affiliation</b>	<b>Date</b>	<b>Activities</b>
<b>Dr. Louise Kellogg</b>	Chair, geology, University of California, Davis	Feb 26, 2004	Seminar, met with department heads from the colleges of science and engineering
<b>Dr. Helen Boussalis</b>	Chair, electrical and computer engineering, California State University, Los Angeles	Feb 2, 2005	Seminar
<b>Dr. Linda Katehi</b>	Dean, engineering, Purdue University	Mar 4, 2005	Seminar, met with <i>AdvanceVT</i> leadership team
<b>Dr. Elaine Oran</b>	Senior Scientist, Naval Research Laboratory	Apr 6, 2005	Seminar
<b>Dr. Mildred Dresselhaus</b>	Professor, physics and electrical engineering, Massachusetts Institute of Technology	Sep 16, 2005	Seminar and reception
<b>Dr. Barbara Baird</b>	Director, nanobiotechnology center, Cornell University	Sep 30, 2005	Panel of women department heads and center directors
<b>Dr. Diane Souvaine</b>	Chair, computer science, Tufts University	Sep 30, 2005	Panel of women department heads and center directors
<b>Dr. Laurie McNeil</b>	Chair, physics, University of North Carolina,	Sep 30, 2005	Panel of women department heads and center directors
<b>Dr. Judy Vance</b>	Chair, mechanical engineering, Iowa State University	Sep 30, 2005	Panel of women department heads and center directors



<b>Dr. Kathy Banks</b>	Professor and interim head, school of civil engineering, Purdue University	Mar 24, 2006	Seminar, met with <i>AdvanceVT</i> leadership team
<b>Dr. Alice Eagly</b>	Professor and chair of social psychology, Northwestern University	Jan 23, 2009	Seminar
<b>Dr. Geraldine Richmond</b>	Professor, chemistry, University of Oregon	Mar 2, 2009	Seminars for faculty and grad students
<b>Dr. Esther Takeuchi</b>	Professor, SUNY Buffalo	Sep 11, 2009	Seminar
<b>Dr. Ellen Daniell</b>	Author, <i>Every Other Thursday</i>	Mar 3, 2010	Seminars for faculty and grad students

### Program Element 3: Increasing the Representation of Women and Building a Critical Mass

*Proposed Activity:* Intensive work with search committees to develop more skill and success in recruiting women.

*Process Assessment:* A web site and manual or similar tools documenting recruitment resources for faculty searches in the sciences and engineering.

*Actual Activities:* *AdvanceVT* compiled resources for successful faculty searches on its website and adapted a brochure highlighting “Unrecognized Biases and Assumptions in Hiring, Promotion, Tenure: Research and Tips for More Equitable and Effective Hiring Practices” from the University of Wisconsin WISELI program. In years two and three of the program, one of the Co-PIs met with search committees in the colleges of science and engineering to review these resources. A new initiative for *AdvanceVT* in year four was the establishment of college liaisons for the colleges of science and engineering. The idea for college liaisons was borrowed from the UC Irvine *Advance* program, but the role of the liaison at Virginia Tech is less formal than at Irvine. The college liaison role focuses on enhancing the faculty search process and building community among women faculty. Liaisons meet with candidates for faculty positions to inform them of work/life resources at Virginia Tech and *AdvanceVT* programs and to answer any questions. The liaisons are not members of the search committees, and so are able to discuss possibly sensitive issues with candidates in confidence. Initially, faculty members serving as college liaisons received course buy-outs funded by the grant. Subsequently, the deans of the colleges of science and engineering have found the role so valuable that they continue to support the college liaisons. The liaison for the College of Engineering observed:

*“I think departments (and search chairs) are seeing the value and benefit in helping them recruit faculty, so I’m rarely having to remind any search committee chairs about the need to do this – they come to me now. And I think departments have become much more consistent at doing this. In other words: this does not seem to be something anymore that is being imposed by the *AdvanceVT* liaison or the Dean even – but rather, a more consistently deployed process that has become institutionalized. ... I definitely see*

*something different in this process now compared to 3 or 4 years ago when I first started. I think the benefit also is not just helping to recruit faculty here (for those who end up coming) – but by meeting with all candidates, the ripple effect of those who learn about what we’re doing is pretty significant. Countless times, I’ve had candidates say they were impressed with the breadth of policies for faculty and that many other places they’re interviewing don’t have as progressive of policies/programs as we do. Of course, most of the candidates don’t end up coming here – but hopefully, they’ll spread the word about our faculty policies/programs to others after visiting here (in addition to positive things they learned about the dept and research programs). I think it’s important to be aware of this type of outcome/benefit from the liaison role as well.”*

*Proposed Activity:* Visits to other campuses and conferences to make connections.

*Process Assessment:* Documentation of recruitment trips (at least five) by project staff, department heads, and faculty. Tracking of women identified through visits and conferences to determine if they were eventually offered a position and the outcome of that offer.

*Actual Activities:* This activity has not been systematically implemented. One of the co-PIs has attended the National Society of Black Engineers conference each year, but contacts have not been tracked.

*Proposed Activity:* Hosting potential faculty members in advance of degree completion.

*Process Assessment:* Record of potential faculty candidates hosted and outcomes of visit.

*Actual Activities:* The *AdvanceVT* Visiting Scholars program provides funds for host departments to bring outstanding PhD candidates and post-doctoral scholars to campus outside the regular faculty search process. *AdvanceVT* has hosted 26 visiting scholars to date, with six individuals subsequently joining the Virginia Tech faculty. This program has been expanded to include potential faculty candidates from underrepresented groups and is currently funded by the Office of the Senior Vice President and Provost. Table 4 lists the individuals hosted and hired through the Visiting Scholars program over the course of the grant.

*Table 4. AdvanceVT Visiting Scholars*

<b>Name</b>	<b>Date of visit</b>	<b>Department</b>	<b>Outcome?</b>
Caroline Lasser	3/24/2004	Mathematics	
<b>Leigh McCue</b>	4/19/2004	Aerospace and Ocean Engineering	hired
<b>Rafaella DeVita</b>	12/3/2004	Mechanical Engineering	hired
Laura Cadonati	11/11/2004	Physics	
Eno Yliniemi	1/10/2005	Mechanical Engineering	
Xu Li	3/28-29/05	Electrical and Computer Engineering	
<b>JoAnn Paul</b>	4/1/2005	Electrical and Computer Engineering	hired
<b>Nakhiah Goulbourne</b>	4/7/2005	Mechanical Engineering	hired
Kembra Howdeshell	4/8/2005	Biology	
Jill Nelson	4/11/2005	Electrical and Computer Engineering	
Lynette Gelinis	4/15/2005	Electrical and Computer Engineering	
Karen Allen	9/29/2005	Chemistry	
<b>Nichole Rylander</b>	8/31/2005	Mechanical Engineering	hired

Tanya Wickliff	12/12/2005	Engineering Education	
Vivian Sullivan	3/20-21/06	Physics	
Theresa Mayer	4/21/2006	Electrical and Computer Engineering	
Kim-Vy Tran	8/31-9/1/06	Physics	
Diane Ebert-May	11/3-11/3	Biological Sciences/Biochemistry	
Leah Shaw	1/19/2007	Physics	
Nichole Key	3/2/2007	Mechanical Engineering	
Svetlana Poroseva	10/1/2007	Aerospace and Ocean Engineering	
Kristi Morgansen	10/29/2007	Aerospace and Ocean Engineering	
Irene Beyerlein		Engineering Science and Mechanics	
Monica Cox	Apr-08	Engineering Education	
<b>Danfeng Yao</b>	4/30-5/2/09	Computer Science	hired
Signe Kastberg	9/17-19/09	Mathematics	

#### Program Element 4: Advancing Women into Faculty Careers

*Proposed Activity:* Establish a program for preparing the future professoriate.

*Process Assessment:*

- Record of participation in seminars, assessment, and individualized experiences designed to prepare women for faculty careers in S&E (at least 80 participants over five years)
- Reflections of participants on the change in their goals and expectations over the course of the program (showing positive impact of ADVANCE programs)

*Actual Activities:* Independent of *AdvanceVT*, Virginia Tech's graduate school developed a Future Professoriate Graduate Certificate composed of nine credit hours, including a three hour course on Preparing the Future Professoriate, a three hour course on pedagogy, and an additional three hours of coursework or practicum. To complement this initiative, *AdvanceVT* offers a series of seminars for graduate students considering faculty careers on topics related to the academic job search process, getting off to a good start as a faculty member, and balancing work and personal life. Between 100 and 200 graduate students and post-doctoral scholars have attended one or more seminars each year of the program. A more detailed description of the program and feedback from participants on how it has impacted their career aspirations can be found in Attachment G, *AdvanceVT* Graduate Student Seminars.

In addition to seminars for Virginia Tech graduate students, *AdvanceVT* also hosted a national conference on Transforming the Professoriate to provide female graduate students and postdoctoral associates in science and engineering with the tools to plan for a successful career in academia. With a special emphasis on women of color, the conference also served as a preliminary faculty recruitment effort by providing a forum to expose nationally-competitive senior female doctoral students and postdoctoral researchers from around the country to Virginia Tech's science and engineering programs. In order to participate in the conference, graduate students and postdoctoral associates were required to apply for one of the conference positions available. The application process was coordinated with the University of Maryland Baltimore County's Faculty Horizons program. Sixty-eight scholars were chosen to attend, with all expenses paid. The conference boasted participants from India, South America and Eastern

Europe. Ninety percent (90%) of the participants were women; 43% Caucasian/White, 16% African-American/Black, 21% Asian/Pacific Islander, 8% Hispanic/Latino, 9% Other. More details about the Transforming the Professoriate conference, including feedback from conference participants, can be found in Attachment H, *AdvanceVT* Transforming the Professoriate Conference.

*Proposed Activity:* Expand the Dissertation Year/Postdoctoral Fellowship Program for Academic Diversity.

*Process Assessment:*

- Record of participation in the program (at least six over the five-year period, with at least two of these joining the faculty at Virginia Tech)
- Participant evaluations of the value of this program in preparing them for successful transition to a faculty career (showing positive impact)
- Longer term, fellows will be tracked to document subsequent career moves, including offers of employment at Virginia Tech.

*Actual Activities:* *AdvanceVT* supported ten postdoctoral fellows and nine PhD fellows during academic years 2004-05, 2005-06, 2006-07, and 2007-08, years two through five of the grant. The fellowships supported young scholars preparing for a faculty career, especially individuals from groups historically underrepresented in the professoriate. A mentoring plan was a key component of the fellowship, ensuring that the fellow developed appropriate knowledge and skills with support from senior colleagues. A member of the *AdvanceVT* leadership team met with each fellow and her mentor(s) mid-way through the fellowship year to review progress on the mentoring plan, and fellows were asked to report on the outcomes of their fellowship at the end of the year. All fellows reported at least one publication or conference presentation developed as a result of the fellowship. Additional information can be found in Attachment I, *AdvanceVT* PhD and Postdoctoral Fellowship Program.

## **Outreach**

In addition to formal conference presentations, members of the *AdvanceVT* team gave numerous presentations to various groups on the Virginia Tech campus and invited talks at other universities during the course of the grant.

2003-04:

- As a result of meeting with the chemistry department head, the *AdvanceVT* program coordinator was invited to speak to the Southeast Regional Chemistry Department Heads meeting about the Advance program.
- The *AdvanceVT* program coordinator also gave a presentation about women in engineering and participated in the Civil and Environmental Engineering Department's alumni advisory board retreat.
- Advance Professor Schmittmann received an invitation to visit the Institute for Gender Studies and the International Science Center (ISC) at the University of Essen, Germany, in November 2003. Schmittmann served as a mentor and presented a talk: "The NSF ADVANCE Program: Supporting Women in Science and Engineering."

- Advance Professor Eckel led discussions with women faculty at Cal State Fullerton (March, 2004) and Vassar College (April, 2004) about Advance program opportunities at NSF and resources for women faculty that are being made available at various Advance sites.
- Co-PIs and Advance Professors Love and Thole presented a summary of the *AdvanceVT* program to the College of Engineering's Visiting Board.
- Co-PIs and Advance Professors Love and Thole participated as panelists in the Central Virginia Community College summer academy for Women in Science and Technology.

2004-05:

- *AdvanceVT* received a grant from the Engineering Directorate at NSF to organize a workshop for Advance Institutional Transformation and Leadership principal investigators whose grants focus on women in engineering, engineering deans, and NSF engineering directorate program officers in Arlington, VA. Six "first round" and seven "second round" Institutional Transformation grant recipients, six Leadership grant recipients, and the Women in Engineering Leadership Institute were represented at the meeting. Representatives from 29 engineering schools that do not currently have an ADVANCE grant and National Science Foundation program officers and administrators also participated in the workshop.
- *AdvanceVT* professor Schmittmann presented talks about the Advance program at Bowdoin College and the University of Maine.
- *AdvanceVT* professor Thole organized the first women's networking luncheon at the American Society of Mechanical Engineers' International Gas Turbine Institute's Exhibition and Congress.

2006-07:

- Terpeny, J. (2006). "Advancement of Women in Engineering," Sungkyunkwan University, Suwon, Korea, November 14, 2006 (invited lecture).
- Hyer, P. (2007). Panelist at the conference "Gender Equity: Strengthening the Physics Enterprise in Universities and National Labs," May 6-8, 2007, hosted by the American Physical Society.

2007-08:

- Creamer, E. (2007). *Responses of Underrepresented Faculty Members to the 2003 AdvanceVT Work-Life Survey*. University Commission on Equal Opportunity and Diversity, Virginia Tech. Blacksburg, VA.
- Creamer E. (2007). *Concerns of Faculty Members from Underrepresented Groups*. Commission on Faculty Affairs, Virginia Tech. Blacksburg, VA.
- Creamer, E. (2008). *Improving Department Climate*. University of Michigan. Ann Arbor, MI.
- Creamer, E. (2008). *Improving Department Climate*. California Polytechnic State University. Pomona, CA.
- Hyer, P. & Thomas, G. (2008). *Transforming Faculty Careers Through Work/Life Policies and Programs*. College and University Work Family Association Annual Conference. Chapel Hill, NC.

2008-09:

- The Advance Leadership Team hosted the Vice Provost for Faculty Affairs and 4 faculty members from the University of Tennessee on June 5, 2009. The team is preparing an Advance Institutional Transformation proposal.
- Leadership Team members Van Aken and Terpenney spoke on panels at Auburn University's Advance conference on "small wins" in May, 2009.
- Layne, P. (May 5, 2009). *AdvanceVT Faculty Work-Life Survey Findings*. Commission on Equal Opportunity and Diversity. Blacksburg, VA.
- PI McNamee participated in an external advisory board meeting for the Advance program at Northeastern University, Boston, MA, April 24, 2009.
- Hyer, P. (April 13, 2009). *Addressing Work-Life Issues for Faculty Members: VT and the National Picture*. Departmental seminar, Human Nutrition, Foods, and Exercise. Blacksburg, VA.
- Van Aken, E. & Finney, J. (Spring 2009). *Departmental and College Climate Survey Results*. Eight presentations to department heads in each academic college. Blacksburg, VA.
- Co-PI Hyer participated in an external advisory board meeting for the Advance program at the University of Alabama, Birmingham, February 23-24, 2009.
- Creamer, E. (January 12, 2009). *AdvanceVT Faculty Work-Life Survey Findings, Advancing Diversity at Virginia Tech*. Blacksburg, VA.
- Finney, J. W., Piercy, F., Davy, B., Folkart, J., & Perez-Quinonez, M. (January 2009). *Faculty mentoring: Perspectives from mentors and mentees*. Advancing Diversity at Virginia Tech. Blacksburg, VA
- McNamee, M. (January 12, 2009). *Status report on AdvanceVT*. Advancing Diversity at Virginia Tech. Blacksburg, VA.
- Finney, J. W., Merola, J., Taylor, D., & Van Aken, E. (October 2008). *Departmental climate management*. Virginia Tech Department Heads' Council.
- Hyer, P. (October 13 & 16, 2008). *Work-Life Balance Policies at VT*. Organization of Women Faculty. Blacksburg, VA and by teleconference to Northern Virginia Center. (Presentation and panel discussion)
- Finney, J. W., & Puri, I. (August 2008). *Departmental climate: The key to a productive department*. New Department Heads and Academic Leaders Workshop.

## Publications and Products

### Journal articles

- Amelink, C. and E. Creamer (2007). "Work-Life Spillover and Job Satisfaction of Married/Partnered Faculty Members." *Journal of Women and Minorities in Science and Engineering* 13(4): 15.

### Conference proceedings

- Creamer, E., Harrell, L., Layne, P. (2009). *The Benefits of Routine Performance Feedback*. Women in Engineering ProActive Network Annual Conference. Austin TX.
- Creamer, E. G. , Saddler, T. N., & Layne, M.E. (2008). *Changes in the nature of faculty work in engineering during the first three years*. Proceedings of the 2008 American Society for Engineering Education (ASEE) National Conference. Pittsburgh PA.
- Creamer, E., and Layne, P. (2007). *Elements of the Work Environment that Contribute to the Ability of Engineering Faculty to Manage Work-Life Tensions*, American Society for Engineering Education Annual Conference, Honolulu HI.
- Johnson, A., Layne, P., Terpenney, J. (2009). *Empowering Women as Leaders: ADVANCE Leadership Programs at a Doctoral STEM-Dominant University*. American Society for Engineering Education Annual Conference. Austin TX.
- Layne, P., Johnson, A.T., & Hyer, P. (2008) *Policy Change Is Not Enough: Measuring the Impact of Work/Life Policies at a Research University*, Women in Engineering ProActive Network Annual Conference. St. Louis MO.
- Layne, P., Creamer, E. G., Hyer, P. B., & Eckel, C. (2005). *Developing and Implementing Guidelines for Dual-Career Hires*. American Society for Engineering Education (ASEE) Annual Conference & Exposition. Portland, Oregon.

### Conference presentations

- Amelink, C., and Creamer, E. G. (2006). *Spillover and job satisfaction of married/partnered faculty members*. Research paper presentation. Association for the Study of Higher Education National Conference. Anaheim, CA, November 1-4, 2006.
- Carlson, S.; Trower, C.; Hyer, P.; & Bilimoria, D. (April 4, 2009). *Re-Fashioning Careers for STEM Faculty*. American Association of Colleges and Universities: Shaping Faculty Roles in a Time of Change. San Diego, CA.
- Creamer, E. G. & Saddler, T. N. (2008). *A longitudinal analysis of the priorities and challenges of pre-tenure faculty in engineering and the sciences by gender*. Poster accepted by the Research on Women in Education SIG for presentation at the American Educational Research Association National Meeting. New York City, NY. April 24-28, 2008.
- Creamer, E. G., Malley, J., Stewart, A., and Valian, V. (2007). *Cross-institutional studies of strategies associated with institutional transformation among nineteen ADVANCE*

*institutions*. Symposium proposal. American Educational Research Association. April 9-13, 2007.

- Creamer, E. & Saddler, T. (2007). *Factors that Influence Perceptions of Collegiality Among Faculty Members in Engineering and Other Disciplines*. Association for the Study of Higher Education Annual Conference. Louisville, KY.
- Creamer, E. G. (2004). *The Perceived Impact of Spousal Accommodation Policies on Faculty Productivity and Satisfaction*. Research paper presentation for the symposium, “Enhancing Understanding of Faculty Roles and Work- lives: Research on Organizational Contexts and Gender Equity.” Moderator: Diane Dean, Illinois State University. Association for the Study of Higher Education (ASHE) 2004 National Conference. Kansas City, Kansas.
- Hirt, J., Hyer, P., Creamer, E. G., Ballam, D., Brown, A., & Bensimon, E. (2005). *Transforming organizations: Enhancing work-life for faculty women*. Joan Hirt, Symposia Chair. Association for the Study of Higher Education (ASHE) National Conference. Philadelphia, PA.
- Hyer, P., Johnson, A., & Cameron, T. (2008, October 9-10). *Work-Life Policies and Programs at Virginia Tech*. New Norms of Faculty Flexibility: Transforming the Culture in Science & Engineering, Iowa State University, Ames, IA. (poster)
- Hyer, P. & Carlson, S. (February 7, 2009). *Addressing Work-Life Issues for Faculty*. Annual State Coordinators’ Conference, American Council on Education Office for Women in Higher Education. Washington D.C.
- Hyer, P. (May 14-15, 2009). *Transforming Virginia Tech: An Advance Case Study*. Changing Research Landscapes to Make the Most of Human Potential: Ten Years of EU Activities in Women and Science and Beyond. Prague, Czech Republic. (Invited keynote address)
- Hyer, P. (June 4, 2009). *Dual Career Issues at Virginia Tech*. Annual Conference, Higher Education Dual Career Network. Blacksburg, VA. (Keynote address)
- Hyer, P. (2007). Panelist at the conference “Gender Equity: Strengthening the Physics Enterprise in Universities and National Labs,” May 6-8, 2007, hosted by the American Physical Society.
- Layne, P. & Vega, L. (2009). *Advance Portal Website*. National Science Foundation Human Resource Development Joint Annual Meeting. Washington DC.
- Layne, P. (2008). *Overcoming Implicit Bias in the Workplace*. Society of Women Engineers Annual Conference. Baltimore MD.
- Layne, P. (2008). *Advancing Women Scientists and Engineers on Faculties in the United States*. International Conference of Women Engineers and Scientists. Lille, France.
- Layne, P. (2007). *Using Data to Drive Institutional Change*, panel presentation at the World Federation of Engineering Organizations International Colloquium on Empowering Women in Engineering and Technology, Tunis, Tunisia, June 6-8, 2007.
- Layne, P. (2007). *Progressive Work-Life Policies for Faculty*. Society of Women Engineers Annual Conference. Nashville TN.
- Layne, P. (2006). *Bridges to Institutional Transformation*. Poster. WEPAN annual conference. Pittsburgh, PA.
- Layne, P. (2005). *Institutional Transformation at Virginia Tech*. Poster. Convocation on Biological, Social, and Organizational Contributions to Science and Engineering Success,



National Academies Committee on Women in Academic Science and Engineering, Washington, DC.

- Malley, J., & Creamer, E. G. (2006). *Creating changes that last: Institutionalizing Advance transformations*. Presentation at the National Science Foundation Advance PPI Meeting. Washington, D.C. May 18-19, 2006.
- Saddler, T., and Creamer, E. G. (2006). *Collegiality and the job satisfaction of science and engineering women and minority faculty*. Poster presentation. Association for the Study of Higher Education (ASHE) National Conference. Anaheim, CA, November 1-4, 2006.
- Saddler, T. & Creamer, E. (2008). *A Longitudinal Analysis of the Priorities and Challenges of Pre-Tenure Faculty in Engineering and the Sciences by Gender*. Poster. American Educational Research Association Annual Conference. New York, NY.

## Dissertations

Plummer, E. W. (2006). *Institutional Transformation: An Analysis of Change Initiatives at NSF ADVANCE Institutions*. Doctoral dissertation completed at Virginia Tech.

## Educational Materials

### Brochures and flyers

- In year one, *AdvanceVT* developed a folder-style brochure describing NSF's Advance program and Virginia Tech's Advance initiative, highlighting baseline statistics on women in science and engineering at Virginia Tech. The folders have a pocket for additional materials such as newsletters, agendas, and handouts, and so can be used for a variety of *AdvanceVT* activities throughout the life of the grant.
- In year two, in collaboration with the graduate school, *AdvanceVT* developed and printed a bookmark to communicate the availability of work/life resources for graduate students, including the new work/life grants that provide temporary financial assistance for new mothers as well as the availability of lactation rooms on campus and other work/life resources available through personnel services, the YMCA, and the Women's Center. The bookmarks were distributed to graduate students and faculty by the graduate school and at receptions, seminars, and other *AdvanceVT* events.
- Also in year two, *AdvanceVT* developed a brochure on unrecognized biases and assumptions in the hiring, promotion, and tenure processes, building on work done by the University of Wisconsin Advance program. The brochure summarizes and provides references to research on unconscious biases that affect both women and men when they evaluate vitas and write letters of recommendation, and complements the presentations made by *AdvanceVT* to search committees. The brochure is distributed to search committees across the university, and is available on the *AdvanceVT* web site.
- In year three, *AdvanceVT* developed a progress report highlighting accomplishments over the first two years of the program and distributed it to all teaching and research faculty on campus in December 2006.

- Also in year three, *AdvanceVT* prepared three short, newsletter style, reports and one-page flyers summarizing key findings from the spring 2005 faculty survey in the areas of leadership, recruitment, and work-life. The reports were distributed to university leaders and at *AdvanceVT* events and are posted on the web site at [http://www.advance.vt.edu/Measuring\\_Progress/reports.htm](http://www.advance.vt.edu/Measuring_Progress/reports.htm). The one-page flyers were mailed to all teaching and research faculty on campus.
- In year four, *AdvanceVT* produced a new brochure on work-life balance programs for faculty, highlighting support for dual career hires, university policies on family leave, stopping the tenure clock, and modified duties, availability of child and elder care, campus lactation facilities, and the university's work-life resource center. Copies were distributed to all tenured and pre-tenure faculty and continue to be distributed to faculty candidates in the colleges of science and engineering and to all new faculty at orientation.
- In year five, "Creating a Positive Departmental Climate at Virginia Tech: A Compendium of Successful Strategies" was created as part of the *AdvanceVT* Departmental Climate Initiative (DCI). The Department Climate Committee collected policies and practices from a variety of sources to provide department chairs and heads with opportunities to learn about departmental issues at Virginia Tech, to understand more fully the ways in which these issues manifest themselves within departments, and to share both successful and unsuccessful strategies illustrative of the different approaches departments have taken towards promoting effective, efficient, and pleasant work environments. The compendium focuses on five critical areas that emerged from these sources: creating a sense of intellectual community, providing for fair and full evaluations of staff and faculty, improving communications to insure clarity and mutual respect and understanding, building more effective departmental policies, and helping department members achieve an effective work-life balance. The compendium can be found on the *AdvanceVT* web site.

## Newsletters

Each year of the program, *AdvanceVT* developed and distributed three to six newsletters highlighting program activities, accomplishments of women faculty at Virginia Tech, and statistics on women in science and engineering at Virginia Tech and nationwide. Guided by recommendations from the external reviewers, summaries of key findings from data collected through *AdvanceVT* are now being included in each issue of the newsletter. Newsletters are distributed in hard copy to university leaders and at *AdvanceVT* events as well as sent out by email to committee members and posted on the *AdvanceVT* website.

## Websites

The *AdvanceVT* website, [www.advance.vt.edu](http://www.advance.vt.edu), was established in the first year of the program and completely redesigned in fall 2005 to make the site more user friendly and again in the summer of 2007 to incorporate new university design templates. The site includes information about the Virginia Tech Advance leadership team, funding opportunities, accomplishments of women scientists and engineers at Virginia Tech, upcoming activities, a description of *AdvanceVT*'s assessment plan and informational resources for women graduate students and faculty. The site includes a copy of Virginia Tech's Advance proposal to NSF and links to the

NSF Advance website as well as websites belonging to the other NSF Advance Institutional Transformation grant recipients. Annual reports, data from the faculty survey, and other institutional data on women in science and engineering are also posted on the *AdvanceVT* website.

A website describing services of the Dual Career Assistance Program was also developed during 2005-06: <http://www.hr.vt.edu/employment/dualcareer/>. The Dual Career Assistance Program web site was redesigned in 2008 with new information added as part of an overall redesign of the Human Resources website.

*AdvanceVT* received supplemental funding from NSF in the summer of 2004 to develop a portal website for the Advance program. The portal website, [www.advance-portal.net](http://www.advance-portal.net), was launched in fall 2004 and is designed to serve as a center of communication among Advance project team members. It is organized to include links to important information posted on individual grantee websites based on pre-defined categories, includes a search engine and links to the 19 institutional host sites. Occasional feature articles highlight events and activities of interest to the Advance community. The Advance portal website was reorganized during summer and fall 2005 with new categories to facilitate access to information. In 2007, the Advance portal website was converted from a “wiki” format to a static website to control spam and inappropriate content. Links to new Advance grant recipients’ sites were added as they became available. Virginia Tech received additional supplemental funding in the summer of 2008 to upgrade the Advance portal website. A new site design debuted in January with an enhanced search function and multiple navigation options. Links to all ADVANCE Institutional Transformation grant recipient web sites were revised, updated, and annotated. Links to PAID grant recipient web sites were added. New features on the web site include a tag cloud, new feature articles, web master tools, link submittal form, a user survey, and an interactive map of all grantees. In the summer of 2010, the “back office” functions of the portal were again redesigned to better handle the increased volume of links (over 3000) and make the site easier to maintain. The site is now hosted by Virginia Tech at [www.portal.advance.vt.edu](http://www.portal.advance.vt.edu), and can still be reached through the original alias, [www.advance-portal.net](http://www.advance-portal.net).

## **Video**

In spring 2010, *AdvanceVT* produced a six minute video highlighting the impact of the program on Virginia Tech. In the video, ten faculty members, including the provost and associate provost, a dean, and two associate deans, and one graduate student give their impressions on how *AdvanceVT* has transformed the institution. The video was shared with over 100 *AdvanceVT* supporters at a luncheon in May 2010 and is posted on the Virginia Tech YouTube channel with a link from the *AdvanceVT* web site.

## Contributions

### Human Resource Development

- *AdvanceVT* reached 100 to 200 graduate students and post-doctoral researchers each year with seminars on preparation for faculty careers
- Seventeen women faculty members participated in the Leadership Development program over the course of the grant. One of them is now a dean, two are department heads, one is assistant department head, and two have been promoted to professor.
- Two former co-PIs on the grant are now department heads at other institutions.
- One co-PI on the grant has become a department head at Virginia Tech.

### Resources for Research and Education

- *AdvanceVT*'s Department Climate Compendium ([http://www.advance.vt.edu/Climate\\_Compndium/Introduction.html](http://www.advance.vt.edu/Climate_Compndium/Introduction.html)) contains descriptions of promising practices and successful strategies for promoting effective, efficient, and pleasant work environments in academe.
- *AdvanceVT*'s brochure *Unrecognized Biases and Assumptions in Hiring, Promotion, and Tenure: Research and Tips for More Equitable and Effective Hiring Practices* summarizes research on bias and provides suggestions for combating bias in evaluation ([http://www.advance.vt.edu/Resources\\_and\\_Links/Search\\_Committee\\_Resources/Unrecognized\\_Biases.pdf](http://www.advance.vt.edu/Resources_and_Links/Search_Committee_Resources/Unrecognized_Biases.pdf)).
- The Advance Portal website (<http://www.portal.advance.vt.edu/>) provides a tool to access programs, publications, and other resources created by the nationwide community of Advance grant recipients.

### Beyond Science and Engineering

- As a result of *AdvanceVT*, Virginia Tech now has a suite of policies available to assist faculty university-wide in combining a successful academic career with a rewarding personal and family life and a commitment of funding from the central administration to support implementation of these policies. The policies are available on the university's web site and may be adapted for use at other institutions.
- Efforts to recruit more women faculty in STEM fields have been expanded to increase faculty diversity across all colleges.
- *AdvanceVT*'s faculty surveys have identified factors that contribute to faculty job satisfaction across the university as well as areas for improvement. College and department level analyses of the survey responses provide deans and department heads with insight into faculty attitudes and specific issues that need attention, such as communication and mentoring.

## Attachments

- A. Quantitative Indicators of Activity and Progress
- B. AdvanceVT Annual Workshop
- C. AdvanceVT Work/Life Policies
- D. AdvanceVT Leadership Development Programs
- E. AdvanceVT Seed Grants
- F. AdvanceVT Leadership Lunches
- G. AdvanceVT Graduate Student Seminars
- H. AdvanceVT Transforming the Professoriate Conference
- I. AdvanceVT PhD and Post-doctoral Fellowship Program
- J. Financial Report

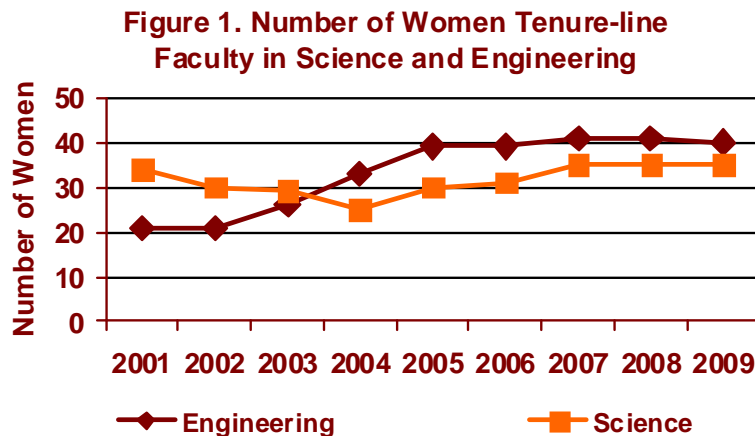
## AdvanceVT Year Seven Quantitative Indicators of Activity and Progress

As part of the reporting requirements of Virginia Tech's Advance Institutional Transformation grant, the National Science Foundation requires a set of quantitative and qualitative indicators of project performance and impact on an annual basis. Virginia Tech received its grant in the fall of 2003, and completed the seventh year of its Advance program in August 2010. Where possible, this report includes data from prior years for comparative purposes. The format for this annual reporting incorporates suggestions presented in the *Proposed Toolkit for Reporting Progress toward NSF ADVANCE: Institutional Transformation Goals*. Additional detail on tenure, promotion, and time in rank is provided through continued reporting of the faculty cohort analysis that was initiated with *AdvanceVT's* first annual report. For ease of reading, tables are included at the end of this report.

Indicators presented herein include numbers and percentages of women scientists and engineers in various employment categories at Virginia Tech and analyses of gender effects on promotion and tenure, recruitment, and start-up packages. A reality of working with large datasets is that each year irregularities in the data are identified and corrected, so while numbers may change from year to year the overall accuracy improves. *AdvanceVT* continues to use these data indicators internally for program planning and with the university community in a variety of formats, including presentations to university administrators as well as in newsletters and on the *AdvanceVT* web site.

### Faculty by Appointment Type, Rank, and Gender

The number of women tenure-line faculty in the College of Engineering almost doubled between 2002 and 2005, but has remained virtually constant since, with new hires being offset by departures. The College of Science saw a decrease in the number of tenure-line women faculty between 2001 and 2004, followed by an increase to 2007. Figure 1 illustrates the change in number of women tenure-line faculty in the colleges of science and engineering from fall 2001, the baseline data included in the original grant proposal, to fall 2009.



In fall 2009, there were 316 tenured and tenure-track faculty in the College of Engineering, of which 40 (13%) were women. This is a significant increase from the fall of 2001 when there

were 19 (7.4%) women. Nationwide, 12.7% of tenured and tenure track engineering faculty were women in 2009, according to the American Society for Engineering Education’s “Engineering by the Numbers” report. One engineering department at Virginia Tech continues to have no women faculty in tenured or tenure-track positions (biomedical engineering). The College of Science had 201 tenured and tenure-track faculty in fall 2009, including 35 women (17%), virtually the same as in 2001. Figure 2 illustrates the change in percent of women tenure-line faculty in the colleges of science and engineering compared with the university as a whole.

**Figure 2. Women as Percent of Tenure-Line Faculty**

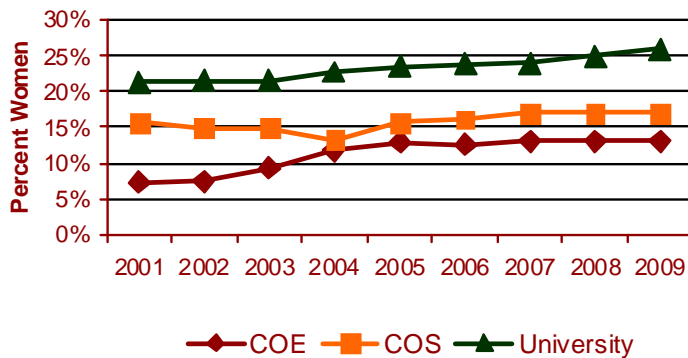
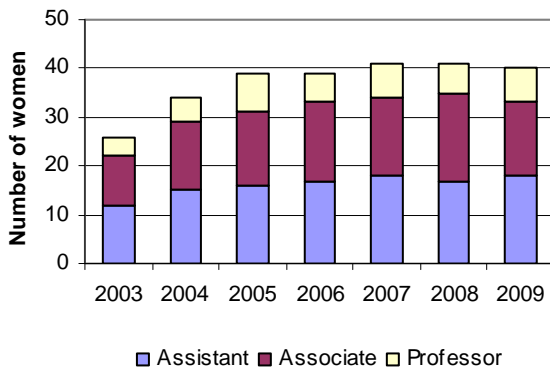
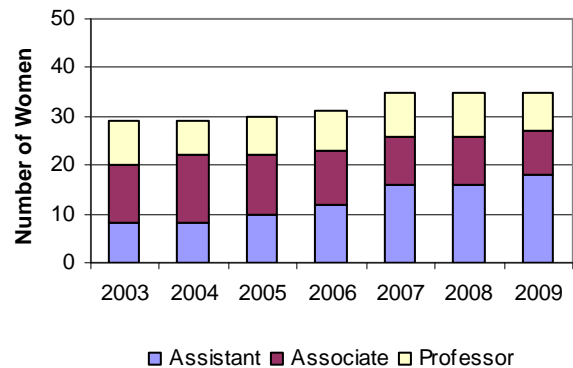


Table 1 shows the number and percent of women faculty in the Colleges of Science and Engineering by department, including both the number and percent of women in tenure-line positions by rank and department, and the number of women in science and engineering who are in non-tenure-track positions. Percentages from previous years are included for comparison. Only faculty in the standard academic ranks of assistant, associate, or professor are eligible to earn tenure at Virginia Tech. Administrators cannot earn tenure in an administrative appointment, but retain their tenure if earned previously as part of an academic appointment.

**Figure 3a. Women Tenure-Line Engineering Faculty by Rank**



**Figure 3b. Women Tenure-Line Science Faculty by Rank**

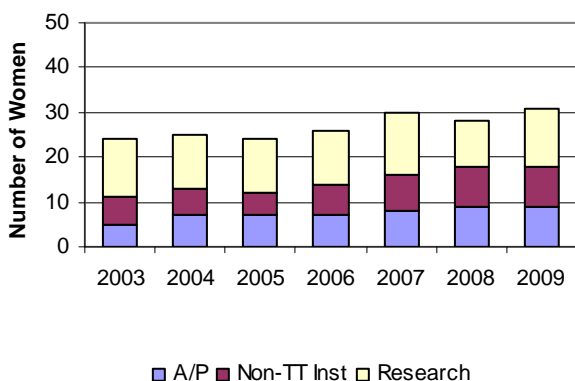


Figures 3a and 3b illustrate the distribution of women tenure-line faculty in science and engineering by rank. The scarcity of women at the senior-most ranks remains an issue since low numbers of full professors mean the pool of experienced women available for appointments to professorships and chairs and important policy making committees is very limited.

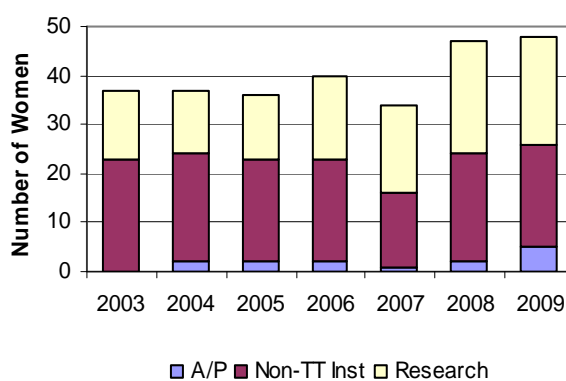
There are three other major categories of faculty appointments at Virginia Tech: administrative and professional (A/P), non-tenure track instructional, and special research faculty. A/P faculty in the two colleges are generally the deans and assistant/associate deans and professional staff for college-level functions. When A/P positions appear in departments, these individuals are typically professional fiscal officers or academic advisors. Both colleges have strong representation of women on the dean’s staff. The College of Engineering has an associate dean for academic affairs and an associate dean of distance learning and computing, both are African American women. The College of Science has an associate dean of research, graduate studies, and outreach, and an associate dean for curriculum, instruction, and advising, both positions currently filled by female faculty members.

Non-tenure-track instructional faculty include individuals on visiting appointments, lecturers, or those on short or long-term instructor appointments. The College of Science has many more instructors than the College of Engineering. These instructors teach many sections of lower division mathematics and science courses; about half of the non-tenure track appointments in the College of Science are in the department of mathematics. Women fill over half of these appointments college wide. A growing category of employment at Virginia Tech is the special research faculty whose primary responsibility is sponsored research. There are a number of ranks used within the special research faculty category. These include postdoctoral associate, research or project associate, research scientist, and research professor, among others. Changes in the number of women in these faculty categories are shown in Figures 4a and 4b.

**Figure 4a. Women Non-Tenure-Line Engineering Faculty by Type**



**Figure 4b. Women Non-Tenure-Line Science Faculty by Type**



Faculty hiring during the period of the grant was deeply affected by severe state budget reductions in 2002-2003, and to a lesser extent by new budget reductions imposed in 2008. The total tenured and tenure track faculty university-wide decreased from 1418 in fall 2001, to 1331 in fall 2002, to 1262 in fall 2003; an 11% reduction. The reduction in administrative and



professional faculty over the same period was 13.6%. Much of the loss was a result of an early retirement program offered as part of the university’s budget reduction strategies. In addition, there were significantly more resignations for several years as faculty sought better opportunities and salaries elsewhere. In 2004, the university was able to begin rebuilding the faculty and a significant amount of new hiring has occurred. The number of tenured and tenure-track faculty reached 1396 in fall 2008, still short of the faculty count in 2001, and declined to 1385 in fall 2009. (Source: IR website, www.irpa.vt.edu, file name: HC\_trend\_fa00-09\_AllVT\_final.xls)

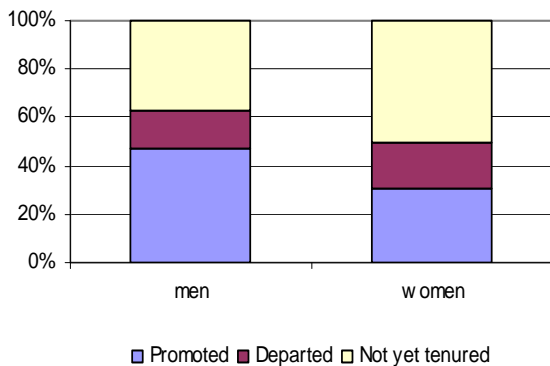
### Tenure and Promotion Outcomes by Gender

Due to low representation of women in the assistant, associate, and professor ranks in the College of Engineering and College of Science, few women are reviewed for tenure on a yearly basis. Table 2 summarizes the number of men and women in the College of Engineering and College of Science who have been reviewed for either a promotion, tenure, or simultaneously reviewed for promotion and tenure for one year prior to receiving the Advance grant (2002-2003) and seven years following its inception. All female candidates from both colleges have successfully met the criteria for promotion and/or tenure over the past eight years.

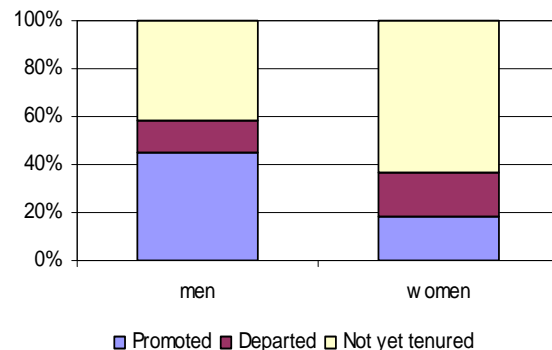
#### *Years in Rank by Gender, Promotion to Associate Professor*

Table 3 summarizes the current status of faculty hired at Virginia Tech as assistant professors between 1996 and 2008, including attrition and time to promotion. During those 12 years, a total of 87 assistant professors were hired in the College of Science (60 men and 27 women) and 143 assistant professors were hired in the College of Engineering (107 men and 36 women). Of those hired, 46 have subsequently left Virginia Tech (17 scientists, five female and 12 male, and 29 engineers, 10 female and 19 male). Nineteen percent of the female scientists hired during this period have been promoted to the rank of associate, compared with 45% of the male scientists. Among the engineers hired at the assistant professor rank, 31% of the women and 47% of the men have been promoted. The difference in promotion rates is, at least in part, due to the fact that more male faculty tend to be hired with more prior experience and more women faculty stop the tenure clock, although increasing numbers of male faculty are also using the stop-the-clock provision. Figures 5a and 5b illustrate the current status of assistant professors hired during this period.

**Figure 5a. College of Engineering Assistant Professors Hired 1996-2008**



**Figure 5b. College of Science Assistant Professors Hired 1996-2008**



Average time to promotion for assistant professors hired between 1996 and 2008 in the College of Engineering was 5.73 years for women and 5.44 years for men. In the College of Science, average time to promotion for women in this group was 6.00 years and for men 4.70 years.

#### *Years in Rank by Gender, Promotion to Professor*

Table 4a summarizes time in rank by examining scientists and engineers hired during 1996-2008 as assistant professors who have been promoted to professors. Scientists and engineers hired as associate professors who have been promoted to professors are summarized in Table 4b. Among the 143 assistant professors hired (36 women, 107 men) between 1996 and 2008 in the College of Engineering, eight male and one female engineer have been promoted to professor. The College of Science hired 89 assistant professors during this same time period (27 women, 60 men). Twelve male scientists (20%) hired as assistant professors have been promoted to professor. None of the women in the College of Science who were hired as assistant professors in this time frame have been promoted to professor.

Table 4b presents time in rank for faculty hired as associate professors. During 1996-2008 the College of Engineering hired 8 women and 51 men at the associate professor rank. Among those hired as associate professors in the College of Engineering, 11 males (22%) and two females (25%) have been promoted to the rank of professor after three to eight years in the associate professor rank. The College of Science hired 7 women and 15 men at the associate professor rank in that time frame. Among those hired, six males (40%) and three females (42%) have been promoted to professor after spending 3 to 11 years in the rank of associate professor.

Calculating time in rank for individuals hired or promoted prior to 1996 is problematic due to missing data prior to implementation of the current personnel database system. For faculty members promoted to the rank of professor university-wide since 2000 for whom previous promotion dates are available (42 women and 155 men), women spent an average of 9.60 years at the rank of associate professor while men spent an average of 8.34 years at the associate professor rank. Even greater variations in time in rank occur across colleges, from 6.33 years in the College of Science to 11.93 years in the College of Liberal Arts and Human Sciences. Since the majority of women faculty members are in the College of Liberal Arts and Human Sciences, the variation in time in rank may be more attributable to disciplinary differences than to gender per se.

#### *Time at Institution by Gender*

Table 5 shows average years at Virginia Tech for tenure-track faculty in the Colleges of Science and Engineering by rank and gender, as well as for the university as a whole. The average length of service at Virginia Tech for male professors in engineering is 14.2 years versus women professors who have on average 6.7 years. In science, the average years of service for male professors is 18.2 years versus women who have on average 8.9 years. University wide, male professors have been at Virginia Tech about 16.3 years versus females who have 10.5 years. Not surprisingly, these data reflect the fact that women are relatively recent additions to the faculty ranks in engineering and science. These averages have changed little over the past seven years.

### *Attrition*

Table 6 summarizes the number of voluntary non-retirement departures by rank and gender for the College of Science and the College of Engineering from 1997-2009. The proportion of women leaving is significantly higher than for men (see also Table 3), a statistic that invites further investigation. Six senior women faculty members in the College of Engineering left Virginia Tech during this period for department head or endowed chair positions at other institutions.

A separate analysis of 354 pre-tenure faculty members across the university who were hired between 1996 and 2005 and had reached their mandatory tenure review date revealed that 38% of the women left the university voluntarily prior to tenure review compared with only 19% of the men. Women were more likely than men (21% vs. 13%) to cite spouse or family reasons for leaving Virginia Tech. Changes to the university policy regarding stopping the tenure clock were implemented in 2006 and have not been in effect long enough to impact these data. ([http://www.advance.vt.edu/Measuring\\_Progress/Misc\\_Reports/Tenure\\_Outcomes\\_by\\_Cohort-Gender-Race\\_4-23-10\\_Final.pdf](http://www.advance.vt.edu/Measuring_Progress/Misc_Reports/Tenure_Outcomes_by_Cohort-Gender-Race_4-23-10_Final.pdf))

### **Leadership Positions**

Table 7 summarizes the number of women faculty in various administrative and leadership positions in each college since the inception of the Advance grant. Data for academic years since 2003-04 are presented for comparison. Leadership positions include administrative positions, professorships, and membership on promotion and tenure committees.

#### *Women in Administrative Positions*

Of the eight academic deans at Virginia Tech, one (Liberal Arts and Human Sciences) is female. In addition, the Dean of Libraries is a woman. Ten (38%) of the 26 associate deans in the academic colleges are women, plus two of three associate deans in the Graduate School (67%). Only 10 of the 62 (16%) academic department heads are women; four of the ten women heads are in the College of Liberal Arts and Human Sciences. Women are also scarce in senior-level leadership positions at the university. The most senior positions (president, provost, and vice president) are held primarily by men; 3 of 14 (21%) executive administrators are women. Three women (20%) are directors of university-level research centers.

#### *Professorships*

Table 7 also presents data on the gender of endowed professors or eminent scholars at the college and university level at Virginia Tech. Endowed professorships at Virginia Tech are a fairly recent phenomenon, dating back to the first capital campaign in the mid-1980s. Prior to that the university had established a rank for the most distinguished faculty using state funds; these were called University Distinguished Professors (UDP). UDP appointments are restricted to no more than 1% of the full-time faculty, and they remain the most prestigious faculty appointment for outstanding researchers. The Alumni Distinguished Professor (ADP) is also a coveted university-wide appointment which recognizes those whose contributions have been especially

strong in teaching and service, although the selected faculty also have very substantial research records. Unlike the University Distinguished Professorships, the ADP appointments are endowed by donations from alumni. They are currently being awarded for a ten-year period. Both types of distinguished professor appointments are made on the basis of a call for nominations university-wide; a university-level committee makes recommendations for appointments to the provost and president. One of 13 (8%) UDPs is female; 3 of 8 (38%) ADPs are female. All four of these women are in the College of Liberal Arts and Human Sciences.

Faculty members selected for an endowed professorship or chair position receive a stipend and sometimes a small operating account. The amount of the stipend varies greatly, based in part on the value of the endowment and other factors. Typically these appointments are for life, although a number are rotating or renewable term appointments. Virtually all of the current endowed professors and chairs hold the rank of professor. Recommendations for appointment are typically made by a department or college honorifics committee, approved by the dean, and submitted to the Board of Visitors for ratification.

Professorships are often restricted to a particular specialty, department, or college, depending on the donor's intent. The number of endowed professors varies greatly by college, depending on the capacity of donors associated with private giving to the college and the historical success of the deans in attracting such gifts. Given the distribution of women by rank at Virginia Tech, particularly in science and engineering, it is no surprise that women are not well represented among either UDPs, ADPs, or eminent scholars from these two colleges. There are currently eight women at the professor rank in science and seven in engineering, and many of these have only recently been promoted to professor.

Of the 123 eminent scholars at the university, only eight (7%) are women, nevertheless an increase over previous years when the number varied between 2% and 4%. Two of these women are in the College of Liberal Arts and Human Sciences, three in the Pamplin College of Business, and one each in the Colleges of Science, Engineering, and Architecture and Urban Studies.

### *Promotion and Tenure Committees*

The University Promotion and Tenure Committee includes nine faculty representatives (one from each college and one at-large) and the eight academic college deans. The Provost serves as non-voting chair. During the 2003-04 and 2004-05 cycles and again in 2006-07, the majority of the faculty representatives (5 of 9) were women. In 2009-10, 3 of 9 faculty representatives were women. One of the eight academic deans who sit on the committee is female, as shown in Table 7.

Review for promotion and tenure (P&T) takes place at three levels at Virginia Tech. Department-level committee structures vary in size and membership. In small departments, it is common for all tenured associate and full professors to participate. In larger departments, committee members may be elected, or some elected and some appointed. Table 8 shows the gender composition of department and college promotion and tenure committees in the Colleges of Science and Engineering.

During the 2009-10 academic year, five of the 11 departments in the College of Engineering had at least 1 woman member on the P&T committee. In the College of Science, seven departments reviewed faculty members for promotion and tenure during the 2009-10 academic year. Four of those departments included women members on their P&T committee.

College-level promotion and tenure committees also vary in their membership. The College of Engineering P&T committee includes faculty representatives and all department heads, with a total of 25 members during 2009-10, only two of whom were women. During the 2009-10 academic year the College of Science had an eight-member P&T committee with three women members.

### **Recruitment and Start-up Packages**

Significant attention has been given to the recruitment of women in the College of Engineering and College of Science over the past seven years.

#### *Recruitment*

Table 9 summarizes the number and percent of new hires in the College of Engineering and the College of Science from fall 1998 to fall 2009. Recruitment of female scientists and engineers improved somewhat following the inception of the Advance grant in 2003. Overall hiring was down in 2008-09 due to budget constraints. Twenty-five percent (25%) of assistant professors hired during the 2008-09 academic year in the College of Engineering were women. Forty percent (40%) of the assistant professors hired in the College of Science were female in this most recent year. Five men and no women were hired at the rank of professor or associate professor in the College of Engineering and no hires at the senior ranks occurred in the College of Science.

For faculty searches in the 2008-09 academic year in the College of Science, three job openings were posted, 23% of the applicants were women, 33% of the candidates interviewed on campus were women, and 33% of the three faculty members hired were women. In the College of Engineering, for 10 job postings 8% of the applicants were women, 19% of the candidates interviewed on campus were women, and 18% of the 11 faculty members hired were women. These findings are consistent with the recent National Academies report, *Gender Differences at Critical Transitions in the Careers of Science, Engineering, and Mathematics Faculty*.

#### *Start-up Packages of Newly Hired Science and Engineering Faculty by Gender*

Virginia Tech has a complete database of start-up packages for new faculty hired in academic years 2003-04 through 2009-10. The range and average amounts are summarized by college, rank, and gender in Table 10. Multiple regression analysis was attempted to predict the amount of the start-up package based on department, faculty rank, and gender. Both academic department and rank were found to be statistically significant predictors of the amount of the start-up package, with department accounting for 34.4% of the variation and rank accounting for an additional 4.6% of the variance. Gender was not found to be a statistically significant predictor of the amount of start-up in this analysis.

## Salary

Salary equity studies were conducted in 2004, 2007, and 2010. Multiple regression techniques following the *Paychecks* methodology were used to assess the impact of gender on faculty salaries across the university. The following factors were considered: gender, minority status, academic unit, academic rank category, time in rank (the length of time the faculty member held that particular rank), tenure status, US citizenship status, time at Virginia Tech (length of time since the faculty member's most recent hire date), and experience prior to joining Virginia Tech (calculated as the length of time between the date a faculty member was awarded his/her highest degree and that faculty member's most recent hire date at Virginia Tech). Gender effects on faculty salaries did not reach statistical significance despite several different statistical approaches to test gender as an individual effect and in interaction with other key factors such as rank.

Table 1. Number and Percent of Women by Rank and Department

**Tenured and Tenure Track Faculty**

	# of Women Fall 2009				# of Men Fall 2009				% Women Within Rank Fall 2009				% Women Within Rank Fall 2008		
	Prof	Assoc	Asst	Total	Prof	Assoc	Asst	Total	Prof	Assoc	Asst	Total	Prof	Assoc	Asst
<b>College of Engineering</b>	<b>7</b>	<b>15</b>	<b>18</b>	<b>40</b>	<b>133</b>	<b>99</b>	<b>44</b>	<b>276</b>	<b>5%</b>	<b>13%</b>	<b>29%</b>	<b>13%</b>	<b>4%</b>	<b>16%</b>	<b>25%</b>
Advanced Research Institute*	0	0	0	0	1	0	0	1	-	-	-	0%	-	-	-
Aerospace and Ocean Eng	0	0	1	1	9	3	5	17	-	-	17%	6%	-	-	17%
Biomedical Engineering	0	0	0	0	2	1	3	6	-	-	-	0%	-	-	-
Chemical Engineering	1	0	1	2	9	1	1	11	10%	-	50%	15%	-	50%	50%
Civil & Env. Engineering	2	4	1	7	21	12	3	36	9%	25%	25%	16%	9%	25%	33%
Computer Science	1	1	2	4	11	16	6	33	8%	6%	25%	11%	9%	12%	11%
Elec & Comput Engineering	0	2	2	4	32	23	8	63	-	8%	20%	6%	3%	8%	21%
Engineering Education*	1	1	4	6	1	5	1	7	50%	17%	80%	46%	-	29%	75%
Eng. Science & Mechanics	0	0	2	2	15	5	4	24	-	-	33%	8%	-	-	33%
Industrial & Systems Eng.	0	4	0	4	8	5	7	20	-	44%	-	17%	-	44%	13%
Materials Sci & Engineering	2	0	2	4	4	5	0	9	33%	-	100%	31%	29%	-	67%
Mechanical Engineering	0	3	2	5	16	21	6	43	-	13%	25%	10%	-	15%	20%
Mining & Minerals Eng.	0	0	1	1	4	2	0	6	-	-	100%	14%	-	-	50%

\* Advanced Research Institute formerly COE Northern Va; Eng Education formerly Eng Fundamentals

<b>College of Science</b>	<b>8</b>	<b>9</b>	<b>18</b>	<b>35</b>	<b>99</b>	<b>39</b>	<b>28</b>	<b>166</b>	<b>7%</b>	<b>19%</b>	<b>39%</b>	<b>17%</b>	<b>8%</b>	<b>20%</b>	<b>36%</b>
Biological Sciences	2	1	7	10	17	5	5	27	11%	17%	58%	27%	17%	14%	50%
Chemistry	3	1	0	4	14	6	4	24	18%	14%	-	14%	13%	25%	-
Economics	0	1	1	2	6	1	4	11	-	50%	20%	15%	-	50%	25%
Geosciences	1	1	1	3	10	4	0	14	9%	20%	100%	18%	9%	20%	50%
Mathematics	1	0	1	2	29	7	4	40	3%	-	20%	5%	6%	-	20%
Physics	1	2	1	4	10	8	6	24	9%	20%	14%	14%	9%	11%	29%
Psychology	0	3	4	7	7	6	1	14	-	33%	80%	33%	-	40%	67%
Statistics	0	0	3	3	6	2	4	12	-	-	43%	20%	-	-	50%

Table 1. Number and Percent of Women by Rank and Department

## Other Faculty

	# of Women Fall 2009				# of Men Fall 2009				% Women Within Rank Fall 2009				% Women Within Rank Fall 2008		
	A/P	Inst	Res	Total	A/P	Inst	Res	Total	A/P	Inst	Res	Total	Inst	Res	A/P
<b>College of Engineering</b>	<b>9</b>	<b>9</b>	<b>13</b>	<b>31</b>	<b>12</b>	<b>9</b>	<b>76</b>	<b>97</b>	<b>43%</b>	<b>50%</b>	<b>15%</b>	<b>24%</b>	<b>50%</b>	<b>48%</b>	<b>15%</b>
Advanced Research Institute*	0	0	1	1	2	0	2	4	-	-	33%	20%	-	-	33%
Aerospace & Ocean Eng	0	0	0	0	0	0	9	9	-	-	-	-	-	-	8%
Biomedical Engineering	0	0	0	0	0	0	5	5	-	-	-	-	-	-	-
Chemical Engineering	0	0	2	2	0	0	2	2	-	-	50%	50%	-	-	33%
Civil & Env. Engineering	1	1	3	5	0	0	13	13	100%	100%	19%	28%	100%	100%	8%
Computer Science	0	2	0	2	0	3	4	7	-	40%	-	22%	-	50%	-
Dean – Engineering	6	0	1	7	6	0	8	14	50%	-	11%	33%	43%	-	-
Elec & Comput Engineering	1	2	1	4	2	2	14	18	33%	50%	7%	18%	100%	50%	11%
Engineering Education*	0	2	1	3	0	0	0	0	-	100%	100%	100%	-	100%	-
Eng. Sci. & Mechanics	0	0	2	2	1	1	2	4	-	-	50%	33%	-	33%	40%
Industrial & Systems Eng.	0	1	0	1	0	1	1	2	-	50%	-	33%	-	50%	-
Materials Sci & Engineering	0	1	1	2	0	0	6	6	-	100%	14%	25%	-	100%	17%
Mechanical Engineering	1	0	1	2	1	1	9	11	50%	-	10%	15%	50%	-	14%
Mining & Minerals Eng.	0	0	0	0	0	1	1	2	-	-	-	-	-	-	-

\* Advanced Research Institute formerly COE Northern Va; Eng Education formerly Eng Fundamentals

<b>College of Science</b>	<b>5</b>	<b>21</b>	<b>22</b>	<b>48</b>	<b>6</b>	<b>19</b>	<b>47</b>	<b>72</b>	<b>45%</b>	<b>53%</b>	<b>32%</b>	<b>40%</b>	<b>50%</b>	<b>51%</b>	<b>36%</b>
Biology	2	1	5	8	0	4	10	14	-	20%	33%	36%	-	25%	35%
Chemistry	0	4	7	11	1	3	19	23	-	57%	27%	32%	-	57%	38%
Dean of Science	3	0	0	3	2	0	0	2	60%	-	-	60%	50%	-	-
Economics	0	0	0	0	0	2	0	2	-	-	-	-	-	-	-
Geosciences	0	0	3	3	2	1	7	10	-	-	30%	23%	-	50%	36%
Mathematics	0	15	0	15	1	5	0	6	-	75%	-	71%	-	68%	-
Physics	0	0	1	1	0	1	9	10	-	-	10%	9%	-	-	-
Psychology	0	0	5	5	0	2	1	3	-	-	83%	63%	-	33%	80%
Statistics	0	1	1	2	0	1	1	2	-	50%	50%	50%	-	33%	50%

A/P=Admin &amp; Professional Faculty; Inst=Non-Tenure-Track Instructional Faculty; Res=Research Faculty

Source: Institutional Research



Table 1. Number and Percent of Women by Rank and Department

## Tenured and Tenure Track Faculty

	% Women Within Rank Fall 2007			% Women Within Rank Fall 2006			% Women Within Rank Fall 2005			% Women Within Rank Fall 2004			% Women Within Rank Fall 2003		
	Prof	Assoc	Asst	Prof	Assoc	Asst	Prof	Assoc	Asst	Prof	Assoc	Asst	Prof	Assoc	Asst
<b>College of Engineering</b>	<b>5%</b>	<b>14%</b>	<b>29%</b>	<b>4%</b>	<b>15%</b>	<b>26%</b>	<b>6%</b>	<b>15%</b>	<b>25%</b>	<b>4%</b>	<b>15%</b>	<b>24%</b>	<b>3%</b>	<b>11%</b>	<b>19%</b>
Advanced Research Institute*	-	-	-	-	-	-	-	-	20%	-	-	-	-	-	-
Aerospace and Ocean Eng	<b>10%</b>	-	<b>25%</b>	-	25%	25%	-	33%	25%	-	33%	-	-	25%	-
Biomedical Engineering	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemical Engineering	-	<b>33%</b>	<b>33%</b>	-	33%	-	-	33%	-	-	50%	-	-	40%	-
Civil & Env. Engineering	<b>12%</b>	<b>14%</b>	<b>67%</b>	12%	13%	40%	13%	13%	25%	-	19%	67%	-	11%	67%
Computer Science	-	<b>11%</b>	<b>10%</b>	-	10%	20%	-	15%	22%	-	22%	18%	-	-	-
Elec & Comput Engineering	<b>3%</b>	<b>9%</b>	<b>20%</b>	3%	10%	16%	4%	12%	6%	4%	6%	8%	3%	-	11%
Engineering Education*	-	<b>38%</b>	<b>75%</b>	-	38%	80%	-	33%	80%	-	25%	60%	-	-	50%
Eng. Science & Mechanics	-	-	<b>50%</b>	-	-	-	-	-	-	-	-	-	-	-	-
Industrial & Systems Eng.	-	<b>44%</b>	<b>29%</b>	-	40%	20%	-	33%	50%	-	22%	80%	-	20%	67%
Materials Sci & Engineering	<b>22%</b>	-	<b>33%</b>	25%	-	33%	25%	-	50%	29%	-	50%	25%	-	-
Mechanical Engineering	-	<b>11%</b>	<b>38%</b>	-	7%	43%	11%	6%	33%	12%	8%	17%	13%	8%	20%
Mining & Minerals Eng.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

\* Advanced Research Institute formerly COE Northern Va; Eng Education formerly Eng Fundamentals

<b>College of Science</b>	<b>8%</b>	<b>20%</b>	<b>39%</b>	<b>8%</b>	<b>19%</b>	<b>43%</b>	<b>7%</b>	<b>19%</b>	<b>50%</b>	<b>7%</b>	<b>18%</b>	<b>33%</b>	<b>8%</b>	<b>20%</b>	<b>36%</b>
Biological Sciences	17%	20%	55%	15%	18%	63%	15%	20%	60%	14%	22%	50%	15%	11%	80%
Chemistry	13%	13%	-	14%	10%	-	13%	10%	-	6%	22%	-	6%	22%	-
Economics	-	50%	33%	-	50%	100%	-	33%	-	14%	-	-	14%	20%	-
Geosciences	9%	17%	50%	10%	17%	-	-	25%	-	-	17%	100%	9%	25%	33%
Mathematics	6%	-	29%	3%	17%	40%	6%	17%	40%	3%	22%	-	3%	22%	-
Physics	9%	13%	33%	11%	10%	40%	13%	-	50%	13%	-	33%	10%	-	50%
Psychology	-	40%	100%	-	40%	100%	-	33%	100%	14%	33%	100%	14%	36%	50%
Statistics	-	-	40%	-	-	-	-	25%	50%	-	-	50%	-	20%	50%

Table 1. Number and Percent of Women by Rank and Department

**Other Faculty**

	% Women Within Rank Fall 2007			% Women Within Rank Fall 2006			% Women Within Rank Fall 2005			% Women Within Rank Fall 2004			% Women Within Rank Fall 2003		
	A/P	Inst	Res	A/P	Inst	Res	A/P	Inst	Res	A/P	Inst	Res	A/P	Inst	Res
<b>College of Engineering</b>	<b>57%</b>	<b>40%</b>	<b>16%</b>	<b>54%</b>	<b>44%</b>	<b>14%</b>	<b>54%</b>	<b>36%</b>	<b>14%</b>	<b>53%</b>	<b>32%</b>	<b>15%</b>	<b>43%</b>	<b>52%</b>	<b>18%</b>
Advanced Research Institute*	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-
Aerospace & Ocean Eng	-	-	38%	-	-	30%	-	-	25%	-	-	-	-	-	-
Biomedical Engineering	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemical Engineering	-	-	-	-	-	-	-	-	-	-	-	20%	-	-	25%
Civil & Env. Engineering	-	50%	9%	-	100%	10%	-	100%	11%	-	50%	25%	-	50%	31%
Computer Science	-	40%	-	-	40%	-	-	40%	-	-	40%	-	-	40%	-
Dean – Engineering	60%	-	22%	56%	-	20%	55%	-	20%	60%	-	30%	43%	75%	-
Elec & Comput Engineering	100%	33%	30%	100%	33%	11%	100%	33%	10%	100%	33%	8%	-	50%	10%
Engineering Education*	-	100%	-	-	-	-	-	-	-	-	50%	-	-	50%	100%
Eng. Sci. & Mechanics	-	-	25%	-	50%	14%	-	-	13%	-	-	-	-	-	-
Industrial & Systems Eng.	-	-	8%	-	-	7%	-	-	7%	-	-	6%	-	-	-
Materials Sci & Engineering	-	100%	33%	-	100%	33%	-	50%	33%	-	50%	40%	-	100%	40%
Mechanical Engineering	50%	-	8%	50%	-	13%	-	-	14%	-	-	20%	-	-	25%
Mining & Minerals Eng.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

\* Advanced Research Institute formerly COE Northern Va; Eng Education formerly Eng Fundamentals

<b>College of Science</b>	<b>25%</b>	<b>57%</b>	<b>29%</b>	<b>50%</b>	<b>51%</b>	<b>26%</b>	<b>50%</b>	<b>49%</b>	<b>21%</b>	<b>50%</b>	<b>52%</b>	<b>23%</b>	<b>0%</b>	<b>56%</b>	<b>25%</b>
Biology	-	40%	13%	-	25%	29%	-	33%	33%	-	33%	33%	-	20%	50%
Chemistry	-	50%	32%	-	50%	29%	-	43%	11%	-	67%	22%	-	57%	20%
Dean of Science	25%	-	-	50%	-	-	50%	-	-	50%	-	-	-	-	-
Economics	-	-	-	-	-	-	-	-	-	-	20%	-	-	50%	-
Geosciences	-	-	30%	-	-	14%	-	-	22%	-	-	11%	-	50%	20%
Mathematics	-	77%	-	-	76%	-	-	65%	-	-	71%	-	-	71%	-
Physics	-	-	11%	-	-	7%	-	-	-	-	-	-	-	-	-
Psychology	-	-	100%	-	-	100%	-	-	67%	-	-	75%	-	-	75%
Statistics	-	60%	100%	-	25%	100%	-	50%	100%	-	33%	50%	-	50%	50%

A/P=Admin & Professional Faculty; Inst=Non-Tenure-Track Instructional Faculty; Res=Research Faculty

Source: Institutional Research

**Table 2. Tenure and/or Promotion Review Outcomes by Gender**

<b>2a. Promotion and/or Tenure Review Outcomes by Gender: Assistant to Associate Professor</b>						
	<b># of Reviews</b>		<b># of Approvals</b>		<b># of Denials</b>	
	<b>Women</b>	<b>Men</b>	<b>Women</b>	<b>Men</b>	<b>Women</b>	<b>Men</b>
<b>2002-2003</b>						
College of Engineering	3	8	3	7	-	1
College of Science	-	7	-	7	-	-
<b>2003-2004</b>						
College of Engineering	2	10	2	8	-	2
College of Science	2	5	2	5	-	-
<b>2004-2005</b>						
College of Engineering	3	7	3	7	-	-
College of Science	1	5	1	5	-	-
<b>2005-2006</b>						
College of Engineering	1	15	1	13	-	2
College of Science	-	2	-	2	-	-
<b>2006-2007</b>						
College of Engineering	1	11	1	10	-	1
College of Science	-	1	-	1	-	-
<b>2007-2008</b>						
College of Engineering	3	8	3	7	-	1
College of Science	-	4	-	3	-	1
<b>2008-2009</b>						
College of Engineering	1	12	1	11	-	1
College of Science	2	3	2	3	-	-
<b>2009-2010</b>						
College of Engineering	5	7	5	6	-	1
College of Science	2	1	2	1	-	-

**Table 2. Tenure and/or Promotion Review Outcomes by Gender (continued)**

<b>2b. Promotion and/or Tenure Review Outcomes by Gender: Associate to Professor</b>						
	<b># of Reviews</b>		<b># of Approvals</b>		<b># of Denials</b>	
	<b>Women</b>	<b>Men</b>	<b>Women</b>	<b>Men</b>	<b>Women</b>	<b>Men</b>
<b>2002-2003</b>						
College of Engineering	2	10	2	10	-	-
College of Science	-	5	-	5	-	-
<b>2003-2004</b>						
College of Engineering	-	7	-	7	-	-
College of Science	-	2	-	2	-	-
<b>2004-2005</b>						
College of Engineering	3	3	3	3	-	-
College of Science	2	5	2	3	-	2
<b>2005-2006</b>						
College of Engineering	-	9	-	9	-	-
College of Science	1	6	1	5	-	1
<b>2006-2007</b>						
College of Engineering	-	7	-	5	-	2
College of Science	1	4	1	4	-	-
<b>2007-2008</b>						
College of Engineering	-	6	-	5	-	1
College of Science	-	4	-	3	-	1
<b>2008-2009</b>						
College of Engineering	2	3	2	3	-	-
College of Science	1	4	1	3	-	1
<b>2009-2010</b>						
College of Engineering	-	4	-	4	-	-
College of Science	3	1	3	1	-	-

Notes: Faculty hired at the rank of associate professor, but without tenure, who are then considered for tenure are included in Table 2a. Faculty hired at the professor level, but without tenure, who are then considered for tenure, are included in Table 2b. Data provided by C. Hutchison as of June 2010.

**Table 3: Years in Rank at Assistant Professor as of September 2009, New Assistant Professor Cohorts 1996-2008**

College of Science Year Hired	# in Cohort		Promoted to Associate		Average Time to Promotion (years)		Left Institution Before Tenure		Left Institution After Tenure		Not Yet Tenured	
	F	M	F	M	F	M	F	M	F	M	F	M
1996/97	2	7	2	5	6.50	5.20	0	2	0	0	0	0
1997/98	1	5	1	5	6.00	5.00	0	0	0	2	0	0
1998/99	1	8	1	7	6.00	4.57	0	1	0	1	0	0
1999/00	1	3	0	2		4.00	1	1	0	1	0	0
2000/01	3	2	0	1		4.00	3	1	0	0	0	0
2001/02	0	4	0	3		5.00	0	1	0	0	0	0
2002/03	1	2	0	2		3.50	0	0	0	0	1	0
2003/04	2	3	1	2	5.00	5.00	0	0	0	0	1	1
2004/05	6	3	0	0			1	1	0	0	5	2
2005/06	3	7	0	0			0	0	0	0	3	7
2006/07	4	11	0	0			0	1	0	0	4	10
2007/08	3	5	0	0			0	0	0	0	3	5
<b>Total Number of New Hires ('96-'08)</b>	27	60	5	27	--	--	5	8	0	4	17	25
<b>College Total Percentage ('96-'08)</b>	31%	69%	19%	45%	--	--	19%	13%	0%	7%	63%	42%
<b>College Average Time to Tenure</b>					6.00	4.70						

College of Engineering Year Hired	# in Cohort		Promoted to Associate		Average Time to Promotion (years)		Left Institution Before Tenure		Left Institution After Tenure		Not Yet Tenured	
	F	M	F	M	F	M	F	M	F	M	F	M
1996/97	4	6	2	4	6.50	4.50	1	2	1	1	1	0
1997/98	2	11	1	9	6.00	5.78	1	2	1	0	0	0
1998/99	6	9	5	9	5.40	6.00	1	0	1	1	0	0
1999/00	1	8	0	6		5.17	1	2	0	0	0	0
2000/01	0	11	0	6		5.67	0	5	0	0	0	0
2001/02	1	8	1	6	7.00	5.67	0	2	0	0	0	0
2002/03	4	9	2	6	5.00	5.67	1	1	0	0	1	2
2003/04	4	8	0	2		4.50	0	2	0	0	4	4
2004/05	5	9	0	1		3.00	1	0	0	0	4	8
2005/06	3	10	0	1		3.00	0	0	0	0	3	9
2006/07	3	8	0	0			1	1	0	0	2	7
2007/08	3	10	0	0			0	0	0	0	3	10
<b>Total Number of New Hires ('96-'08)</b>	36	107	11	50	--	--	7	17	3	2	18	40
<b>College Total Percentage ('96-'08)</b>	25%	75%	31%	47%	--	--	19%	16%	8%	2%	50%	37%
<b>College Average Time to Tenure</b>					5.73	5.44						

Note: Percentages are within cohort/sex, except for the column '# in Cohort;' these are percents male and female of total incoming cohort.

Source: data source advance\_9798\_Assist\_041509.sas plus each additional year; number in cohort may not match number of new hires due to changes of status

Shaded cell indicates individual no longer in tenure-track position

**Table 4: Promotion to Professor**

**Table 4a: Years in Rank at the Associate Professor Level for COE and COS  
Faculty Hired as Assistant Professors, 1996/97-2007/08**

	College of Engineering				College of Science			
<b>Number Hired as Assistant</b>	Women N=36		Men N=107		Women N=27		Men N=60	
<b>Number Promoted to Professor</b>	Women N=1		Men N=8		Women N=0		Men N=12	
<b>Years in Rank</b>	<b>Number</b>	<b>% of Women</b>	<b>Number</b>	<b>% of Men</b>	<b>Number</b>	<b>% of Women</b>	<b>Number</b>	<b>% of Men</b>
0-2	-	-	1	1%	-	-	3	5%
3-5	1	3%	5	5%	-	-	7	12%
6-8	-	-	2	2%	-	-	2	3%
9-11	-	-	-	-	-	-	-	-
12-14	-	-	-	-	-	-	-	-
15 or more	-	-	-	-	-	-	-	-

**Table 4b: Years in Rank at the Associate Professor Level for COE and COS  
Faculty Hired as Associate Professors, 1996/97-2007/08**

	College of Engineering				College of Science			
<b>Number Hired as Associate</b>	Women N=8		Men N=51		Women N=7		Men N=15	
<b>Number Promoted to Professor</b>	Women N=2		Men N=11		Women N=3		Men N=6	
<b>Years in Rank</b>	<b>Number</b>	<b>% of Women</b>	<b>Number</b>	<b>% of Men</b>	<b>Number</b>	<b>% of Women</b>	<b>Number</b>	<b>% of Men</b>
0-2	-	-	-	-	-	-	-	-
3-5	2	25%	7	14%	1	14%	3	20%
6-8	-	-	4	8%	1	14%	2	13%
9-11	-	-	-	-	1	14%	1	7%
12-14	-	-	-	-	-	-	-	-
15 or more	-	-	-	-	-	-	-	-

Source: Data source advance\_assocprofs\_9697to08\_070709.sas plus each additional year for cohorts; advance\_9798\_assist\_041509.sas plus each additional year  
%=% of men or women hired at that rank during the time period

**Table 5: Average Time at Institution by College, Rank, and Gender  
Virginia Tech Tenure-Track Faculty  
Fall 2009**

**College of Engineering**

Rank	Gender				Total N
	M		F		
	N	Average Years	N	Average Years	
Professor	133	20.2	7	12.2	140
Associate Professor	99	11.2	15	8.1	114
Assistant Professor	44	2.9	18	3.4	62
<b>Total</b>	<b>276</b>	<b>14.2</b>	<b>40</b>	<b>6.7</b>	<b>316</b>

**College of Science**

Rank	Gender				Total N
	M		F		
	N	Average Years	N	Average Years	
Professor	99	23.3	8	19.3	107
Associate Professor	39	16.4	9	11.1	48
Assistant Professor	28	2.5	18	3.1	46
<b>Total</b>	<b>166</b>	<b>18.2</b>	<b>35</b>	<b>8.9</b>	<b>201</b>

**University Total**

Rank	Gender				Total N
	M		F		
	N	Average Years	N	Average Years	
Professor	490	22.7	91	20.0	581
Associate Professor	334	14.4	121	12.2	455
Assistant Professor	186	3.1	144	3.0	330
<b>Total</b>	<b>1010</b>	<b>16.3</b>	<b>356</b>	<b>10.5</b>	<b>1366</b>

Source: advance\_time\_at\_vt\_052510.sas, Tenured and Tenure-Track Faculty only  
(Defined as Tenure Codes T, P, C, and E) and Academic Colleges only  
Census date, September 30, 2008

**Table 6. Voluntary, Non-Retirement Attrition, by Rank and Gender,  
1997 - 2009**

	Assistant		Associate		Professor		Total Attrition	
	Women	Men	Women	Men	Women	Men	Women	Men
<b>1997-1998</b>								
College of Engineering	-	1	-	1	-	2	-	4
College of Science	-	7	-	-	1	1	1	8
<b>1998-1999</b>								
College of Engineering	-	-	-	-	1	2	1	2
College of Science	1	3	1	1	-	-	2	4
<b>1999-2000</b>								
College of Engineering	1	1	-	5	-	2	1	8
College of Science	-	-	-	1	-	3	-	4
<b>2000-2001</b>								
College of Engineering	2	1	-	2	-	2	2	5
College of Science	-	3	-	-	-	1	-	4
<b>2001-2002</b>								
College of Engineering	-	1	-	1	-	1	-	3
College of Science	-	-	1	2	-	1	1	3
<b>2002-2003</b>								
College of Engineering	1	-	1	-	-	3	2	3
College of Science	-	-	-	-	-	-	-	-
<b>2003-2004</b>								
College of Engineering	-	3	-	2	-	5	-	10
College of Science	2	1	-	1	2	-	4	2
<b>2004-2005</b>								
College of Engineering	-	1	-	1	-	2	-	4
College of Science	-	-	1	-	-	-	1	-
<b>2005-2006</b>								
College of Engineering	1	-	1	1	1	-	3	1
College of Science	-	-	-	1	1	-	1	1
<b>2006-2007</b>								
College of Engineering	-	2	-	2	-	2	-	6
College of Science	1	3	2	4	1	1	4	8
<b>2007-2008</b>								
College of Engineering	-	1	1	1	2	3	3	5
College of Science	-	1	-	-	-	-	-	1
<b>2008-2009</b>								
College of Engineering	2	3	2	6	2	2	6	11
College of Science	1	1	-	-	-	3	1	4
<b>Total 1997-2009</b>	12	33	10	32	11	36	33	101

Includes tenured and tenure track faculty who have departed, excludes any faculty who retired  
Time Period Used is 10/1 Through 9/30 of the Following Year (Inclusive)  
Data Source: Data Warehouse as of 30JUN09  
Source code: departures\_TT\_faculty\_vol\_063009.sas



2003-2004 Academic Year by College	All Faculty	Number of Women										
		Total Women	% Women	Univ. Admin.	CALS	CAUS	COB	COE	COS	LAHS	NR	VM
Full Professors*	577	65	11%	-	9	4	4	4	10	30	-	4
Dept. Heads	67	9	13%	-	1	1	-	-	-	6	-	1
Academic Deans	8	1	13%	-	1	-	-	-	-	-	-	-
Assoc. Deans	26	7	27%	-	-	-	1	2	2	2	-	-
University Center Directors	20	3	15%	-	-	-	-	-	-	3	-	-
President, VPs, Provost, Vice-Provosts	13	2	15%	2	-	-	-	-	-	-	-	-
University P & T Committee**	9	5	56%	-	-	1	-	-	1	2	-	1
University Distinguished Professors	13	1	8%	-	-	-	-	-	-	1	-	-
Alumni Distinguished Professors	9	3	33%	-	-	-	-	-	-	3	-	-
Eminent Scholars	100	3	3%	-	-	-	-	-	1	2	-	-
2004-2005 Academic Year by College	All Faculty	Number of Women										
		Total Women	% Women	Univ. Admin.	CALS	CAUS	COB	COE	COS	LAHS	NR	VM
Full Professors*	577	66	11%	1	10	4	4	5	8	30	-	4
Dept. Heads	68	8	12%	-	1	-	-	-	-	6	-	1
Academic Deans	8	1	13%	-	1	-	-	-	-	-	-	-
Assoc. Deans	26	8	31%	1	-	-	1	2	2	2	-	-
University Center Directors	20	2	10%	-	1	1	-	-	-	1	-	-
President, VPs, Provost, Vice-Provosts	14	2	14%	2	-	-	-	-	-	-	-	-
University P & T Committee**	9	5	56%	-	-	-	1	-	1	1	-	1
University Distinguished Professors	13	1	8%	-	-	-	-	-	-	1	-	-
Alumni Distinguished Professors	11	3	27%	-	-	-	-	-	-	3	-	-
Eminent Scholars	101	3	3%	-	-	-	-	-	1	2	-	-
2005-2006 Academic Year by College	All Faculty	Number of Women										
		Total Women	% Women	Univ. Admin.	CALS	CAUS	COB	COE	COS	LAHS	NR	VM
Full Professors*	588	74	13%	1	11	4	5	8	8	33	-	4
Dept. Heads	64	9	14%	-	2	-	-	-	-	6	-	1
Academic Deans	8	1	13%	-	1	-	-	-	-	-	-	-
Assoc. Deans	28	7	25%	1	-	-	1	1	2	2	-	-
University Center Directors	19	3	16%	2	1	-	-	-	-	1	-	-
President, VPs, Provost, Vice-Provosts	14	3	21%	2	-	-	-	-	-	-	-	-
University P & T Committee**	9	4	44%	-	-	-	1	-	1	1	-	1
University Distinguished Professors	13	1	8%	-	-	-	-	-	-	1	-	-
Alumni Distinguished Professors	11	3	27%	-	-	-	-	-	-	3	-	-
Eminent Scholars	106	4	4%	-	-	-	-	1	1	2	-	-

2006-2007 Academic Year by College	All Faculty	Number of Women										
		Total Women	% Women	Univ. Admin.	CALS	CAUS	COB	COE	COS	LAHS	NR	VM
Full Professors*	592	78	13%	1	12	4	6	6	8	35	1	5
Dept. Heads	67	8	11%	-	2	-	-	-	1	5	-	-
Academic Deans	8	1	13%	-	1	-	-	-	-	-	-	-
Assoc. Deans	25	9	36%	1	1	-	1	2	2	2	-	-
University Center Directors	13	2	15%	-	-	-	-	-	-	2	-	-
President, VPs, Provost, Vice-Provosts	13	3	23%	3	-	-	-	-	-	-	-	-
University P & T Committee**	9	5	56%	-	1	-	-	-	1	1	-	1
University Distinguished Professors	13	1	8%	-	-	-	-	-	-	1	-	-
Alumni Distinguished Professors	10	3	30%	-	-	-	-	-	-	3	-	-
Eminent Scholars	106	3	5%	-	-	-	-	-	1	2	-	-
2007-2008 Academic Year by College	All Faculty	Number of Women										
		Total Women	% Women	Univ. Admin.	CALS	CAUS	COB	COE	COS	LAHS	NR	VM
Full Professors*	596	83	14	1	12	4	6	7	9	38	1	5
Dept. Heads	62	7	11	-	2	-	-	-	1	4	-	-
Academic Deans	8	2	25	-	1	-	-	-	-	1	-	-
Assoc. Deans	25	9	36	1	1	-	2	2	1	2	-	-
University Center Directors	14	3	21	1	-	-	-	-	-	2	-	-
President, Provost, Vice-Presidents+	14	3	21	3	-	-	-	-	-	-	-	-
University P & T Committee**	9	3	33	-	-	-	-	-	-	2	-	1
University Distinguished Professors	14	1	7	-	-	-	-	-	-	1	-	-
Alumni Distinguished Professors	10	3	30	-	-	-	-	-	-	3	-	-
Eminent Scholars	122	3	2	-	-	-	-	-	1	2	-	-
2008-2009 Academic Year by College	All Faculty	Number of Women										
		Total Women	% Women	Univ. Admin.	CALS	CAUS	COB	COE	COS	LAHS	NR	VM
Full Professors*	585	86	15	1	12	5	8	6	9	39	1	5
Dept. Heads	61	10	16	-	2	-	1	1	1	4	1	-
Academic Deans	8	1	13	-	-	-	-	-	-	1	-	-
Assoc. Deans	27	11	41	1	1	-	2	2	2	2	-	1
University Center Directors	14	3	21	1	-	-	-	-	-	2	-	-
President, Provost, Vice-Presidents+	14	2	14	2	-	-	-	-	-	-	-	-
University P & T Committee**	9	2	22	-	-	-	-	-	-	1	-	1
University Distinguished Professors	14	1	7	-	-	-	-	-	-	1	-	-
Alumni Distinguished Professors	10	3	30	-	-	-	-	-	-	3	-	-
Eminent Scholars	123	7	6	-	-	1	2	1	1	2	-	-

**Table 7. Faculty Leadership Positions, continued**

2009-2010 Academic Year by College	All Faculty	Number of Women										
		Total Women	% Women	Univ. Admin.	CALS	CAUS	COB	COE	COS	LAHS	NR	VM
<b>Full Professors*</b>	592	91	15	1	13	8	6	7	8	40	1	5
<b>Dept. Heads</b>	62	10	16	-	1	2	1	1	1	4	-	-
<b>Academic Deans</b>	8	1	13	-	-	-	-	-	-	1	-	-
<b>Assoc. Deans</b>	29	13	45	3	1	-	2	2	2	2	-	1
<b>University Center Directors</b>	15	3	20	1	-	-	-	1	-	1	-	-
<b>President, Provost, Vice-Presidents+</b>	14	3	21	3	-	-	-	-	-	-	-	-
<b>University P &amp; T Committee**</b>	9	3	33	-	-	-	-	-	-	2	-	1
<b>University Distinguished Professors</b>	13	1	8	-	-	-	-	-	-	1	-	-
<b>Alumni Distinguished Professors</b>	8	3	38	-	-	-	-	-	-	3	-	-
<b>Eminent Scholars</b>	123	8	7	-	-	1	3	1	1	2	-	-

\* September census date used for full professors, other rows represent June data, total excludes any found among university administration

\*\* Includes faculty member participants only, including faculty member-at-large

+ The title of Vice-Provost was eliminated in 2008

College Abbreviations: CALS=College of Agriculture and Life Sciences; CAUS=College of Architecture and Urban Studies; COB=College of Business; COE=College of Engineering; COS=College of Science; LAHS=College of Liberal Arts and Human Sciences; NR=College of Natural Resources; VM=College of Veterinary Medicine

Source: S. Karlin's files on academic leaders, T. Wright's files on eminent scholars, IR data for full professors

**Table 8. Virginia Tech Promotion and Tenure Committees  
College of Engineering**

Department	2003-2004					2004-2005				
	F		M		All	F		M		All
	#	%	#	%	#	#	%	#	%	#
AOE	0	-	8	100%	8	0	-	9	100%	9
ChE	0	-	4	100%	4	0	-	4	100%	4
CEE	0	-	6	100%	6	1	17%	5	83%	6
CS	0	-	4	100%	4	0	-	6	100%	6
ECE	0	-	8	100%	8	1	10%	9	90%	10
EngEd	0	-	5	100%	5	1	20%	4	80%	5
ESM	0	-	7	100%	7	0	-	7	100%	7
ISE	3	16%	16	84%	19	2	12%	15	88%	17
MSE	1	11%	8	89%	9	1	20%	4	80%	5
ME	2	20%	8	80%	10	3	30%	7	70%	10
MME	0	-	4	100%	4	0	-	5	100%	5
<b>College Total</b>	<b>6</b>	<b>7%</b>	<b>78</b>	<b>93%</b>	<b>84</b>	<b>9</b>	<b>11%</b>	<b>75</b>	<b>89%</b>	<b>84</b>

Department	2005-2006					2006-2007				
	F		M		All	F		M		All
	#	%	#	%	#	#	%	#	%	#
AOE	0	-	9	100%	9	0	-	7	100%	7
ChE	0	-	4	100%	4	0	-	5	100%	5
CEE	1	17%	5	83%	6	1	17%	5	83%	6
CS	0	-	7	100%	7	0	-	7	100%	7
ECE	1	17%	5	83%	6	1	11%	8	89%	9
EngEd	2	40%	3	60%	5	2	40%	3	60%	5
ESM	0	-	6	100%	6	0	-	7	100%	7
ISE	3	19%	13	81%	16	4	21%	15	79%	19
MSE	1	20%	4	80%	5	1	20%	4	80%	5
ME	2	20%	8	80%	10	1	9%	10	91%	11
MME	0	-	5	100%	5	0	-	5	100%	5
<b>College Total</b>	<b>10</b>	<b>13%</b>	<b>69</b>	<b>87%</b>	<b>79</b>	<b>10</b>	<b>10%</b>	<b>76</b>	<b>90%</b>	<b>86</b>

Department	2007-2008					2008-2009				
	F		M		All	F		M		All
	#	%	#	%	#	#	%	#	%	#
AOE	1	14%	6	86%	7	0	-	7	100%	7
ChE	0	-	6	100%	6	0	-	7	100%	7
CEE	1	17%	5	83%	6	0	-	6	100%	6
CS	0	-	8	100%	8	0	-	7	100%	7
ECE	1	10%	9	90%	10	0	-	10	100%	10
EngEd	3	60%	2	40%	5	3	60%	2	40%	5
ESM	0	-	7	100%	7	0	-	7	100%	7
ISE	4	24%	13	76%	17	4	24%	13	76%	17
MSE	1	20%	4	80%	5	1	20%	4	80%	5
ME	1	11%	8	89%	9	2	20%	8	80%	10
MME	0	-	4	100%	4	0	-	3	100%	3
<b>College Total</b>	<b>12</b>	<b>14%</b>	<b>72</b>	<b>86%</b>	<b>84</b>	<b>10</b>	<b>12%</b>	<b>74</b>	<b>88%</b>	<b>84</b>

**Table 8. Virginia Tech Promotion and Tenure Committees, continued  
College of Engineering**

Department	2009-2010				
	F		M		All
	#	%	#	%	#
AOE	0	-	6	100%	6
ChE	1	14%	6	86%	7
CEE	0	-	6	100%	6
CS	0	-	7	100%	7
ECE	0	-	9	100%	9
EngEd	2	40%	3	60%	5
ESM	0	-	8	100%	8
ISE	4	25%	12	75%	16
MSE	1	17%	5	83%	6
ME	2	25%	6	75%	8
MME	0	-	4	100%	4
<b>College Total</b>	<b>10</b>	<b>12%</b>	<b>72</b>	<b>88%</b>	<b>82</b>

Note: AOE=Aerospace and Ocean Engineering; ChE=Chemical Engineering; CEE=Civil and Environmental Engineering; CS=Computer Science; ECE=Electrical and Computer Engineering; EngEd=Engineering Education; ESM=Engineering Science and Mechanics; ISE=Industrial and Systems Engineering; MSE=Material Science and Engineering; ME=Mechanical Engineering; MME=Mining and Minerals Engineering

**Table 8. Virginia Tech Promotion and Tenure Committees, continued  
College of Science**

	2003-2004					2004-2005				
	F		M		All	F		M		All
	#	%	#	%	#	#	%	#	%	#
<b>Biological Sci</b>	2	25%	6	75%	8	3	33%	6	67%	9
<b>Chemistry</b>	0	-	7	100%	7	0	-	5	100%	5
<b>Economics</b>	0	-	4	100%	4	0	-	4	100%	4
<b>Geosciences</b>	2	33%	4	67%	6	1	17%	5	83%	6
<b>Mathematics</b>	0	-	8	100%	8	1	14%	6	86%	7
<b>Physics</b>	1	13%	7	87%	8	0	-	5	100%	5
<b>Psychology</b>	3	50%	3	50%	6	3	50%	3	50%	6
<b>Statistics</b>	0	-	4	100%	4	0	-	4	100%	4
<b>College Total</b>	<b>8</b>	<b>16%</b>	<b>43</b>	<b>84%</b>	<b>51</b>	<b>8</b>	<b>17%</b>	<b>38</b>	<b>83%</b>	<b>46</b>

	2005-2006					2006-2007				
	F		M		All	F		M		All
	#	%	#	%	#	#	%	#	%	#
<b>Biological Sci</b>	2	22%	7	78%	9	-	-	-	-	-
<b>Chemistry</b>	0	-	7	100%	7	1	14%	6	86%	7
<b>Economics</b>	1	20%	4	80%	5	-	-	-	-	-
<b>Geosciences</b>	1	20%	4	80%	5	2	40%	3	60%	5
<b>Mathematics</b>	0	-	7	100%	7	0	-	7	100%	7
<b>Physics</b>	1	17%	5	83%	6	1	17%	5	83%	6
<b>Psychology</b>	2	33%	4	67%	6	-	-	-	-	-
<b>Statistics</b>	0	-	4	100%	4	-	-	-	-	-
<b>College Total</b>	<b>7</b>	<b>14%</b>	<b>42</b>	<b>86%</b>	<b>49</b>	<b>4</b>	<b>16%</b>	<b>21</b>	<b>84%</b>	<b>25</b>

	2007-2008					2008-2009				
	F		M		All	F		M		All
	#	%	#	%	#	#	%	#	%	#
<b>Biological Sci</b>	4	40%	6	60%	10	3	33%	6	67%	9
<b>Chemistry</b>	1	14%	6	86%	7	1	14%	6	86%	7
<b>Economics</b>	-	-	-	-	-	-	-	-	-	-
<b>Geosciences</b>	2	40%	3	60%	5	1	20%	4	80%	5
<b>Mathematics</b>	0	-	7	100%	7	0	-	8	100%	8
<b>Physics</b>	-	-	-	-	-	1	25%	3	75%	4
<b>Psychology</b>	3	50%	3	50%	6	3	50%	3	50%	6
<b>Statistics</b>	-	-	-	-	-	0	-	4	100%	4
<b>College Total</b>	<b>10</b>	<b>29%</b>	<b>25</b>	<b>71%</b>	<b>35</b>	<b>9</b>	<b>21%</b>	<b>34</b>	<b>79%</b>	<b>43</b>

	2009-2010				
	F		M		All
	#	%	#	%	#
<b>Biological Sci</b>	2	22%	7	78%	9
<b>Chemistry</b>	0	-	7	100%	7
<b>Economics</b>	-	-	-	-	-
<b>Geosciences</b>	1	20%	4	80%	5
<b>Mathematics</b>	0	-	8	100%	8
<b>Physics</b>	1	12%	7	88%	8
<b>Psychology</b>	3	50%	3	50%	6
<b>Statistics</b>	0	-	4	100%	4
<b>College Total</b>	<b>7</b>	<b>15%</b>	<b>40</b>	<b>85%</b>	<b>47</b>

**Table 8. Virginia Tech Promotion and Tenure Committees, continued  
College Committees**

	2003-2004					2004-2005				
	F		M		All	F		M		All
	#	%	#	%	#	#	%	#	%	#
<b>Engineering</b>	1	4%	22	95%	23	1	4%	22	95%	23
<b>Science</b>	3	33%	6	66%	9	1	11%	8	88%	9
<b>Total</b>	4	12%	28	88%	32	2	6%	30	94%	32

	2005-2006					2006-2007				
	F		M		All	F		M		All
	#	%	#	%	#	#	%	#	%	#
<b>Engineering</b>	3	12%	22	88%	25	2	8%	23	92%	25
<b>Science</b>	3	33%	6	67%	9	0	-	8	100%	8
<b>Total</b>	4	12%	28	88%	32	2	6%	31	94%	33

	2007-2008					2008-2009				
	F		M		All	F		M		All
	#	%	#	%	#	#	%	#	%	#
<b>Engineering</b>	1	4%	24	96%	25	2	8%	23	92%	25
<b>Science</b>	3	37%	5	63%	8	4	50%	4	50%	8
<b>Total</b>	4	12%	29	88%	33	6	18%	27	82%	33

	2009-2010				
	F		M		All
	#	%	#	%	#
<b>Engineering</b>	2	8%	23	92%	25
<b>Science</b>	3	37%	5	63%	8
<b>Total</b>	5	15%	28	85%	33

Source: Data provided by respective colleges

**Table 9. Tenure-Track New-Hires  
College of Engineering and College of Science, 1997-2009**

	Total New Female Hires	Total New Hires	Assistant			Associate			Full		
			Men	Women	% W	Men	Women	% W	Men	Women	% W
<b>Fall 1998</b>											
Engineering	2	20	12	2	14%	1	-	0%	5	-	0%
Science	2	11	5	1	17%	2	1	33%	2	-	0%
<b>Fall 1999</b>											
Engineering	6	22	9	6	40%	6	-	0%	1	-	0%
Science	1	10	8	1	11%	-	-	0%	1	-	0%
<b>Fall 2000</b>											
Engineering	2	16	9	1	10%	2	1	33%	3	-	0%
Science	4	13	3	1	25%	3	2	40%	3	1	25%
<b>Fall 2001</b>											
Engineering	0	21	10	-	0%	7	-	0%	4	-	0%
Science	4	10	2	3	60%	4	1	20%	-	-	0%
<b>Fall 2002</b>											
Engineering	1	11	8	1	11%	2	-	0%	-	-	0%
Science	0	4	4	-	0%	-	-	0%	-	-	0%
<b>Fall 2003</b>											
Engineering	6	19	10	4	29%	3	2	40%	-	-	0%
Science	1	3	1	1	50%	1	-	0%	-	-	0%
<b>Fall 2004</b>											
Engineering	7	22	8	4	36%	2	2	50%	5	1	17%
Science	2	6	3	2	40%	-	-	0%	1	-	0%
<b>Fall 2005</b>											
Engineering	7	29	9	5	36%	8	1	11%	5	1	17%
Science	7	13	3	6	80%	1	1	100%	2	-	0%
<b>Fall 2006</b>											
Engineering	3	19	10	3	23%	5	-	0%	1	-	0%
Science	4	14	7	3	30%	3	1	25%	-	-	0%
<b>Fall 2007</b>											
Engineering	4	24	9	3	33%	6	1	17%	5	-	0%
Science	4	18	11	4	36%	1	-	0%	2	-	0%
<b>Fall 2008</b>											
Engineering	6	21	8	5	38%	5	-	0%	2	1	33%
Science	3	10	5	2	28%	1	1	50%	1	0	0%
<b>Fall 2009</b>											
Engineering	1	9	3	1	25%	3	-	0%	2	-	0%
Science	2	5	3	2	40%	-	-	0%	-	-	0%

Source: Data from bov\_newhires\_total\_14DEC09.



**Table 10. Start-up Packages, Tenured and Tenure-Track New Hires  
College of Science and College of Engineering, 2003-2010**

<b>SM Description</b>	<b>Rank at Hire</b>	<b>Gender</b>	<b>#</b>	<b>Avg</b>	<b>Min</b>	<b>Max</b>
College of Engineering	Assistant Professor	Female	21	\$179,406	\$10,000	\$363,144
		Male	55	\$208,017	\$0	\$565,407
	Assistant Professor Total		76	\$200,111		
	Associate Professor	Female	5	\$183,682	\$65,000	\$303,878
		Male	31	\$232,591	\$0	\$421,468
	Associate Professor Total		36	\$225,798		
	Professor	Female	3	\$249,250	\$0	\$608,250
Male		26	\$272,813	\$0	\$1,086,710	
Professor Total		29	\$270,376			
College of Engineering Total			141	\$221,121		
College of Science	Assistant Professor	Female	18	\$205,339	\$7,500	\$572,800
		Male	32	\$172,638	\$0	\$654,523
	Assistant Professor Total		50	\$184,411		
	Associate Professor	Female	3	\$723,744	\$58,218	\$1,758,513
		Male	5	\$340,640	\$58,891	\$657,500
	Associate Professor Total		8	\$484,304		
	Professor	Male	7	\$397,009	\$20,000	\$850,000
Professor Total		15	\$185,271			
College of Science Total			73	\$217,452		
Grand Total			214	\$219,870		

Source: Provost Office, Startup Data 2010-11-Revised for Advance Data Trend.xlsm

***AdvanceVT Annual Workshop***  
**Summary Report**  
**2004-2010**

**Overview**

Since 2004, *AdvanceVT* has hosted an annual workshop geared toward advancing diversity at Virginia Tech. Throughout the evolution of this initiative, feedback from the workshops has been overwhelmingly positive and the annual workshop has become a signature event for *AdvanceVT*. The speakers and breakout sessions inform participants about research and programs related to broadening participation in academic careers, provide examples of successful approaches to institutional change, and both energize and challenge attendees to examine their own biases and consider new ways to engage in diversity work.

*“I’m committed to diversity at Virginia Tech and attending such meetings helps to stay focused on our goals and not take our past and even present successes for granted. We can do better.” – 2010 workshop participant*

The first annual workshop in 2004 focused on issues related to women in academic science and engineering careers and was held at the Hotel Roanoke in Roanoke, VA. This event was organized soon after Virginia Tech received an NSF ADVANCE Institutional Transformation grant in September 2003, and served as an opportunity to educate the university community about the ADVANCE initiative and to begin discussing opportunities for change at Virginia Tech. In response to feedback from the 2004 workshop that indicated many participants would prefer events to be held in Blacksburg, the 2005 workshop was held on campus at the Donaldson Brown Hotel and Conference Center under the title of “Advancing Women at Virginia Tech.” In 2006, the annual workshop was moved to the new Inn at Virginia Tech and Skelton Conference Center, and the 2007 – 2010 workshops were also held at this facility. After the first few years of the *AdvanceVT* initiative, the focus of the annual workshops was expanded to address other underrepresented groups in academe in addition to women. By 2009, registration for the annual workshop had grown to approximately 300 participants.

Since 2008, *AdvanceVT* has co-hosted the annual workshops with Virginia Tech’s Office for Diversity and Inclusion (formerly the Office for Multi-Cultural Affairs, then Office for Equity and Inclusion). In response to the university community’s desire to broaden the focus of the annual workshops to address the advancement of all underrepresented groups in academe, the title of the annual workshop was changed to the more inclusive “Advancing Diversity at Virginia Tech”. Topics discussed at multiple workshops include faculty recruitment, inclusive excellence, mentoring, and department climate issues. The workshops also include status reports from the provost, who is the principal investigator on Virginia Tech’s ADVANCE grant, and the Vice-President for Diversity and Inclusion. Workshop participants have consistently rated the external speakers invited to present at the annual workshops very highly and commented that they appreciate the opportunity to learn from the successes of other universities and organizations.

*“Thank you for continuing to highlight these important topics and make them more accessible on campus. Even more is necessary... but you're doing a great job and making inroads.” – 2009 workshop participant*

Keynote speakers and their topics are summarized in Appendix A, breakout session topics are listed in Appendix B, and complete agendas from each of the annual workshops are included in Appendix C.

## **Participants**

Early *AdvanceVT* annual workshops primarily targeted instructional faculty. Programming and participation have gradually broadened to include all members of the university community, including administrators, research faculty, and staff, with no charge to participants. In all years except one, the program has been held the week before classes start in January to minimize conflicts with other events. Approximately 730 members of the Virginia Tech community have attended at least one annual workshop, with many of these individuals attending multiple workshops. A breakdown of participants by primary affiliation is as follows:

<b>Affiliation</b>	<b>Number of Attendees</b>	<b>% of Total Attendees</b>
Administration	284	38.85%
Instructional Faculty	250	34.20%
Department Heads	47	6.43%
Research Faculty	38	5.20%
Staff	33	4.51%
Deans	28	3.83%
Library	26	3.56%
Students	25	3.42%

While the number of administrative and professional faculty attendees has increased over the past few years, the vast majority of attendees who have attended four or more annual workshops are instructional faculty, department heads, and senior administrators such as deans, provosts, and vice presidents. An ongoing challenge for the organizers is to provide content that is informative and motivating for repeat participants while also reaching out to and engaging new participants.

## **Workshop Evaluation**

Each year, workshop participants are invited to complete a brief evaluation survey, either on paper or online, rating each speaker and breakout session and answering a few open ended questions, such as:

- Did you learn anything at this workshop that surprised you? If so, what?
- What will you do differently as a result of your participation in this workshop?
- What was the highlight of the workshop for you?
- What could be improved in future workshops?
- What should be the highest priority for *AdvanceVT*?
- What future events would you like to see?

The survey responses are compiled and used to plan future events.

### **Annual Workshop Summaries**

2004

- *AdvanceVT* had greater than expected participation in its inaugural “*AdvanceVT* Workshop” held January 12, 2004, with over 160 faculty, administrators, graduate students, and guests. Feedback on the workshop was very positive, and great input was received on where the program should focus its efforts. Ninety-seven percent of participants who returned their evaluation forms indicated that the workshop increased their knowledge of issues affecting women in science and engineering somewhat or very much. An average of eighty-four percent of respondents rated six of seven workshop events as very or extremely valuable.

2005

- *AdvanceVT* hosted its 2<sup>nd</sup> annual campus-wide “Advancing Women at Virginia Tech” workshop on January 10, 2005, with keynote speakers Virginia Valian, distinguished professor of psychology and linguistics at Hunter College, and Denice Denton, dean of engineering at the University of Washington and chancellor designate at the University of California at Santa Cruz. More than 120 faculty members, administrators, and graduate students participated in the workshop. Valian’s presentation was particularly important for audience members who had little knowledge of the literature on unintended bias. In addition to this keynote, Valian met with women faculty members to discuss creating personal advisory committees, and with department heads to discuss their role in encouraging institutional change. Denton’s presentations focused on how to make the faculty search process yield more diverse outcomes and the necessity of changing the climate. Feedback on the conference was overwhelmingly positive.

2006

- The 3<sup>rd</sup> annual “Advancing Women at Virginia Tech” workshop was held on February 2 – 3, 2006 in conjunction with the Mid-Atlantic Conference on the Scholarship of Diversity (MASCD). The aim of the MASCD conference was to showcase diversity as a critical and valued area of scholarship and research. Over 100 Virginia Tech faculty members attended. The workshop included presentations on predictors of faculty job satisfaction from the Virginia Tech Faculty Work-Life Survey conducted in spring 2005 and an overview of keys to success in institutional transformation from other ADVANCE grant recipients. Small group discussions developed college level action plans to address faculty work/life issues identified by the faculty survey.

2007

- *AdvanceVT* hosted the 4<sup>th</sup> annual “Advancing Women at Virginia Tech” workshop on January 9, 2007. Over 100 Virginia Tech faculty members and administrators attended. The workshop included presentations from members of the University of Michigan STRIDE committee and a panel of new women department heads. Breakout sessions

discussed how to develop and maintain a positive department climate and keys to successful faculty searches.

2008

- The 5<sup>th</sup> annual “Advancing Diversity at Virginia Tech” conference, co-hosted with the Office of Multicultural Affairs, was held on January 8, 2008 with almost 200 registered participants, the largest attendance to date. Featured speakers addressed an inclusive excellence model for institutional transformation and the career concerns of pre-tenure faculty. Workshop sessions also focused on recruiting a diverse faculty and creating department climates that encourage faculty success. Follow-up sessions, held on January 9<sup>th</sup>, engaged pre-tenure faculty at Virginia Tech and graduate student recruitment coordinators.

2009

- The 6<sup>th</sup> annual “Advancing Diversity at Virginia Tech” conference, co-hosted with the Office for Equity and Inclusion (formerly Multicultural Affairs), was held on January 12, 2009 with almost 300 registered participants, including faculty, staff, and administrators, the largest attendance to date. Featured speakers addressed building capacity for inclusive excellence and bias literacy. Breakout sessions included Faculty Mentoring: Perspectives from Mentors and Mentees, Curriculum Transformation, Bias Literacy (continued), Building Capacity (continued), and Staff Perspectives on Diversity. The event concluded with a poster session highlighting the activities of campus diversity committees.

2010

- The 7<sup>th</sup> annual “Advancing Diversity at Virginia Tech” workshop, co-hosted with the Office for Equity and Inclusion, was held on January 11, 2010, with approximately 300 attendees, including faculty, administrators, and staff. The event featured a keynote address on “Creating a Climate of Success for All Students and Faculty” by Freeman A. Hrabowski, III, President of the University of Maryland Baltimore County (UMBC). Breakout sessions addressed faculty mentoring, the UMBC Meyerhoff Scholars Program, work-life balance, dealing with differences in the workplace, and results from Virginia Tech’s Employment Climate Survey. The 2010 workshop was held in conjunction with Virginia Tech’s inaugural Future Faculty Development Program, an initiative designed to enhance the faculty pipeline by developing relationships with prospective faculty candidates, especially those from groups underrepresented in the professoriate such as minorities and women.

### **Future Plans**

The Advancing Diversity at Virginia Tech workshop will be sustained with support from the Office of the Senior Vice-President and Provost and the Office for Diversity and Inclusion. The 8<sup>th</sup> annual workshop is scheduled for January 11, 2011, with Dr. Karan Watson, Interim Provost, Texas A&M, as the keynote speaker.

## Appendix A: Keynote Speakers

<b>Year</b>	<b>Speaker</b>	<b>Topic</b>
2004	Joseph Bordogna, Deputy Director, NSF	The Importance of NSF's ADVANCE Program
2004	Karen DePauw, Vice Provost for Graduate Studies and Dean of the Graduate School, Virginia Tech	ADVANCE(ing) Institutional Transformation
2005	Virginia Valian, Distinguished Professor, Hunter College	Why So Slow? Advancement of Women in Academia
2005	Denice Denton, Dean of Engineering, University of Washington	How To: Transformational Work in Higher Education
2006	Robert Jones, Senior Vice President of Systems Administration, University of Minnesota	Retention and Recruitment of Minorities in Higher Education
2006	Lucinda Roy, Alumni Distinguished Professor, Virginia Tech	Institutional Change at Virginia Tech
2007	Katherine Spindler and Wayne Jones, University of Michigan ADVANCE Program	Strategies and Tactics for Recruiting to Improve Diversity and Excellence
2008	Cathy Trower, Co-PI, Collaborative on Academic Careers in Higher Education (COACHE)	Reflections of Pre-Tenure Faculty
2008	Damon Williams, Assistant Vice-Provost for Multicultural and International Affairs, University of Connecticut	An Inclusive Excellence Model for Institutional Transformation
2009	Alma Clayton-Pedersen, Vice-President for Education and Institutional Renewal, Association of American Colleges and Universities	Building Capacity for Inclusive Excellence
2009	Daryl Chubin and Ruta Sevo, AAAS Center for Advancing Science and Engineering Capacity	An Introduction to Bias Literacy
2010	Freeman Hrabowski, President, University of Maryland Baltimore County	Creating a Climate of Success for All Students and Faculty

## Appendix B: Concurrent/Breakout Sessions

Year	Topic
2004	Small group discussions on campus climate, work/life balance, mentoring, faculty recruitment, faculty retention, leadership development, issues for department chairs, issues for research and non-tenure track faculty, issues for graduate students
2005	Recruiting a Diverse Faculty
2005	Leadership Development for Faculty
2005	Using One's Power to Change One's Institution
2006	Faculty Survey Findings: Predictors of Satisfaction
2006	Changing Academic Cultures for Women Faculty in Science and Engineering: A Preliminary Look at the NSF ADVANCE Institutional Transformation Grant Program
2006	Multiple research presentations and roundtables offered through the Midatlantic Conference on the Scholarship of Diversity
2007	Successful Faculty Searches
2007	Improving Department Climate through Evaluation and Mentoring
2008	Recruiting a Diverse Faculty
2008	Inclusive Excellence
2008	Mentoring and Department Climate: Improving Things for Pre-Tenure Faculty
2009	Faculty Mentoring: Perspectives from Mentors and Mentees
2009	Curriculum Transformation
2009	Bias Literacy, continued
2009	Building Capacity, continued
2009	Staff Perspectives on Diversity: Walking our Words
2010	Mentoring Faculty: How to Be a Successful Mentor
2010	Increasing Diversity and Success in STEM Students: Lessons Learned from UMBC's Meyerhoff Scholars Program
2010	Moving towards Work/Life Balance: Practical Considerations
2010	Dealing with Differences in Workplace Interactions
2010	Virginia Tech's Employment Climate Survey: Early Results

## Appendix C: Workshop Agendas

### *AdvanceVT Workshop* **January 12, 2004** **Hotel Roanoke** **Roanoke VA**

#### Monday, January 12

- 8:00 am      Registration – Washington Lecture Hall Foyer
- 8:30 am      Continental Breakfast – Lounge opposite Washington Lecture Hall
- 9:00 am      Welcome and Introductions – Washington Lecture Hall  
*Pat Hyer, PI; Mark McNamee, Provost, Virginia Tech*
- 9:30 am      What is ADVANCE?  
*Alice Hogan, ADVANCE Program Director, NSF*  
Overview of ADVANCE at Virginia Tech  
*PIs/ADVANCE professors*
- 10:30 am     Break
- 10:45 am     Status of women in S&E nationally and at Virginia Tech  
*Peggy Layne, AdvanceVT Program Coordinator*
- 11:15 am     ADVANCEing Women in Academe: Voices of Experience
- *Jane Ammons, Georgia Tech*
  - *Jennifer Sheridan, U. Wisconsin*
  - *Joyce Yen, U. Washington*
  - *April Brown, Duke*
- 12:30 pm     Lunch – Crystal Ballroom
- 1:00 pm      Keynote speaker – Crystal Ballroom  
*Joseph Bordogna, Deputy Director, NSF*
- 2:00 pm      Small group discussions – see list for room assignments
- *Campus climate*
  - *Work/life balance*
  - *Mentoring*
  - *Faculty recruitment*
  - *Faculty retention*
  - *Leadership development*
  - *Issues for department chairs*
  - *Issues for research and non-tenure track faculty*



- *Issues for graduate students*

- 4:00 pm Closing Keynote – Washington Lecture Hall  
*Karen DePauw, Vice Provost for Graduate Studies and Dean of the  
Graduate School, Virginia Tech  
“ADVANCE(ing) Institutional Transformation”*
- 4:45 pm Reception – Lounge opposite Washington Lecture Hall
- 6:00 pm Dinner for *AdvanceVT* Leadership Team and invited guests  
Virginia Room, off Regency Room Restaurant

**Advancing Women at Virginia Tech**  
**January 10, 2005**  
**Donaldson Brown Hotel and Conference Center**  
**Blacksburg VA**

Monday, January 10

- 7:45 am      Networking breakfasts  
*Women faculty with Virginia Valian – Old Guard Room*  
*Deans/Department Heads with Denice Denton – Appalachian/Blue Ridge*
- 9:00 am      Welcome and Introductions – Auditorium  
*Mark McNamee, Provost, Virginia Tech*
- 9:15 am      *AdvanceVT* First Year Findings and Plans – Auditorium  
*Peggy Layne, AdvanceVT Program Director*
- 10:00 am      Break
- 10:30 am      Opening Keynote – Auditorium  
*Why So Slow? Advancement of Women in Academia*  
*Virginia Valian, Distinguished Professor, Hunter College*
- 12:00 pm      Lunch  
*Assistant Professors lunch with Denice Denton – Old Guard Room*  
*Luncheon Q&A with Virginia Valian – Commonwealth West*
- 1:30 pm      Workshops
- *Recruiting a Diverse Faculty (Denice Denton) – Room C*
    - *Of special interest to anyone serving on a search committee*
  - *Leadership development for faculty (Roseanne Foti) – Room F*
    - *Learn leadership skills of value in the many roles faculty play*
  - *Using One's Power to Change One's Institution (Virginia Valian) – Room G*
    - *Especially for Deans and Department Heads*
- 3:30 pm      Break
- 4:00 pm      Closing Keynote – Auditorium  
*How To: Transformational Work in Higher Education*  
*Denice Denton, Dean of Engineering, University of Washington*
- 4:45 pm      Reception – Old Guard Room
- 6:00 pm      Dinner for *AdvanceVT* Leadership Team and guests – invitation only

**3<sup>RD</sup> ANNUAL  
ADVANCING WOMEN AT VIRGINIA TECH WORKSHOP  
&  
MIDATLANTIC CONFERENCE ON THE SCHOLARSHIP OF DIVERSITY**

CONFERENCE AGENDA

<b>THURSDAY, FEBRUARY 2, 2006</b>		
<b>TIME</b>	<b>EVENT</b>	<b>LOCATION</b>
<b>11:00 - 1:00 pm</b>	<b>Registration</b>	<b>Assembly Hall Foyer</b>
<b>1:00 - 2:30 pm</b>	<p><b><u>AdvanceVT &amp; MACSD Opening</u></b></p> <p><b>Welcome:</b> Mark McNamee, Provost, Virginia Tech</p> <p><b>M.U.G.A.B.E.E. Performance</b></p> <p><b>Keynote Introduction:</b> Benjamin Dixon, Vice President of Multicultural Affairs, Virginia Tech</p> <p><b>Keynote Address: Robert Jones,</b> Sr. Vice President of Systems Administration, University of Minnesota</p> <p><i>Mr. Jones will speak on issues regarding retention and recruitment of minorities in higher education.</i></p>	<b>Assembly Hall</b>
<b>2:30 - 3:00 pm</b>	<b>Break</b>	<b>Upper Quad</b>
<b>3:00 - 3:45 pm</b>	<p><b><u>AdvanceVT Session</u></b></p> <p><b>Faculty Survey Findings: Predictors of Satisfaction</b> Elizabeth Creamer, <i>AdvanceVT</i> Assessment Director, Virginia Tech Deb Olsen, Associate Professor, School of Education, Virginia Tech</p>	<b>Cascades</b>

**THURSDAY, FEBRUARY 2, 2006**

<p><b>3:00 – 3:45</b></p>	<p><b><u>MACSD Roundtable</u></b></p> <p><b>Accommodating Hidden Disabilities: Creating an Accepting Workplace</b>                  Deborah M. Shoemaker, Woodrow Wilson Rehabilitation Center                  Lori B. Epik, Woodrow Wilson Rehabilitation Center</p>	<p><b>Drillfield</b></p>
	<p><b>Cultural Diversity in a Global Context – Human Rights, Global Social Justice and Cultural Diversity</b></p> <ul style="list-style-type: none"> <li>• <i>Cultural Diversity and International Education: The Case of Ethnomathematics</i>, Bettina Dahl Soendergaard, Virginia Tech</li> <li>• <i>A Normative Approach to Internationalizing Political Science Curricula</i>, Scott G. Nelson, Virginia Tech</li> <li>• <i>The Question of Identity/Difference in Globalization</i>, Yannis Stivachtis, Virginia Tech</li> <li>• <i>Myth or Reality? The Case of Iran</i>, Lisa Moore, Virginia Tech</li> <li>• <i>Myth or Reality? The Case of China</i>, Xi Chen, Virginia Tech</li> </ul> <p><b>Creating Universally Designed Instruction for ALL Learners</b>                  Susan Asselin, Virginia Tech</p> <p><b>Power and Social Hierarchies as an Explanation of Persistence in Computer Related Majors (CRM)</b>                  Rebecca Scheckler, University of Cincinnati                  Kusum Singh, Virginia Tech                  Lisa Darlington, Virginia Tech                  Katherine Allen, Virginia Tech</p> <p><b>The Possible Impact of Sharing in Cross Cultural Settings.</b>                  Kim Cornett , Georgia Military College and Luann Holmes, Georgia Military College.</p>	<p><b>Solitude</b></p>
<p><b>3:00 – 3:20 pm</b></p>	<p><b><u>MACSD Concurrent Research Presentations</u></b></p> <p><b>Language Policies in the Workplace: A Review of Law and EEOC Guidelines</b>                  Bonnie Farber Canziani, UNC Greensboro</p>	<p><b>Ellett Valley</b></p>
	<p><b>Why Faculty and Staff Leave: Exit Surveys in the Context of Diversity</b>                  Susan Willis-Walton, Virginia Tech</p>	<p><b>Huckleberry</b></p>
	<p><b>Family Literacy in ESL through Service Learning</b>                  Gresilda A. Tilley-Lubbs, Virginia Tech</p>	<p><b>Drapers Meadow</b></p>

**THURSDAY, FEBRUARY 2, 2006**

<p><b>3:00 – 3:20 pm</b></p>	<p><b><u>MACSD Concurrent Research Presentations, continued</u></b>  <b>Complex Positions: Jewish Undergraduates in Diversity Education</b>                  Christopher MacDonald-Dennis, Bryn Mawr College</p>	<p><b>Duck Pond</b></p>
<p><b>3:30 – 3:50 pm</b></p>	<p><b><u>MACSD Concurrent Research Presentations</u></b>  <b>Faculty Perceptions of Accessibility and Effective Teaching Practices</b>                  Susan Asselin, Virginia Tech</p>	<p><b>Ellett Valley</b></p>
	<p><b>On a Peircean Approach to Issues of Diversity</b>                  Rosa Maria Mayorga, Virginia Tech</p>	<p><b>Huckleberry</b></p>
	<p><b>African American Students: Residential Community Experience</b>                  Julie Best, Virginia Tech</p>	<p><b>Drapers Meadow</b></p>
	<p><b>Understanding of First Year Engineering Students Experience in Nanotechnology</b>                  Xiaojing Zhu, Virginia Tech</p>	<p><b>Duck Pond</b></p>
<p><b>3:45 – 4:00 pm</b></p>	<p><b>Break</b></p>	<p><b>Upper Quad</b></p>
<p><b>4:00 - 4:45 pm</b></p>	<p><b><u>AdvanceVT Session</u></b>  <b>Changing Academic Cultures for Women Faculty in Science and Engineering: A Preliminary Look at the NSF ADVANCE Institutional Transformation Grant Program</b>                  Ellen Plummer, Director, Virginia Tech Women’s Center</p>	<p><b>Cascades</b></p>
<p><b>4:00 – 4:45 pm</b></p>	<p><b><u>MACSD Roundtable</u></b>  <b>Perceptions of Minority Students in a Private, Religious-based University</b>                  Michelle B. Goodwin, Liberty University                  Esther Alcindor, Liberty University</p>	<p><b>Drillfield</b></p>

**THURSDAY, FEBRUARY 2, 2006**

4:00 – 4:20 pm	<p><b><u>MACSD Concurrent Research Presentations</u></b></p> <p><b>Voluntary Departures Among Faculty: An Exploration of the Intersection between Race and the Work Environment</b> Catherine Amelink, Virginia Tech</p>	Ellett Valley
	<p><b>Toward the Just Administration of Education</b> Amanda Vert, Virginia Tech</p>	Huckleberry
	<p><b>Questions for Hidden Immigrants</b> Elise Cole, Virginia Tech</p>	Duck Pond
	<p><b>Assessing the Current Climate of Diversity Among the Graduate Student Community at Virginia Tech</b> Thompson Medford, Virginia Tech Navin Manjooran, Virginia Tech Thomas Gorman, Virginia Tech Sheena Horsford, Virginia Tech Nicole Sanderlin, Virginia Tech</p>	Drapers Meadow
4:25 – 4:45 pm	<p><b><u>MACSD Concurrent Research Presentations</u></b></p> <p><b>The Problem with Tenure: Experience and Challenges of African American Female Faculty</b> Tonya Saddler, Virginia Tech</p>	Huckleberry
	<p><b>The Necessity for Diversity in Academia: A Student Perspective</b> Stephen J. Kalista, Jr., Virginia Tech Michael Goode, Virginia Tech Jennifer Jessie, Virginia Tech</p>	Duck Pond
	<p><b>Social Justice at Black and Hispanic Serving Institutions</b> Terrell Strayhorn, University of Tennessee, Knoxville Joan B. Hirt, Virginia Tech</p>	Drapers Meadow
4:45 – 5:00 pm	<b>Break</b>	Upper Quad
5:00 – 6:00 pm	<p><b>Reception</b> Hosted by <i>AdvanceVT</i> Cash bar</p>	Latham C
8:00 pm	<p><b>Diversity Through the Arts Presentation</b> “Open the Window” \$8 General Admission - \$5 Student/Senior</p>	<p><b>The Lyric</b> 135 College Ave</p>

**FRIDAY, FEBRUARY 3, 2006**

TIME	EVENT	LOCATION
8:00 – 8:45 am	<p><b>Continental Breakfast</b></p> <p><b>Poster Session</b></p> <ol style="list-style-type: none"> <li>1. The Color of Water: Student Responses to Diversity Discussions</li> <li>2. Ahimsa: Indian Women’s Experience of a Narrative Intervention Using Art and Writing</li> <li>3. The Impact of Ability Grouping on Educational Quality and Educational Equity</li> <li>4. An Analysis of Gender Equity in Faculty Ranks from Multiple Organizational Theories</li> <li>5. Growing Up with a Physical Disability: The Story of One</li> <li>6. Marital Discord and Partner Violence: A Meta-analysis</li> <li>7. Shared Lives: Anti-Bias Took Kit for Early Childhood Educators</li> <li>8. Students’ Diversity Perceptions: Gender and Ethnic Differences</li> <li>9. White Student Teachers’ Beliefs: Teaching Children of Color</li> <li>10. Turning Points: Factors Influencing Educational Aspirations of Adolescents with Prior Histories of Antisocial Behavior</li> <li>11. Diversity: A Perspective from the Graduate Student Assembly of Virginia Tech</li> <li>12. <i>AdvanceVT</i></li> <li>13. Examining Attitudes in Volunteerism in a Mexican University Medical School</li> </ol>	Solitude
8:45 – 9:15 am	<p><b>Overview of Virginia Tech and <i>AdvanceVT</i> Program</b> Mark McNamee, Provost and <i>AdvanceVT</i> PI, Virginia Tech</p>	Solitude
9:15 – 9:30 am	Break	Upper Quad
9:30 – 11:15 am	<p><u><b><i>AdvanceVT</i> Breakout Discussions</b></u></p> <p><b>College of Engineering</b></p>	Cascades A
	<p><b>College of Science, Agriculture &amp; Life Sciences, Other</b></p>	Cascades B
	<p><b>College of Liberal Arts and Human Sciences</b></p>	Drapers Meadow
	<p><b>University Policies</b></p>	Drillfield

**FRIDAY, FEBRUARY 3, 2006**

9:30 – 9:50 am	<p><b><u>MACDS Concurrent Research Presentations</u></b></p> <p><b>What and Who is an American?</b> MacGregor O’Brien, Frostburg State University</p>	Ellett Valley
	<p><b>Emotional Intelligence, Campus Climate &amp; Diversity Attitudes</b> Mary Connerly, Virginia Tech Felice Williams, Virginia Tech</p>	Huckleberry
	<p><b>Culture Shock: The Experiences of Gay and Lesbian Students in a Rural College Settings</b> Jennifer Clements, Shippensburg University</p>	New River
9:30 – 10:15 am	<p><b><u>MACDS Roundtables</u></b></p> <p><b>Religious World-View and Its Impact on Research Interests</b> Babette Newman, Virginia Tech Natalia Sira, East Carolina University</p> <p><b>Employing the Severely Disabled: Two Perspectives.</b> Joan Albano, Virginia Tech Ronnie E. Fleeman, Jr., Virginia Tech</p> <p><b>Influence of Class on Assessment of Pre-kindergartens</b> Janet Dozier, Marshall University Ronald B. Childress, Marshall University</p> <p><b>Women’s Studies and the Scholarship of Diversity</b> Barbara Smith, Virginia Tech</p>	Solitude
10:00 – 10:20 am	<p><b><u>MACSD Concurrent Research Presentations</u></b></p> <p><b>The Color of Water: A Dialogue on Diversity in the Freshman First-Year Experience Classroom</b> Dolly Conner, Louisburg College</p>	Ellett Valley
	<p><b>Family Literacy in ESL through Service Learning</b> Gresilda A. Tilley-Lubbs, Virginia Tech</p>	Huckleberry



**FRIDAY, FEBRUARY 3, 2006**

<b>10:10 – 11:15</b>	<b><u>MACSD Plenary Session</u></b> <b>“Open The Window” Artists’ Panel Discussion on Community Based Arts</b>	<b>Assembly Hall</b>
<b>10:30 – 10:50 am</b>	<b><u>MACSD Concurrent Research Presentations</u></b> <b>Working on a Multicultural Team</b> Elise Cole, Virginia Tech	<b>Ellett Valley</b>
	<b>Diversity: a Perspective from the Graduate Student Assembly of Virginia Tech</b> Shivakumara Siddaramappa, Virginia Tech	<b>Huckleberry</b>
<b>11:15 – 11:30</b>	<b>Break</b>	<b>Upper Quad</b>
<b>11:30 – 1:00 pm</b>	<b>Lunch</b> <b>Closing Keynote: Lucinda Roy, Alumni Distinguished Professor, Virginia Tech</b>	<b>Latham C</b>
<b>1:00 pm</b>	<b>Adjourn</b>	

# Advancing Women at Virginia Tech

January 9, 2007

Inn at Virginia Tech and Skelton Conference Center/Holzman Alumni Center  
Blacksburg VA

8:30 am	Continental Breakfast and Registration	Alumni Assembly Hall
9:00 am	Welcome and Introductions <i>Mark McNamee, Provost and AdvanceVT PI, Virginia Tech</i>	Alumni Assembly Hall
9:25 am	Panel: University of Michigan ADVANCE Program Strategies and Tactics for Recruiting to Improve Diversity and Excellence <i>Katherine Spindler, Microbiology and Immunology</i> <i>Wayne Jones, Materials Science and Engineering</i> <i>University of Michigan ADVANCE Program</i> <i>Moderator: Ellen Plummer, Virginia Tech Women's Center</i>	Alumni Assembly Hall
10:30 am	Break – Coffee Service	Alumni Assembly Hall
10:45 am	Using Interactive Theater as a Vehicle for Change <i>Susanna Rinehart, Theater Arts, Virginia Tech</i>	Alumni Assembly Hall
11:00 am	Panel: Voices of New Department Heads <i>Elizabeth Grabau, Plant Pathology, Physiology &amp; Weed Science</i> <i>Beate Schmittmann, Physics</i> <i>Karen Thole, Mechanical &amp; Nuclear Engineering, Penn State</i> <i>Moderator: Roseanne Foti, Psychology</i>	
12:00 pm	Lunch	Latham Ballroom A
1:15 pm	Concurrent Workshops	
	Successful Faculty Searches <i>Katherine Spindler, Univ. of Michigan STRIDE Committee</i> <i>Wayne Jones, Univ. of Michigan STRIDE Committee</i> <i>Kelly Oaks, Office for Equal Opportunity</i> <i>Nancy Ross, College of Science</i> <i>Andrea Dietrich, College of Engineering</i> <i>Facilitator: Ellen Plummer, Virginia Tech Women's Center</i>	Latham Ballroom B

Improving Dept. Climate through Evaluation and Mentoring  
Ballroom DEF

Latham

*Eileen Van Aken, Industrial & Systems Engineering*

*Joe Merola, Chemistry*

*Carla Finkelstein, Biological Science*

*Facilitators: Jack Finney, College of Science*

3:00 pm Break – Coffee Service

Latham Foyer

3:15 pm Closing Session  
*Reports from concurrent workshops*  
*Closing remarks*  
*Conference evaluation*

Alumni Assembly Hall

3:45 pm Adjourn

**Advancing Diversity at Virginia Tech  
Inn at Virginia Tech and Skelton Conference Center  
Blacksburg VA**

Agenda

Tuesday, January 8, 2008

8:00 am	Continental Breakfast	Foyer
8:30 am	Welcome and Introductions <i>Mark McNamee, Provost, Virginia Tech</i> <i>Kevin McDonald, Vice-President for Multi-Cultural Affairs and Equity, Virginia Tech</i>	Latham B
8:45 am	Status report on <i>AdvanceVT</i>	Latham B
9:15 am	Opening Keynote: Reflections of Pre-Tenure Faculty <i>Cathy Trower, Co-PI, Collaborative on Academic Careers in Higher Education</i>	Latham B
10:30 am	Break	Foyer
10:45 am	Interactive Theater Presentation: “Still Searching” <i>Susanna Rinehart, Associate Professor, Virginia Tech</i>	Latham B
12:00 pm	Lunch	Latham C/D/E/F
1:00 pm	Keynote: An Inclusive Excellence Model for Institutional Transformation <i>Damon Williams, Assistant Vice-Provost for Multi-cultural and International Affairs, University of Connecticut</i>	
2:00 pm	Break	
2:15 pm	Workshops	
	<ul style="list-style-type: none"> <li>• Recruiting a Diverse Faculty <i>Sonel Shropshire, The Academic Network, Inc.</i></li> <li>• Inclusive Excellence <i>Damon Williams, University of Connecticut</i></li> <li>• Mentoring and Department Climate: Improving Things for Pre-Tenure Faculty <i>Jack Finney, Carla Finkelstein, Joe Merola, Ishwar Puri, and Don Taylor</i> <i>(AdvanceVT Department Climate Committee)</i></li> </ul>	<p>Duckpond</p> <p>Cascades</p> <p>Smithfield</p>
3:45 pm	Reception and Poster Session	Latham A
4:30 pm	Adjourn	

Wednesday, January 9, 2008

8:00 – 8:30 am	Continental Breakfast/Registration	
8:30 – 11:00 am	Career Development Issues for Pre-Tenure Faculty	Latham C
8:30 – 10:00 am	Recruiting Diverse Graduate Students <i>Sonel Shropshire, The Academic Network, Inc.</i>	Duckpond

**Advancing Diversity at Virginia Tech  
Inn at Virginia Tech and Skelton Conference Center  
Blacksburg VA**

**Monday, January 12, 2009**

- 8:30 am Continental Breakfast
- 9:00 am Welcome and Introductions  
*Mark McNamee, Senior Vice-President and Provost, Virginia Tech*  
*Kevin McDonald, Vice-President for Equity and Inclusion, Virginia Tech*
- 9:10 am Status report on Office for Equity and Inclusion  
*Kelly Oaks, Director, Equity Initiatives, Virginia Tech*
- 9:25 am Status report on *AdvanceVT*  
*Mark McNamee, Senior Vice-President and Provost, Virginia Tech*
- 9:45 am *AdvanceVT* Faculty Work-Life Survey Findings  
*Elizabeth Creamer, AdvanceVT Assessment Director, Virginia Tech*
- 10:45 am Break
- 11:00 am Keynote: Building Capacity for Inclusive Excellence  
*Alma Clayton-Pedersen, Vice-President for Education and Institutional Renewal, Association of American Colleges and Universities*
- 12:00 pm Lunch
- 1:00 pm Keynote: An Introduction to Bias Literacy  
*Daryl Chubin and Ruta Sevo, AAAS Center for Advancing Science and Engineering Capacity*
- 2:00 pm Break
- 2:15 pm Concurrent breakout sessions:
- Faculty Mentoring: Perspectives from Mentors and Mentees
  - Curriculum transformation
  - Bias literacy, continued
  - Building capacity, continued
  - Staff perspectives on Diversity: Walking our Words
- 3:45 pm Reception and Poster Session
- 4:30 pm Adjourn

**Advancing Diversity at Virginia Tech  
Inn at Virginia Tech and Skelton Conference Center  
Monday, January 11, 2010**

**AGENDA**

- 8:30 am Continental Breakfast
- 9:00 am Welcome and Introductions
- 9:10 am Status Reports: Office for Equity and Inclusion and *AdvanceVT*  
*Mark McNamee, Senior Vice President and Provost*  
*Karen Eley Sanders, Interim Vice President for Equity and Inclusion*
- 9:45 am Break
- 10:15 am Keynote: Creating a Climate of Success for All Students and Faculty  
*Freeman Hrabowski, President, University of Maryland Baltimore County*
- 11:30 am Lunch
- 1:00 pm Concurrent Sessions:  
Mentoring Faculty: How to Be a Successful Mentor  
Moderator: *Eileen Van Aken*  
Panelists: *Jackie Bixler, Ed Fox, Karen Roberto, and John Seiler*  
Increasing Diversity and Success in STEM Students: Lessons Learned from  
UMBC's Meyerhoff Scholars Program  
Presenter: *Keith Harmon, UMBC*  
Moving towards Work/Life Balance: Practical Considerations  
Presenters: *Pat Burton, Cathy Jacobs, Sue Perry, and Dawn Barnes*  
Dealing with Differences in Workplace Interactions  
Presenter: *Amy Hogan*  
Virginia Tech's Employment Climate Survey: Early Results  
Presenter: *Hal Irvin*
- 2:30 pm Coffee Break and Poster Session
- 3:30 pm Adjourn

***AdvanceVT* Work/Life Policies  
Summary Report  
November 2010**

*AdvanceVT*'s 2008 Faculty Work/Life Survey showed that 59% of tenured and tenure-track faculty members at Virginia Tech believe it is difficult to have a personal life and earn tenure and 48% feel that their family responsibilities have slowed their career advancement. Female faculty members indicated that they have considered leaving the university in order to obtain better career opportunities for their spouse or partner (43%), as well as to achieve a better personal/professional balance (50%). To address these university-wide concerns, *AdvanceVT* has led the development and implementation of new and revised work/life policies, educated the university community about the availability of these policies, and created a dual-career hiring assistance program.

### **Work/Life Initiatives at Virginia Tech**

Virginia Tech, through the leadership of *AdvanceVT*, has made several changes in university policies and procedures over the life of the grant. Accomplishments to date include the development and dissemination of dual-career assistance guidelines and establishment of a dual-career assistance office in 2005. Successful faculty recruitment and retention often depend on suitable employment opportunities for a spouse or partner, a special challenge for land grant institutions like Virginia Tech that are located outside of major metropolitan areas. To address these needs, Virginia Tech formalized dual career hiring guidelines, hired a full-time coordinator, offers referral services, publicizes its support for dual career couples, and provides search exemptions and transition funds for partner appointments where there is a fit with a hiring department. Central funding for the dual career assistance program totaled over \$300,000 in 2009.

Stop-the-Clock, a university policy used to allow tenure track faculty to suspend the tenure process temporarily in order to manage personal obligations, has been available at Virginia Tech for many years, but was revised in 2006 and now provides automatic tenure clock extension for new parents. Extensions may also be granted for other personal or professional reasons. A new Modified Duties policy was adopted in 2006 to allow accommodation for special family or personal health circumstances that may substantially alter a faculty member's life for a period of time. While in the past such situations were handled informally at the discretion of the department, a formal policy is now in place. Tenured or tenure-track faculty members may request a semester of modified duties at full pay to create a more flexible schedule in order to better manage family or personal issues. Central funding is provided to support department accommodations, such as hiring an instructor to cover the faculty member's courses.

A Part-time Employment policy for tenured and tenure-track faculty was adopted in 2007. Pre-tenure faculty may request a *term* (one semester to two years, renewable) part-time appointment for child/dependent care or personal health reasons with a commensurate salary adjustment and extension of the tenure clock. The maximum probationary period is capped at 10 years. Tenured faculty members may request *term* or *permanent* part-time appointment for family or health reasons, or for professional practice or outside entrepreneurial activities. However, the



university is unable to provide benefits such as health insurance for part-time employees and this policy has not been widely used.

An increase in childcare resources, a pressing need for Virginia Tech’s faculty and staff, has also been a focus of the university’s commitment to work/life balance. In 2005, a part-day, part-year lab school on campus was converted into full-day, year-round daycare. In 2009, the university entered into a contract with a local child-care provider that enabled her to expand her facilities, with 60% of the new capacity designated for the families of Virginia Tech faculty, staff, and graduate students.

### **Work/Life Policy Utilization**

In order to increase awareness of the policies, information has been shared through meetings with and presentations to department heads and promotion and tenure committee chairs, as well as both current and potential faculty members, and distributed through printed brochures, websites, and print and online newsletters. With support from the provost and the Office of Institutional Research and Effectiveness, *AdvanceVT* tracks the utilization of these policies and the career progress of faculty who take advantage of them.

#### Dual-Career Assistance Program

Table 1 shows the number of cases handled by the Dual Career Assistance Office in its first four years of existence, and Figure 1 shows more detailed outcomes of cases addressed in the first two years. Virginia Tech has been able to accommodate quite a number of faculty dual career hires in the past four years. However, not all employment offers are for permanent positions, and concerns about secure, appropriate employment for the spouse or partner may continue for a number of years before they are successfully resolved.

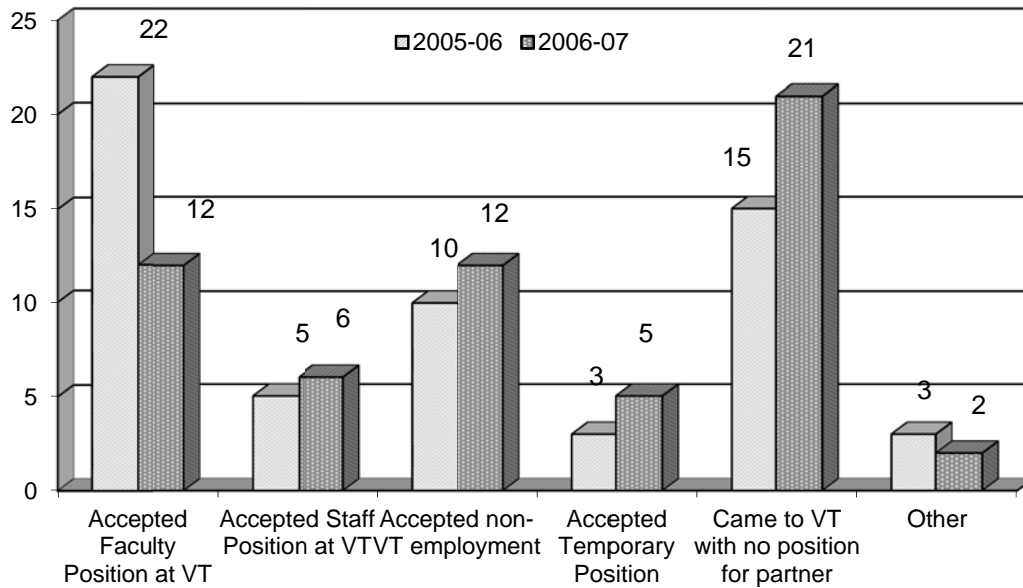
	<b>2005 – 06</b>	<b>2006 - 07</b>	<b>2007 - 08</b>	<b>2008 - 09</b>
<b>Recruitment Cases</b>				
<i>Offered: Accepted</i>	48	36	23	24
<i>Offered: Declined</i>	11	5	5	1
<i>Not offered</i>		3	2	1
Retention Cases	7	21	9	13
<b>Total Cases</b>	<b>66</b>	<b>65</b>	<b>39</b>	<b>39</b>

Table 1. Dual-career assistance office use at Virginia Tech, 2005-2009

Of faculty members identified as dual hires during the 2005-06 academic year who responded to a survey in spring 2007, 41% reported a very positive experience and 38% reported somewhat positive. While most respondents reported having a good experience with dual career hiring whether they used the office or were hired directly by the department, other individuals had greater expectations than program was able to accommodate, and reported more mixed experiences. Despite the program’s limitations, one participant noted:

*“Guidelines and the existence of the Dual-Career Office at Virginia Tech made us feel more secure about accepting Virginia Tech as an employer for my husband. It is a good indication that Virginia Tech cares for the employees and their family, which is one of the most important factors to consider while looking for a new job.”*

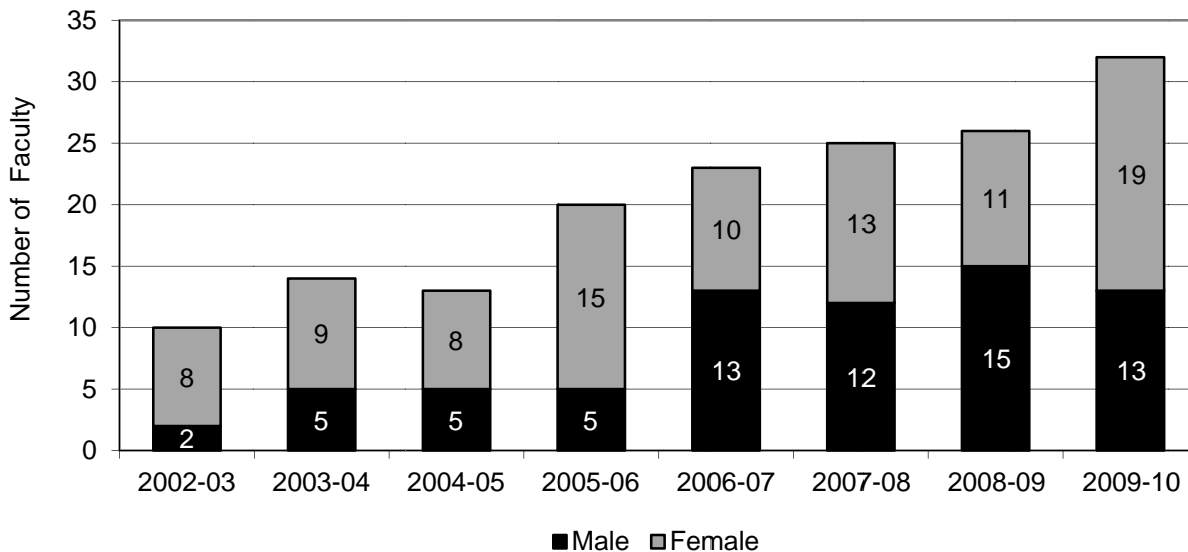
Figure 1. Employment outcomes for dual-career hires at Virginia Tech, 2005-2007



Stop-the-Clock

The stop-the-clock policy at Virginia Tech is not new, and was in use prior to the revisions in June 2005, but the revised policy has resulted in increased usage, as shown in Figure 2.

Figure 2. Stop-the-Clock requests by gender, 2002-2010



The increase can be attributed to several reasons:

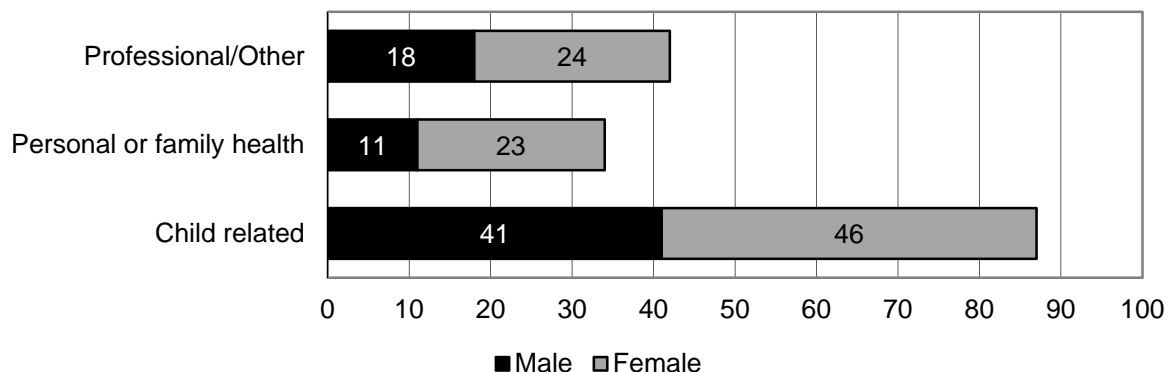
- The newly revised policy makes clear that male faculty members may stop-the-clock at the time of childbirth and adoption and the significant upsurge in male requests in 2006 – 2007 illustrates that many male faculty members are now using the policy for that purpose.
- Virginia Tech has appointed many new junior faculty members in the past few years, at least a third of whom are women, and the policy serves their needs as they start their families.
- The stop-the-clock policy also accommodates faculty members with other special circumstances.

A long-time faculty member at Virginia Tech and advocate of the stop-the-clock policy remarked:

*“These new policies are helping us retain outstanding faculty who now feel that they can work at the institution they love and still take care of the people they love.”*

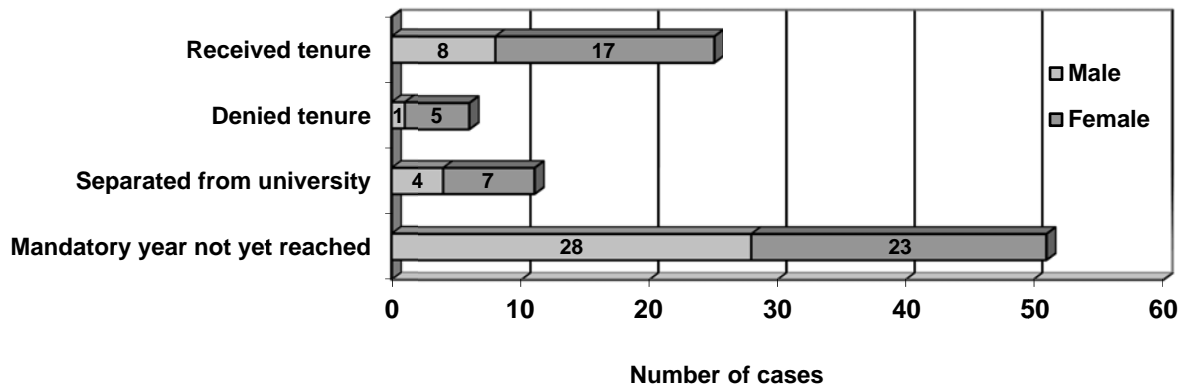
Figure 3 illustrates that the most common reason for stopping the tenure clock is childbirth or adoption. However, Virginia Tech has a fair number of requests for a halt in the tenure clock because of extenuating personal health reasons, or extraordinary professional circumstances not of the faculty member’s own making. Virginia Tech’s policy is somewhat unusual in allowing extensions for such reasons. However, it has worked well in assisting faculty members to be successful when they have encountered difficulties with access to promised laboratories or equipment, or their assignments have been dramatically altered during their probationary period.

Figure 3. Reasons for tenure clock extension, by gender, 2003-2010



*AdvanceVT* continues to monitor whether using the policy actually assists faculty members to successfully achieve tenure. Figure 4 shows the tenure outcomes for those faculty members who stopped the clock for childbirth or dependent care reasons only.

Figure 4. Outcomes for faculty who stopped the tenure clock, childbirth and dependent care cases only, 1996-2007



### Modified Duties

In the 2006 – 2007 academic year, the first year of the modified duties policy, four participants utilized the service, with \$15,000 of central funding distributed to departments to hire replacement instructors. Table 2 summarizes the first four years of utilization of the modified duties policy. Funding through fall 2010 totaled \$274,500. Most of the modified duties requests to date involve childbirth, while several others relate to the impact of the shootings on campus in April of 2007.

	<i>2006-07</i>	<i>2007-08</i>	<i>2008-09</i>	<i>2009-10</i>
Childbirth/ adoption	4	10	5	7
Personal health	0	2	1	0
Other	0	6	0	3
<b>Total</b>	<b>4</b>	<b>18</b>	<b>6</b>	<b>10</b>

Table 2. Modified duties policy utilization, 2006-2010

### Satisfaction with Work/Life Policies

*AdvanceVT*'s 2008 Faculty Work-Life Survey included some questions regarding work/life balance for faculty. Sixty-two percent (62%) of tenured and tenure-track faculty respondents agreed that Virginia Tech cares about the family and home lives of its faculty. Satisfaction with assistance for spouse/partner hiring was lower, with only 46% of respondents satisfied with the dual-career assistance program. About 56% of respondents were satisfied with child care options in Blacksburg, indicating additional needs for child care.

Virginia Tech participated in the COACHE survey of pre-tenure faculty in fall 2009, and found that while pre-tenure faculty members still struggle to balance their personal and professional

lives, they are generally satisfied with the university's work/life policies. Sixty-five percent (65%) of COACHE survey respondents at Virginia Tech agreed that the university does what it can to make having children and the tenure track compatible, placing the university in the 95<sup>th</sup> percentile nationwide and 2<sup>nd</sup> among its designated peer institutions. Eighty-six percent of respondents rated the stop-the-clock program effective or very effective, and 67% agreed that their colleagues are respectful of their efforts to balance work and home responsibilities. On the other hand, the COACHE survey respondents perceive Virginia Tech's spouse/partner hiring program as important (72% important or very important) but not particularly effective (31% effective or very effective), in spite of increased university attention to addressing the needs of dual career couples. Continued monitoring of the impact of the policies is necessary, but these preliminary findings are promising.

***AdvanceVT* Leadership Development Programs**  
**Final Assessment**  
**November 2010**

Each academic year from 2004-05 through 2007-08, *AdvanceVT* offered faculty women opportunities to develop leadership skills and to enhance their visibility in the university. Among respondents to *AdvanceVT*'s 2005 Faculty Work-Life Survey, 47% of the tenured and tenure-track women indicated that they aspired to a leadership position beyond their current position compared with only 31% of the male respondents, and 77% of the women versus only 55% of men indicated an interest in opportunities to develop their leadership skills. However, only 29% of the women faculty and 48% of the men agreed that it is possible to hold a leadership position at Virginia Tech while balancing work and personal responsibilities, and even fewer (18% of women and 24% of men) believed that it is possible to maintain an active research program while in a leadership role. *AdvanceVT*'s leadership programs were designed to address women faculty members' interest in leadership development as well as concerns about balancing demands of research and family with a leadership role.

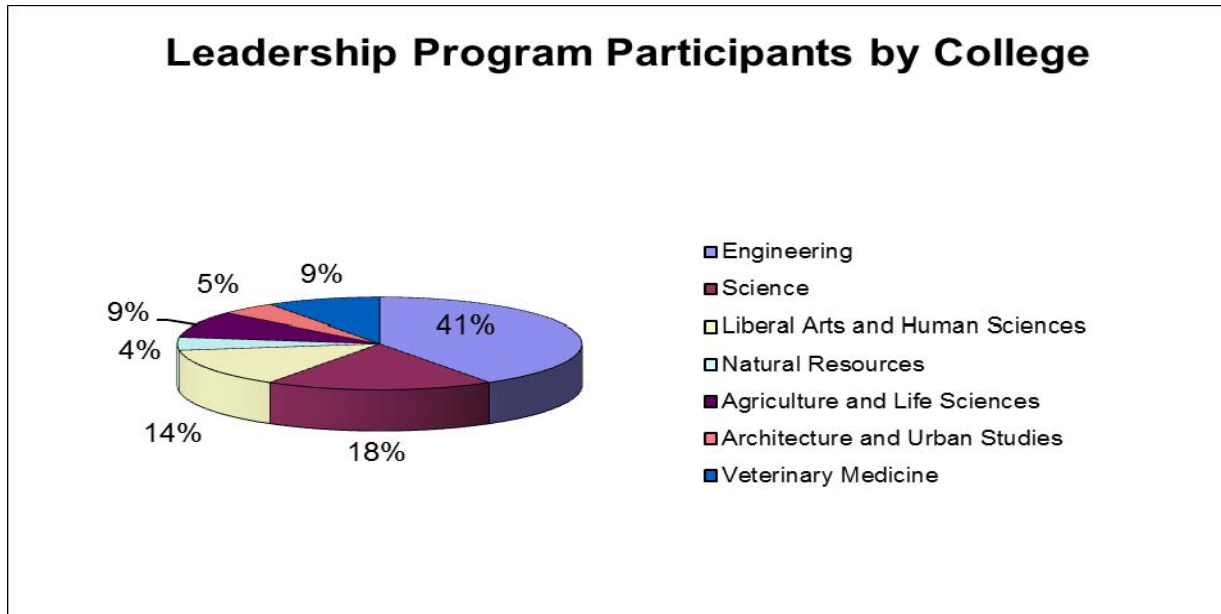
*AdvanceVT* originally planned to fund two half-time placements each year for senior women faculty in the colleges of science and engineering to develop leadership skills. Examples of anticipated activities included shadowing a research center director, having a special administrative assignment in a college or university office, shadowing an administrator at another university for a limited time, enrolling in skill-building workshops, having a special assignment for planning a research direction for a college or department, or serving as an assistant department head. These leadership fellowships would be competitively selected by a committee based on proposals submitted by a faculty member and endorsed by the department head and the host of the proposed fellow. Because few proposals for leadership fellowships were received early in the program, *AdvanceVT* decided to also develop and offer an intensive leadership coaching program for a small number of tenured women faculty. The program selected three cohorts of women from across the university who demonstrated an interest in and potential to assume leadership roles for individualized coaching and skill development. Both fellowships and the leadership development program were offered during years three through five of the grant.

### **Assessment Activities**

Leadership development program participants were interviewed after completion of the program. The interview protocol can be found at the end of this report (Appendix A). Participants answered questions pertaining to their perceptions of the program and its impact on their individual careers and skill development, as well as how the program could be improved. Questions included "*What motivated you to apply to and participate in the AdvanceVT Leadership Development Program?*" and "*What types of skills did you hope to gain by participating in the program?*" Interviews took place either in person or over the phone and were recorded and transcribed. Leadership fellows were asked to submit a brief report at the end of their fellowship discussing their experience and anticipated impact on their career progression and aspirations.

## Program Participants

Twenty-two (22) individuals participated in one or both of these programs over the course of the grant. (Two individuals participated in both the Leadership Development Program and the Leadership Fellowship.) Participants were all tenured female faculty members representing seven of the university's eight colleges.



## Leadership Development Program Feedback

### *Leadership Development Program*

The *AdvanceVT* Leadership Development Program selected three cohorts of five to eight women each from across the university who demonstrated an interest in and potential to assume leadership roles for individualized coaching and skill development. Each woman completed a 360-degree assessment, obtaining input on her leadership skills from colleagues. Working with a coach, each participant then created a development plan to capitalize on strengths and address developmental needs. Follow up meetings over the course of the year monitored progress and provided additional coaching. *AdvanceVT* also sponsored a series of workshops to build specific leadership skills, including resolving conflict, negotiation, and communicating with power and influence. Workshops utilized both on campus experts and outside consultants. Leadership Development Participants were invited to participate in the university's annual orientation for new department heads and academic leaders, organized by the Office of the Provost.

In follow up interviews, participants indicated that they were motivated to participate in order to learn about the skills and attributes necessary to undertaking a leadership position. In addition, several mentioned that the program would give them the opportunity to "test themselves", to discover what their strengths were, and reflect on their challenges.

*"I thought it would be a wonderful opportunity to further develop my leadership skills."*

Participants were asked how the program influenced their goals for a leadership position. Each participant mentioned that the program helped them to understand what the parameters and expectations for a position are, but they were still unsure what their goals were for a leadership position. One participant stated:

*“I think that [a leadership position] probably seem[s] more tractable. It’s made it seem more like something I would want to do.”*

On a 1-10 scale (1=fell short of expectations, 10=exceeded expectations), the majority of participants indicated that the program met or exceeded their expectations, while indicating that there was always room for improvement. Suggested improvements focused on the desire for more informal networking activities and fewer formal gatherings with speakers. Some participants commented on the highly structured nature of the workshops.

*“I would have benefited from having more frequent interactions with my peer cohort or my peer and the next group. I think we had too many formal events and settings that someone kind of presided over and were a little bit stilted and we didn’t get enough of that sitting around talking. Maybe the group could do together some kind of project or focus that brought them together in a more frequent setting. I would have liked to see more interaction with the women going through the leadership program.”*

All of the participants interviewed remarked on the value of the 360° assessment to understanding their current skill sets and what they needed to improve upon. They believed that this not only would facilitate future leadership positions but would also be useful in their current positions. The negotiation seminar was also a favorite among participants.

*“Really that one-on-one work, doing the 360 degree analysis of sitting down and really paying attention to the feedback that I got...was so important to helping me to interpret things and encouraged me to go back and talk to some of the people who evaluated me about what might have been meant about these different answers and what examples that might illustrate why I got some of these ratings and then she provided me some resources and talked it through and homework activities.”*

The interviews also sought tangible impacts on participants’ careers as a result of the program. The following outcomes were highlighted by participants:

*“The program has prepared me to pursue positions and I have started to look. I feel like I am coming from a place of strength in pursuing a leadership position.”*

*“I recently moved into administration. The [LDP] helped me feel comfortable about making a decision to move to administration.”*

*“It kind of tagged me as someone in my department who had leadership interest and skills and I think that in part because of the work with AdvanceVT I was an Assistant Department Head last year and now I’m serving as interim department head this year.”*



*“[It] opened my eyes to a number of things I wasn’t doing and now maybe take more personal risk, I handle criticism better and really separated my sense of self-worth from my performance on the job.”*

Broadly, program participants observed changes in their understanding of what leadership positions entail and considered themselves more prepared than before to undertake such responsibility. However, many noted that the time commitment involved in leadership roles, in addition to the normal expectations of a faculty member, prevented many of them from moving further into administration and executive positions at the university at that time.

### *Leadership Fellows*

Leadership Fellowships were awarded to six women faculty members over the course of the grant, two in 2004-05, three in 2006-07, and one in 2007-08. Fellowship recipients developed a research center, designed a graduate program, organized a research symposium, and participated in state government relations activities. Fellows also worked with leaders in their departments to develop programs and policies that improved departmental climate and to review curriculum.

Leadership Fellows submitted brief reports describing their fellowship experience and its impact on their career plans. All fellows felt that the experience was valuable and enhanced their ability to pursue leadership roles should they choose to do so.

*“The fellowship experience thus far has been more insightful and rewarding than I expected. The personal interactions and connections which I have been able to make will enhance my ability to direct a center should I decide to do so.”*

*“I believe there will be other opportunities for leadership in the future, however, it is clear that I have to continue to work on balancing service with research and teaching; it is just much too easy to commit to doing more than you are truly capable of, especially when a family with two small children is also part of the mix.”*

*“Overall, I found the experience very beneficial. It increased my understanding of the role this office plays in the day to day functioning of our college and stimulated my desire to pursue an administrative position in this office.”*

*“In summary, this fellowship has resulted in multiple tangible benefits for me in advancing my career. I have expanded my internal and external network ... I have also gained confidence in dealing with ... issues that may come up regarding my goals... This fellowship has also increased the likelihood of me obtaining an administrative position and being successful in it.”*

## **Findings & Discussion**

All participants indicated that they benefited from the programs and that the experience overall was very positive. Participants in the Leadership Development Program cited the personal, one-on-one time with the project leader as most valuable. Experiences with the project leader allowed

participants to reflect on their personal abilities and skills and highlighted areas of leadership they could improve in.

While all participants indicated that their leadership skills and confidence to pursue leadership opportunities increased, few of the participants expressed a desire to pursue leadership positions in the immediate future. This decision was mostly due to advice about promotion within faculty ranks (most leadership development program participants were associate professors at the time of the program). Participants felt that it would be more beneficial to be promoted to professor before seeking an administrative leadership position. There also appeared to be a little disillusionment about administrative roles being more involved than originally imagined. All participants indicated the possibility of pursuing leadership roles in the future. It is important to note that leadership in other forms was pursued by some participants. While not formal administrative positions, taking on leadership within a department by developing a new policy or serving as a principal investigator for a grant was attributed to the skills developed by participating in the program.

Of the 22 women who participated in the programs, three have since left Virginia Tech, one to become a dean at another institution. In the two years since completion of the two programs, among those participants still at Virginia Tech, five have been promoted to professor, two are currently department heads, two are serving as interim department heads, two are associate department heads, and one is serving as a program officer at the National Science Foundation.

## Appendix A: Interview Questions

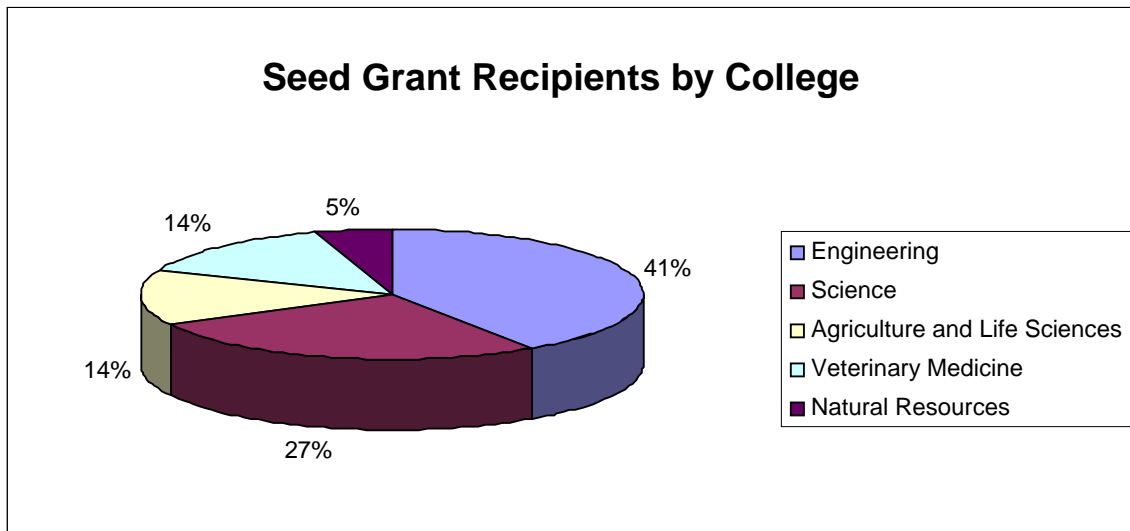
1. What motivated you to participate in the *AdvanceVT* Leadership Program?
2. What types of skills did you hope to acquire by participating in the program?
3. On a scale of 0-10, with 10 meaning “exceeded your expectations” and 0 meaning “it fell short of your expectations,” to what extent would you say the program has met your expectations?
  - a. What does the number you suggested reflect?
4. In what ways has the program influenced your goals for leadership positions in the future?
5. What part of the leadership program have you found to be most personally valuable?
6. What part of the leadership program has been least valuable or useful to you personally?
7. Can you identify any tangible outcomes to your own career that you attribute in whole or part to your participation in the leadership program?
8. If you had to do it all over again would you participate in the program?
  - a. Yes
  - b. No
  - c. Not Sure
9. What advice would you offer other VT women who are considering participating in the program?
10. Do you have any suggestions about ways that program can be improved?
11. Have you actively applied for a leadership position within or outside of Virginia Tech during the past year?
  - a. Yes
  - b. No
  - c. Not Sure
12. Are you applying to a leadership position in the near future?
13. Is there anything else you would like to share about your experiences in the leadership program?

**AdvanceVT Seed Grants  
Summative Assessment  
September 2010**

*AdvanceVT* research seed grants provided funding to support pre-tenure, tenure-track women faculty in developing successful proposals for external grant funding. In addition to research equipment and supplies, seed grants provided travel funds to visit colleagues at other universities and funds to support graduate students to help acquire data needed to write more competitive proposals. Although the dollar amount of the seed grant awards varied, recipients received an average of \$10,000 from *AdvanceVT* that was matched by their respective college and/or department.

**Seed Grant Recipients**

In keeping with *AdvanceVT's* focus on advancing the careers of women in academic science and engineering careers, junior women faculty in the Colleges of Science, Engineering, Agriculture & Life Sciences, Natural Resources, and Veterinary Medicine were eligible to submit seed grant proposals. Recipients were selected via a competitive process by an interdisciplinary committee with representatives from multiple academic colleges. Over a four-year period, 69 seed grant applications were received and 22 grants were awarded. Recipients represented all five of the eligible academic colleges. As indicated below, the majority of grant recipients came from the Colleges of Engineering (41%) and Science (27%).



<b>Seed Grant Recipients, by Year</b>			
2004-2005	2005-2006	2006-2007	2007-2008
5	5	6	6

## Assessment Activities

Assessment activities varied by grant year and consisted of both written evaluations and individual interviews. These assessment activities were designed to yield information on the impact of the seed grants on recipients' research and career progression, and to obtain feedback on how the program could be improved. All recipients were asked to complete and submit written evaluations of the program. In addition, interviews were conducted with the first two cohorts of grant recipients (2004-2005 and 2005-2006 recipients) during the spring 2006 semester, and later with two members of the third cohort (2006-2007 recipients), for a total of 12 interviews.

Members of the third cohort (2006-2007 recipients) were asked to complete both a written survey in May 2007 regarding their activities related to the seed grants, and a standardized written evaluation in May 2008. This was in recognition that many of the desired outcomes of the seed grants (e.g., externally funded grant proposals and publications) frequently occur over a period of years rather than a period of months. Thus, even though some type of written evaluation was received from 18 of the 22 grant recipients, these documents most likely do not capture the full range of professional activities related to the seed grants. For example, a journal article related to a 2004-2005 seed grant was not published until 2009, three years after the recipient was interviewed. In the absence of updated reports from the majority of seed grant recipients, it is difficult to assess the longitudinal impact of the seed grants. However, the information obtained illustrates several common themes that show how the *AdvanceVT* seed grants impacted recipients' research and career progression.

## Seed Grant Outcomes

The preparation of proposals for external funding was stated in recipients' seed grant proposals as a major goal of the program. All but two of the recipients who participated in seed grant assessment activities reported preparing proposals for external funding. At least 10 seed grant recipients were successful in obtaining grant funding at the time of their written evaluations. Funded proposals included multi-year awards from NSF, NIH, and USDA, as well as NSF CAREER Awards.

*“As the seed grant directly contributed to my successful NSF CAREER proposal, it has played a critical role in my development of the centerpiece of my research agenda. The seed grant allowed me to rent equipment and support a graduate student who used it to obtain preliminary results for the proposal that undoubtedly improved its competitiveness.” – Seed Grant Recipient*

The seed grant recipients also noted in their original proposals the importance of attracting high quality graduate and undergraduate students to support research goals. All but one of the recipients who submitted a written evaluation listed a graduate student, postdoctoral associate, or undergraduate student who supported fieldwork, lab research, or outreach programs under the seed grant. Some seed grant recipients were able to provide partial support for multiple students. Several of the students listed conducted research for their degrees that was related to the research supported by the grants. Thus, not only did seed grant funding provide new opportunities for the

pre-tenure faculty recipients, but opportunities to train future faculty members. Multiple recipients commented that the students they had attracted were women and members of underrepresented groups. As a result, the seed grants were able to help advance the careers of both women faculty and students.

*“The single greatest benefit of the AdvanceVT seed grant on my research program was allowing me to recruit an additional talented graduate student. With a young research program, my earliest source of funding was ITAR restricted. The funds from AdvanceVT allowed me to hire a non-US national student who I otherwise would have been unable to support. She has done excellent work and made good progress towards her Ph.D. In fact, I expect she will be my first student to complete her Ph.D.” – Seed Grant Recipient*

Seed grant funding also helped facilitate research collaborations. At least 15 of the 22 seed grant recipients were able to develop new relationships with colleagues during their award periods. While several recipients reported developing interdisciplinary collaborations across the university, others reported developing cooperative arrangements with faculty at other universities, both nationally and internationally, and with key figures at national laboratories.

*“The seed grant allowed me to gain new knowledge and make a contact that I would not have had otherwise.” – Seed Grant Recipient*

In their original seed grant proposals, most recipients stated as a goal the production of publications, presentations, and/or instructional activities in order to raise the profile of the faculty member both on campus and in their field of study. All but one of the seed grant recipients who participated in assessment activities reported presenting at conferences, producing journal publications, and/or participating in outreach in their research area. Graduate and undergraduate students funded under the grants were instrumental in these efforts and were often listed as first or second author on related publications and presentations.

*“I feel that my profile as a ... scientist has been raised in part due to this award.” – Seed Grant Recipient*

Several of the seed grant recipients highlighted travel as a key to their success. The funds provided by the seed grants facilitated recipient travel to conferences and to develop collaborative efforts and conduct fieldwork. Grant funds were also used to support student travel.

An unexpected benefit of the seed grants was that for some participants, receiving the grant helped boost their confidence as new professionals in academe.

*“The ADVANCE seed grant was my first successful proposal, following a string of 10 consecutive rejections. Receiving it helped bolster my sagging confidence, when I felt nearly ready to give up on an academic career. My next six proposals were all funded!” – Seed Grant Recipient*

A few participants also reported that they had benefited from the networking aspect of the seed grant program.

*“One pleasurable outcome of receiving the ADVANCE award is that I got to meet other recipients, both during my year, as well as those before and after. I enjoyed meeting and talking with this group of female assistant professors from other departments from a social perspective as well as from a professional perspective, as there were several recipients with whom I share research interests.” – Seed Grant Recipient*

In general, seed grant recipients reported that the seed grant program had met their expectations. Many participants indicated that the seed grant money had allowed them to learn a new skill or tool and to better understand their area of interest. Many participants also expressed the belief that seed grants offered more than financial benefits. Multiple recipients shared during interviews that receiving the seed grant had made them feel that their research was valued and important. This message was also relayed to their graduate students. The following comments regarding the impact of the *AdvanceVT* seed grants are representative of the group of awardees.

*“Receiving the AdvanceVT grant increased my confidence, my competitiveness, and helped me launch two important research directions.” – Seed Grant Recipient*

*“In summary, the Advance seed grant was very helpful in launching my research program and getting federal grant funding.” – Seed Grant Recipient*

*“The seed grant was extremely valuable in recruiting two talented women graduate students. Additionally, the grant allowed me to explore a new research area that shows tremendous promise for the future.” – Seed Grant Recipient*

*“It definitely provided me with funding during a critical time in my career and helped bridge between my start-up funding and the time when I finally got an NSF grant funded.” – Seed Grant Recipient*

*“[The] grant has provided me with an excellent opportunity to step into an area of research interest for me and develop some contacts.” – Seed Grant Recipient*

*“The seed grant program gave me a leg up that I would not have had otherwise.” – Seed Grant Recipient*

In terms of how the seed grant program could be improved for the future, recipients offered the following suggestions:

- Provide money for a second year or reward one recipient for her year of success.
- Meet with other grant participants during the year and/or at the end of the year.
- Create a fund for entering doctoral students.
- Monitor the research and provide assistance or feedback.
- Allow for more flexibility in spending the money (e.g., create an option to spread the award out over two years).
- Get more practical advice after receiving the grant.
- Publicize seed grant progress throughout the year.

- Give everyone the same amount of award money to ensure equity.

As of September 2010, seed grant recipients had fared well in the university promotion and tenure process. Ten seed grant recipients had received tenure and were still at Virginia Tech; one seed grant recipient had received tenure and left Virginia Tech; one recipient was denied tenure; eight recipients were still at Virginia Tech but had not yet reached their tenure review dates; and two recipients had left Virginia Tech prior to their tenure review dates. Of the 22 women faculty receiving *AdvanceVT* seed grants, five were successful in securing NSF CAREER Awards.



***AdvanceVT Leadership Lunches***  
**Summative Assessment**  
**May 2010**

In fall 2005, *AdvanceVT* initiated a series of “Leadership Lunches” for women faculty. The purpose of the lunches is to provide women faculty with the opportunity to learn from and interact with current academic leaders, as well as to meet and network with other women from across campus. The lunches are open to all, but are advertised primarily to women faculty. Speakers have included current and former provosts, a president emeritus, vice-presidents, deans and associate deans, department heads, research center directors, and professional society leaders. Participants interact informally over a buffet lunch prior to introduction of the speaker(s). The atmosphere is casual (speakers use no slides or other audio/visual technology), and time is reserved for questions and discussion following the speaker’s remarks.

Speakers are invited to address the following questions:

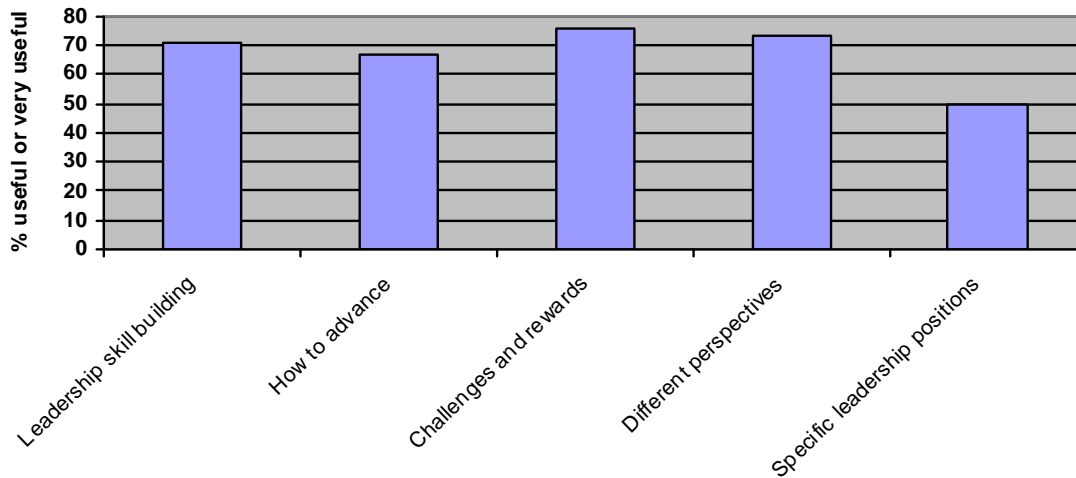
- i) Describe your own career path and what led you to your current position, including any particular events or individuals that influenced you along the way;
- ii) Describe your role and responsibilities, including how you interface with faculty, department heads, and university administrators.
- iii) Describe your most valued leadership skills and how you obtained those skills;
- iv) Discuss a particular challenge that you have faced and how you dealt with it;
- v) Comment on particular challenges for women leaders in academe.

In spring of 2008, participants were asked to complete a brief online survey to provide feedback on the lunch program. Survey questions asked about the usefulness of the lunches in preparing the participants for leadership roles, how the lunches had influenced their thinking on leadership, and for suggestions on future speakers. The survey was repeated towards the end of the spring semester in 2009 and 2010.

**2008 Responses**

In 2008, 42 of 121 participants (34.7%) in nine events over the previous three years completed the survey. Respondents were asked to rate the usefulness of the lunches with respect to five aspects: leadership skill building, how individuals advance to leadership positions in academe, challenges and rewards of academic leadership positions, different perspectives on leadership, and information on specific leadership positions at the university. More than 60% of respondents rated the lunches useful or very useful on the first four aspects, and 50% of respondents rating the lunches useful or very useful in providing information on specific leadership positions.

### Usefulness of Lunches



Respondents were also asked to indicate which of six aspects of the leadership lunches were helpful to their professional growth. The ability to hear different perspectives on leadership was helpful to 90% of the respondents, and 76% of respondents indicated that networking with other female faculty members was helpful. Other helpful aspects included the ability to ask the speakers questions about leadership (69%) and networking opportunities with women and men in leadership positions (64%). Less helpful were providing advice for managing a leadership position (36%) and opportunities for skill attainment (21%). Fifty-seven percent (57%) of the respondents indicated that the lunches were an effective approach to leadership development, and 38% thought that they were possibly effective, with only 5% stating that they were not effective.

Responses to the question “How have these lunches influenced your thinking about leadership?” highlighted increased awareness of the demands of leadership positions, the value of different perspectives on leadership, and the opportunity to think about themselves in leadership roles. Example responses follow:

*“It has helped me realize how challenging these positions are and the struggles and rewards of leadership.”*

*“Leadership positions are much more complex than they appear to be from the outside - it takes much more than just people skills to succeed.”*

*“I’ve enjoyed hearing how other women leaders came to their position as well as how they balance work-life issues.”*

*“Women leaders are the most powerful messengers for me. I feel more hope when I see them being successful and hear their stories. What worked for them? What didn’t?”*

## 2009 Responses

In 2009, 47 of 144 participants (32.6%) in six events during the 2008-09 academic year completed the survey. Respondents were again asked to rate the usefulness of the lunches with respect to five aspects: leadership skill building, how individuals advance to leadership positions in academe, challenges and rewards of academic leadership positions, different perspectives on leadership, and information on specific leadership positions at the university. More than 60% of respondents rated the lunches useful or very useful on the first four aspects, but only 24% of respondents rated the lunches useful or very useful in providing information on specific leadership positions.

Respondents were also asked to indicate which of six aspects of the leadership lunches were helpful to their professional growth. The ability to hear different perspectives on leadership was helpful to 81% of the respondents, and 68% of respondents indicated that networking with other female faculty members was helpful. Other helpful aspects included the ability to ask the speakers questions about leadership (60%) and networking opportunities with women and men in leadership positions (57%). Less helpful were providing advice for managing a leadership position (43%) and opportunities for skill attainment (19%). Sixty-six percent (66%) of respondents indicated that the lunches are an effective approach to leadership development for them, and 21% thought they were possibly effective, with only 4% stating that they were not effective.

Responses to the question “How have these lunches influenced your thinking about leadership?” this year again highlighted the value of different perspectives on leadership, challenges of leadership roles, and the opportunity to think about their own careers. Several respondents also indicated increased confidence in their leadership potential. Example responses follow:

*“The lunch helped me think about different models of leadership.”*

*“It's now abundantly clear to me that leadership positions are not compatible with much else - certainly not with maintaining an active research program AND having young children at home at the same time. It's provided a quite realistic perspective on leadership at all levels. At the same time, they have provided important insights into the motivations of individuals in leadership positions and generally have painted a very positive picture of our institution.”*

*“Definitely given me things to think about. I pick up good info from others attending the lunches.”*

*“Hugely promising, boosted my optimism about breaking the stereotypes and leading with the skill I believe I hold.”*

## 2010 Responses

In 2010, 45 of 114 participants (39.5%) in six events during the 2009-10 academic year completed the survey. Respondents were again asked to rate the usefulness of the lunches with

respect to five aspects: leadership skill building, how individuals advance to leadership positions in academe, challenges and rewards of academic leadership positions, different perspectives on leadership, and information on specific leadership positions at the university. More than 70% of respondents rated the lunches useful or very useful on the first four aspects, and about half of respondents rated the lunches useful or very useful in providing information on specific leadership positions.

Respondents were also asked to indicate which of six aspects of the leadership lunches were helpful to their professional growth. Networking with other female faculty members was helpful to 93% of the respondents, and 87% indicated that the ability to hear different perspectives on leadership was helpful. Other helpful aspects included the ability to ask the speakers questions about leadership (62%). Less helpful were providing advice for managing a leadership position (47%), networking opportunities with women and men in leadership positions (42%), and opportunities for skill attainment (18%). Seventy-one percent (71%) of respondents indicated that the lunches are an effective approach to leadership development for them, and 22% thought they were possibly effective, with only 2% stating that they were not effective.

Responses to the question “How have these lunches influenced your thinking about leadership?” this year again highlighted the value of different perspectives on leadership, challenges of leadership roles, and the opportunity to think about their own careers. Several respondents also indicated increased confidence in their leadership potential. Example responses follow:

*“They have broadened my perspective on creative, effective leadership and creative, effective program development and problem solving. They have depicted a variety of approaches to academic leadership, conveying the utility, acceptability, and importance of such variety (i.e., it's not necessary to think in highly prescriptive, "there's only one right way" terms).”*

*“There are so many leadership roles out there, who knows what role I might find attractive for myself? I'm also encouraged by opportunities to maintain scholarship while leading academic/university units.”*

*“Just knowing that successful woman leaders exist is helpful.”*

### **Concluding observations**

The survey respondents represent slightly more than 1/3 of event participants, and are self-selected, so the respondents may be more invested in the program than those who chose not to respond. However, the fact that 25 to 30 individuals made the time to attend each event, and a total of more than 100 individuals attended at least one event in each of the past two years, with many individuals attending more than one event, indicates that the leadership lunches do meet a need for these women. By providing the opportunity to interact with faculty and administrators from across the university as well as providing information about the various career paths and challenges associated with leadership roles in higher education, the lunches demystify leadership and build community among the participants. A final comment from a participant illustrates an unanticipated outcome of these events:

*“I am leading a major interdisciplinary proposal that unites faculty from three colleges. I met some of the participating faculty through VT ADVANCE events.”*

**Appendix: List of Leadership Lunch Speakers**

<b>Date</b>	<b>Speaker</b>	<b># of participants</b>
10/14/2005	Brad Fenwick, VP-Research	27
2/24/2006	Sharon Quisenberry, Ag Dean; Ed Henneke, Eng Assoc Dean	16
3/17/2006	Department Heads & Research Center Directors: Jack Finney (Psych), Ishwar Puri (ESM), Valerie Hardcastle (STS), Elaine Scott (ME)	20
1/23/2007	Karen DePauw, Dean, Graduate School	26
2/22/2007	Research Center Directors Dennis Dean, Karen Roberto	20
10/24/2007	Bob Walters, VP-Research	17
11/13/2007	Sue Ott Rowlands, Dean, CLAHS	24
1/22/2008	Associate Deans Anne McNabb, Mary Marchant, Bev Watford	21
2/25/2008	Department Heads Beate Schmittmann (physics), Rachel Holloway (communications), Beth Grabau (PPPWS)	24
9/25/2008	Provost Mark McNamee	30
10/17/2008	Charlotte Borst, former provost, Rhodes College	15
11/18/2008	Peggy Meszaros	23
1/23/2009	Alice Eagly, Northwestern	80
2/19/2009	Associate Deans Jennifer Hodgson, Glenda Scales, Debra Stoudt, Nancy Ross	24
3/2/2009	Geraldine Richmond, University of Oregon	42
10/5/2009	Paul Torgersen	22
10/27/2009	Cynda Johnson, dean, VTCSOM	41
11/17/2009	Roop Mahajan, ICTAS	31
2/2/2010	Professional Society leaders Sue Tolin, Mary Leigh Wolfe, Nancy Ross, Rosemary Blieszner	18
3/3/2010	Ellen Daniel, <i>Every Other Thursday</i>	41
4/22/2010	Pat Hyer	46

***AdvanceVT* Graduate Student Seminars  
Summative Assessment  
May 2010**

In order to increase and advance women's participation in faculty careers, *AdvanceVT* held a variety of seminars for graduate students and postdoctoral fellows at Virginia Tech over the life of the university's NSF ADVANCE grant (2003-2010). Attendees represented all eight academic colleges; seminar topics appealed not only to students in science and engineering disciplines, but to men and women across the university spectrum. Topics focused on preparing attendees for careers in academe, and included balancing career and family, tips on professional presentations, writing grant proposals, and preparing for academic job interviews. A complete listing of *AdvanceVT* graduate student seminars is provided in Appendix A. While *AdvanceVT* has primarily focused on advancing women in science and engineering at Virginia Tech, all events were open to both men and women from disciplines across the university.

This report describes the survey tool used to collect feedback from participants, briefly addresses the demographics of seminar attendees, provides a summary of evaluation results conducted in the spring of each academic year, offers a complete list of seminars presented by academic year, and presents qualitative feedback provided by attendees.

### **Assessment Objectives**

Feedback from graduate student seminar participants was used to plan future events as well as to assess the impact of the seminars on career goals and attitudes towards academic careers. A participant survey was employed to ascertain the perceived quality of *AdvanceVT* seminars, the type of events graduate students and postdoctoral fellows would like to see offered in the upcoming academic year, and how *AdvanceVT* seminars impacted participants' interest in a career in academe.

### **Survey Tool**

Beginning in 2006, *AdvanceVT* distributed an online survey each spring to graduate student/postdoctoral fellow seminar attendees. The survey consisted of questions evaluating each individual seminar and a few short answer questions. The short answer questions included "Has participation in *AdvanceVT* events influenced your interest in an academic career, and if so, in what way?" providing participants an opportunity to indicate the usefulness of the seminars in their own words. The format of the survey evolved over time, specifically in the number of points each Likert scale used.

In the 2005-2006 survey, the survey asked participants "How could the \_\_\_\_\_ seminar be improved? Were there issues that you expected to be covered that were not covered? Other issues you would like to see addressed?" This question was discontinued in the 2007-2008 survey due to the lack of participant feedback. The 2005-2006 survey used a 3 point scale, asking participants to indicate if the seminar in question was *no, not helpful at all* (1); *yes, somewhat helpful* (2); or *yes, very helpful* (3). Due to the lack of range in possible responses, future surveys were extended to a 5 point scale starting in spring 2007.

In 2007-2008, 2008-2009, and 2009-2010 the individual seminar questions focused on specific events and requested the student indicate on a 5 point Likert scale whether the seminar in question was *not satisfactory* (1), *not entirely satisfactory* (2), *good* (3), *very good* (4), or *excellent* (5). Participants were asked to identify topics that they would like to see presented in the future from a predetermined list and were given the opportunity to provide open-ended suggestions for future seminars.

### Seminar Participants

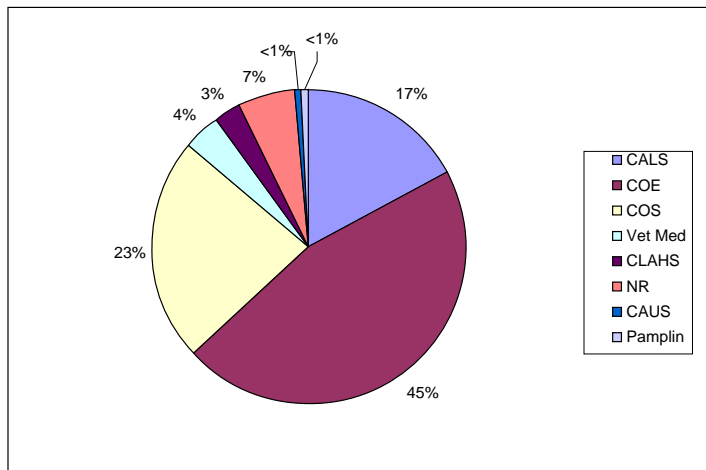
Attendees represented each of the eight academic colleges at Virginia Tech. As indicated in Chart 1, most participants came from the Colleges of Engineering and Science. These were the colleges targeted by *AdvanceVT* seminar publicity, in accordance with the goals of the ADVANCE program to increase the participation of women in academic science and engineering fields.

Numbers broken down by type of participant (either graduate student or postdoctoral fellow) are not available due to the inconsistency with which attendees were asked to identify themselves. This is also true for the gender make-up of attendees; however, the vast majority were women as they were the target group for the seminars.

Graduate Seminar Attendance, by Year				
2005-2006	2006-2007	2007-2008	2008-2009	2009-2010
204	149	93*	125	197

\* Fewer seminars were presented in 2007-2008.

Chart 1: Cumulative percentage of student/postdoc attendance by college, 2005-2010



*Note:*  
 CALS=College of Agriculture and Life Sciences  
 COE=College of Engineering  
 COS=College of Science  
 Vet Med=College of Veterinary Medicine  
 CLAHS=College of Liberal Arts and Human Sciences  
 NR=College of Natural Resources  
 CAUS=College of Architecture and Urban Studies  
 Pamplin=Pamplin College of Business  
 \* The department of Biological Systems Engineering (BSE) is housed in both CALS and COE. In this count, BSE is included under COE only.

## Evaluation Results

### 2005-2006

In 2005-2006, *AdvanceVT* presented eight seminars – four in the fall and four in the spring. Sixty-six participants responded to the online survey. The 3 point Likert scale for this year’s evaluation elicited an overall average rating for all eight seminars of 2.5, indicating that most participants believed the seminars to be either *somewhat helpful* or *very helpful*. In regards to future seminars, results indicated that “getting started in an academic career” was the most highly desired seminar, with respondents also noting their desire to see “job negotiation skills” in the future.

Seminar Topic	Average Response (1-3)
Writing Grant Proposals	2.4
Argonne National Labs	1.7
Academic Job Interviews: A Department Head Perspective	2.8
Surviving Academic Job Interviews Role-play	2.6
Elements of CV/Dossier	2.7
Work-Life Balance	2.5
Preparing for Academic Job Interviews	2.6
Professional Presentations	2.6

### 2006-2007

The spring survey administered in 2007 covered seven seminars and was completed by 44 participants. It was also changed to a 5 point scale, with an average overall response of 3.7, indicating that participants believed the seminars to be *good* to *very good*. “Getting started in an academic career” again rated the most highly among seminars that respondents would like to see in the future. “Tenure: How to succeed” was the second most highly rated future seminar.

Seminar Topic	Average Response (1-5)
Getting Started in a Faculty Career	4.1
Taking Humor Seriously	3.6
Negotiating Academic Job Offers for Dual-Career Couples	4.0
Changing our World: True Stories of Women Engineers	4.0
Thinking Outside the Box: Using Your Education for Fun and Profit	2.9
Becoming an Astronaut	3.0
Reflections on Gender and Technology	4.0

### 2007-2008

In the 2007-2008 academic year, *AdvanceVT* only presented four seminars. Thirty-six participants responded to the online survey. On the 5 point scale, the seminars elicited an overall average of 4.1, indicating that respondents believed the seminars to be *very good*. Again, respondents noted that they would like to see “getting started in an academic career” as a future seminar.



Seminar Topic	Average Response (1-5)
Preparing for an Academic Job Search	4.5
Academic Job Interviews	4.2
Negotiating Academic Job Offers	4.4
Your First Year as a Professor	3.3

### 2008-2009

The 2008-2009 survey covered six seminars presented during the academic year. Forty-five participants responded to the survey. On the 5 point scale, the seminars elicited an overall average of 3.9, revealing that respondents perceived the seminars as *very good*. “Getting started in a faculty career” was again chosen as the seminar participants would most like to see.

Seminar Topic	Average Response (1-5)
NSF Career Grant Discussion	4.0
Academic Publishing	3.8
Research University or Teaching College?	4.2
Visiting Scholar	2.9
Quilting Together a Career in Science	4.0
Academic Job Interviews	4.4

### 2009-2010

The 2009-2010 survey covered seven seminars presented during the academic year. Thirty-four participants responded to the survey. On the 5 point scale, the seminars elicited an overall average of 4.1, revealing that respondents perceived the seminars as *very good*. Participants indicated that in the future, they would most like to attend a seminar on what current faculty members wish they had known or done while they were still in graduate school. This was closely followed by “getting started in a faculty career.”

Seminar Topic	Average Response (1-5)
Research Careers in Industry and Academe	4.6
Contemporary Pedagogical Issues	4.5
Tips on Applying for an Academic Position	4.2
Strategies for Effective Grant Writing	4.3
Stories and Strategies from Successful Women Scientists	3.5
Balancing Motherhood and Academe	4.2
Tips on Writing for Publication	3.1

As with all *AdvanceVT* events, participation in the online surveys was voluntary rather than mandatory. One likely contributor to the relatively low response rates to the surveys was that they were administered during the last few weeks of the academic year when students tend to be extremely busy.

### **Qualitative Feedback**

This section highlights participant responses to the survey’s short answer questions. A complete listing of participant comments is provided in Appendix B.

In response to the question **“Has participation in *AdvanceVT* events influenced your interest in an academic career, and if so, in what way?”** the majority of respondents indicated that participating in *AdvanceVT* graduate seminars had either reinforced or increased their interest in pursuing an academic career. Many respondents also indicated that while participating in *AdvanceVT* events had not impacted their interest in pursuing a career in academe, the graduate seminars had helped prepare them to make informed career choices and to succeed as faculty members. Multiple participants used the word “informative” to describe *AdvanceVT* graduate seminars and found the strategies and tips shared by presenters to be valuable. A few comments representative of those received are included below:

*“It has reaffirmed my interest in an academic career and mostly it has given me good advice to keep in mind as I make choices as a graduate student.”*

*“I have always been interested in a career in academia, so my participation in *AdvanceVT* events has helped me to focus my career goals as well as prepare me for everything I need to do to succeed.”*

*“Yes, very much so. Prior to attending *Advance* events I was more interested in national lab or industry jobs. Now that I have perspective from women faculty about academic careers, I am much more interested in an academic position upon graduation.”*

Multiple participants also stated that they found the networking aspect of *AdvanceVT* graduate student seminars to be beneficial. Respondents appreciated the opportunity to learn from their fellow students as well as from faculty speakers. This feeling of *AdvanceVT* events fostering a “sense of community” is evident in the following representative comments:

*“Strengthened it in regards to networking within the academic community with like-minded people.”*

*“By encouraging me; if other women with families/who want families can do it, then so can I!”*

*“*AdvanceVT* has provided positive support in me pursuing an academic career, not only through workshops but also by providing role models. There were/are many times that I have felt like it was close to impossible for women to balance an academic career with a personal life (family) and knowing that there is a growing number of female faculty to lean upon has helped to ease that frustration.”*

*“YES! By giving attention to women’s issues I feel more confident that support systems exist and there are people out there to help women succeed in the academy.”*

Only two respondents indicated that *AdvanceVT* graduate seminars had decreased their interest in pursuing an academic career. The primary concern expressed by these participants was not being able to achieve the level of work-life balance that they desired if they pursued an academic career.

## Appendix A

### List of Seminars, by Year

#### 2004-2005

##### **Frisbee Golf Strategies: Preparing for the Right Faculty Position**

October 14, 2004

Dr. Deb Niemeier, Professor and former chair of the Department of Civil and Environmental Engineering at the University of California, Davis.

##### **Applying for an Academic Position**

April 21, 2005

Drs. Mary Kasarda and Madeline Schreiber

What should you be thinking about now to prepare for next year's job search?

#### 2005-2006

##### **Elements of a CV/Dossier**

June 20, 2005

Drs. Bill Knocke and Anne McNabb

##### **Balancing an Academic Career with Family**

September 12, 2005

Dr. Amy Bell

##### **Academic Job Interviews: What to Expect?**

October 4, 2005

Professors Nancy Love, Ann Stevens, and Eileen Van Aken shared their survival tips for faculty job interviews.

##### **Professional Presentations: Making a Good Impression**

November 1, 2005

Dr. Marion Ehrich from the College of Veterinary Medicine discussed keys to successful presentations for professional conferences and faculty interviews.

##### **A Career in a National Lab**

Monday, December 12, 2005

Dr. Annie Stunden

##### **Grant Writing**

February 23, 2006

Dr. Bob Porter, Proposal Development Team

##### **Academic Interviews and Negotiating the Job Offer**

March 24, 2006

Dr. Kathy Banks, Interim Head of the School of Civil Engineering at Purdue University.

### **Surviving Academic Job Interviews**

March 30, 2006

Dr. Ann Kilkelly and other Virginia Tech faculty members on preparing for academic job interviews through dramatizations and discussions of actual situations.

2006-2007

### **AdvanceVT Visiting Scholar Lunch**

August 31, 2006

Visiting scholar Dr. Vy Tran, NSF Astronomy and Astrophysics Fellow.

### **Demystifying the Academic Job Search Process**

October 10, 2006

Dr. Sam Easterling, Civil and Environmental Engineering, and Dr. Ken Eriksson, Geosciences.

### **Conflict Resolution and Negotiation**

October 30, 2006

Dr. Barbara Butterfield and Dr. Jane Tucker presented two workshops on negotiations and conflict resolution for young scholars, with a special focus on women.

### **Getting Started in a Faculty Career**

February 20, 2007

A panel of assistant professors in the sciences and engineering discussed getting off to a good start as a faculty member and compared their experiences at a research university vs. teaching-centered institutions. Panelists included: Dr. Carla Finkelstein, Biological Sciences, Virginia Tech; Dr. Leigh McCue, Aerospace Engineering, Virginia Tech; Dr. Irina Mazilu, Physics, Washington & Lee; and Dr. Dorsa Sanadgol, Engineering, Sweet Briar College.

### **Taking Humor Seriously**

March 1, 2007

Jill S. Tietjen, P.E., presented on how humor can be a way to defuse stressful situations on the job and in the classroom and deflect inappropriate comments.

### **Negotiating Academic Job Offers for Dual-Career Couples**

March 14, 2007

A group of administrators and faculty from Virginia Tech described their experiences and shared their wisdom on how to negotiate an academic position as part of a dual-career hire.

### **Changing Our World - True Stories of Women Engineers**

March 19, 2007

Sybil Hatch, author of “Changing Our World: True Stories of Women Engineers,” a project developed with the support of a coalition of engineering and educational organizations designed to interest young women in engineering careers.

### **Thinking Outside the Box - Using Your Education for Fun and Profit**

March 23, 2007

Betsy Dulin, engineer and attorney, discussed alternate career paths for people with scientific and technical degrees.

### **Becoming an Astronaut**

March 26, 2007

Shannon Walker (PhD, Space Physics, Rice University, 1993) discussed her professional career in the NASA civil service and the Russian Space Agency, as well as completing Astronaut Candidate Training.

### **Reflections on Gender and Technology**

March 27, 2007

Cornelia Brunner, Deputy Director of the Center for Children and Technology, discussed gender differences in attitudes towards technology.

### **Contemporary Pedagogical Issues: How Do We Engage SOL-trained, Passive Learners?**

April 26, 2007

Dr. Shelli Fowler, Director, Graduate Education Development Institute, discussed the need for active, problem-based learning in STEM classrooms.

2007-2008

### **Preparing for an Academic Job Search**

October 4, 2007

Professor Janis Terpenney, Engineering Education and Mechanical Engineering, and Associate Dean Nancy Ross, College of Science, provided tips on what to expect and how to prepare for a faculty job search.

### **The Academic Job Interview**

February 5, 2008

Assistant Professors Leigh McCue, Aerospace and Ocean Engineering, and Lisa Belden, Biological Sciences, gave their perspectives on what to expect during an academic job interview.

### **Negotiating Academic Job Offers**

February 20, 2008

Department Heads Ken Ball, Mechanical Engineering, and Joe Merola, Chemistry, provide tips on what's negotiable in an academic job offer.

### **Your First Year as a Professor**

March 17, 2008

Assistant Professors Padma Rajagopalan, Chemical Engineering, Lou Madsen, Chemistry, and Daniela Cimini, Biological Sciences, tell you what they wish they had known when they started their faculty positions.

2008-2009

**NSF Career Grant Discussion**

September 17, 2008

Professors Linsey Marr (Civil and Environmental Engineering) and Maura Borrego (Engineering Education) spoke about the National Science Foundation's Faculty Early Career Development (CAREER) Program, the most prestigious grant for creative junior faculty considered likely to become academic leaders of the future.

**Academic Publishing**

October 22, 2008

Professors Martha Ann Bell (Psychology) and Elisa Sotelino (Civil and Environmental Engineering) spoke about academic publishing, what journal editors look for in papers, how to be a good reviewer, and why you might want to be a journal editor someday.

**Research University or Teaching College?**

February 17, 2009

Associate Provost Pat Hyer discussed differences among higher education institutions in the United States, including faculty career paths and expectations for teaching and research.

**Dr. Caitlin Kelleher**

February 27, 2009

Visiting Scholar Dr. Caitlin Kelleher, a Virginia Tech computer science graduate currently an assistant professor at Washington University in St. Louis, discussed her career path and current projects.

**Quilting Together a Career in Science**

March 2, 2009

Dr. Geraldine Richmond (Professor of Chemistry, University of Oregon) celebrated the women scientists that she has been privileged to have as friends, colleagues and students, by sharing a series of pictures of wonderful handmade quilts that represent their choices, aspirations, and accomplishments.

**Academic Job Interviews**

March 19, 2009

Professor Roseanne Foti (Psychology) spoke on the ins and outs of academic job interviews and provided valuable advice on negotiation, preparation, and follow up.

2009-2010

**Research Careers in Industry and Academe**

September 11, 2009

University of Buffalo Professor Esther Takeuchi spoke about her research career in industry and academe. Dr. Takeuchi is often cited as the woman with the most patents in the U.S. and was named to the National Academy of Engineering in 2004.

### **Contemporary Pedagogical Issues: How Do We Engage SOL-trained, Passive Learners?**

October 12, 2009

Dr. Shelli Fowler, Director, Graduate Education Development Institute, discussed the need for active, problem-based learning in STEM classrooms.

### **Tips for Applying for an Academic Position**

November 11, 2009

Professors Mary Kasarda (Mechanical Engineering) and Madeline Schreiber (Geosciences) offered advice on conducting a successful academic job search.

### **Strategies for Effective Grant Writing**

February 4, 2010

Professor Maury Nussbaum (Industrial and Systems Engineering) shared strategies for writing successful grant proposals.

### **Stories and Strategies from Successful Women Scientists**

March 3, 2010

Noted author and consultant Dr. Ellen Daniell shared her experiences as a member of a group of women in science who have provided emotional and practical support for each other in facing professional challenges.

### **Balancing Motherhood and Academe**

March 19, 2010

A panel of assistant professors and doctoral students at Virginia Tech discussed their experiences managing responsibilities at both work and home. Panelists included: Dr. Carla Finkelstein, Biological Sciences; Dr. Leyla Nazhandali, Electrical and Computer Engineering; Anamaria Bukvic, Urban Affairs and Planning; and Laurian Vega, Computer Science.

### **Tips on Writing for Publication**

April 12, 2010

Dr. Fred Piercy, Associate Dean for Graduate Studies and Research in the College of Liberal Arts and Human Sciences, shared proven strategies for writing for publication.

## Appendix B

### Qualitative Feedback, by Year

#### 2005-2006

*Has participation in AdvanceVT events influenced your interest in an academic career, and if so, in what way?*

It gives me confidence that there is a supportive network of women out to support current and up-and-coming faculty. Provides sense of community.

Yes, I am more interested in a career in academia and not as intimidated by it now.

Somewhat. I think that academic careers are not talked about enough elsewhere, the focus tends to be on careers in industry. These seminars seem to clear up some of the mystery behind academia, and so I feel more comfortable about making an informed decision about my own career.

Yes, they gave me a new vista about academic career, and gave me self-confidence to see that I am suitable for being in academia.

Valuable feedback from the attendees.

Yes. At least, I know there is a way to get there; even if it's a tough way. And there is hope to make it easier.

Yes, it has helped me become aware of the many aspects to consider when going from graduate school to being a professor/researcher.

Yes, it has been overwhelming, intimidating and inspiring, all at the same time. But very informative, nevertheless.

It was great seeing other peers have the same questions as myself.

Yes, most importantly I see examples of others that have been successful in academic careers and learn from them how to manage and balance work-family life. So I see that it can be done.

Yes, somewhat, I was leaning in that direction prior to my participation in *AdvanceVT*. Yet, I believe that *AdvanceVT* has strengthened my desire to pursue an academic career and allowed me to see it as a more reachable goal. Thank you.

Yeah. A good way to talk to people since I don't go out of the lab as a PhD.

No, because the seminar I went to was about corporations.

Yes. I learned a lot from the seminar on academic job interviews.

It gave me a better understanding of what an engineer does.

No, I already had an interest, but it has helped increase my anxiety.

*Please give us any other comments, suggestions, or feedback on the AdvanceVT lunch seminars for graduate students and post-docs below.*



The female-point of view is obviously the center of most of the talks, but it will be interesting to see how the male-point of view differs or is similar. Maybe include male speakers as well. Men need to understand our position in academia as much as we need to understand theirs.

Great events so far. The organization is distinguished. Looking forward to it next semester.

I went to the seminar because I was interested in careers in corporations and how flexible they are for women. I found it very interesting though it was not my field.

Nice job so far, keep up the good work!

When the speech was over I left due to a busy study schedule. It would be nice if speaker could share lunch with us so we might ask questions in a more informal atmosphere. Networking with others is important. I didn't have a business card to share...

Be specific in what you tell us.

### 2006-2007

*Has participation in AdvanceVT events influenced your interest in an academic career, and if so, in what way?*

I have enjoyed the *AdvanceVT* events but I still think that an academic career requires sacrifices in quality of life and work-life balance that I am not willing to make. I'm going into Industry.

Not much.

*AdvanceVT* has provided positive support in me pursuing an academic career, not only through workshops but also by providing role models. There were/are many times that I felt like it was close to impossible for women to balance an academic career with a personal life (family) and knowing that there is a growing number of female faculty to lean upon has helped to ease that frustration.

YES! By giving attention to women's issues I feel more confident that support systems exist and there are people out there to help women succeed in the academy.

Not really. I still plan to start a career outside of academia but I think a lot of the things discussed in these seminars can be applied in other settings.

Yes, by making it seem more normal for women.

Sometimes I leave events wondering if I have what it takes to succeed.

The process of the job interview gives me a better understanding about what academic career looks like and how to prepare for it.

Yes, very much so. Prior to attending *Advance* events I was more interested in national lab or industry jobs. Now that I have perspective from women faculty about academic careers, I am much more interested in an academic position upon graduation.

Yes. I would like to receive a faculty appointment.

I had no idea that so much was involved in the interviewing process in academia. I am still interested, but I realize that this is quite different than my previous employment experience and I will have to prepare in a different way. For instance, I knew nothing about dinner meetings.

VERY MUCH SO! The whole existence of *AdvanceVT* made me realize that I was not alone in my uncertainty/insecurity about being able to handle an academic career, a family and a reasonable quality of life! The fact that there is such an interest in re-addressing the balance between female versus male academics and the impact of family / life issues has made me certain that things are changing and are going to get better for women - at least we are discussing the issues that were previously 'taboo' or 'not advisable.' I am so happy that research is being conducted to understand what hinders women's progress - I now want to be part of this positive tide and change and am not afraid to just go for it! After having my first child in Nov 2004, I had decided I would complete the PhD and then pull out of academia. However, having the opportunity to network and learn more about the pros and cons of an academic career (in large part through *AdvanceVT* type seminars) I have decided to keep going as I think I have what it takes - I am meeting more and more women role models and I feel more confident about my future. I have applied for a fellowship for a postdoc and now I am seriously aiming for an academic career. *AdvanceVT*'s existence was the turning point for me.

### *Other Comments?*

I attended the event with Dr. Banks. I thought this was a great presentation with many useful bits of information. Great choice for a speaker!

Thank you for offering these programs.

Is this possible to give two sessions for some excellent seminars in case people who are interested in the topic have conflict in schedule?

I have not heard about the first two seminars until today.

Great food and great speakers! Continue the work you do, by bringing in such esteemed women faculty from around the US.

I am glad that I attended and will certainly try to attend more.

Very informative and self boosting.

These are exactly what students who want to be successful need! Please continue this program and these events. Also, the more handouts, references, etc. you have posted on your site as resources the better. Thank you.

### 2007-2008 fall

*Has participation in AdvanceVT events influenced your interest in an academic career, and if so, in what way?*

It has helped me feel more equipped to make decisions about my career choices.

My participation in *AdvanceVT* has definitely given me a better feel of what is involved in the academic hiring process and the issues that face new faculty members.

Strengthened it in regards to networking within the academic community with like-minded people.

networking, motivation

Yes, because I feel better prepared to pursue an academic career.

Yes, when I first started participating in *AdvanceVT* events, I was already well-aware of issues facing women in engineering/technology. This means that I have had other support systems to educate me about being a woman in my field and about an academic career as a minority. What the *AdvanceVT* seminars have provided me, in addition, is further understanding of the issues, networking opportunities with other concerned parties, the discovery of new supportive resources, and new role models.

### *Other Comments?*

I thought the "Getting Started in a Faculty Career" workshop had great potential and was very poorly executed. It started off badly when the moderator decided to wait until 20 minutes after the scheduled time to start the session in case people came in late, leaving those of us who had gotten there early with nothing to do. The session was organized as a panel discussion, so none of the panelists had prepared anything, and it quickly became just a question and answer session about many topics in no way related to starting a faculty career. I would have benefited from specific strategies that the panelists had utilized. I felt like it was a complete waste of time.

I have only just become aware of *AdvanceVT* events - I will definitely look for them in the future.

These events have helped me know how to better prepare to be a faculty member as well how to find and negotiate offers. Thank you! Keep up the great work!

Thanks for organizing these helpful events.

I think that the *AdvanceVT* agenda is excellent and needs to continue to have presence at VT. It seems, however, that events could be better advertised and that its benefits shared more directly with undergraduate students. Too many times have I seen an excellent *AdvanceVT* or similar seminar with a sparse audience of regular guests. The word needs to be spread and this opportunity shared with all relevant parties. I think that progress can be made if we advertise directly to undergraduates through their engineering student organizations, consider sending out notices to student organization presidents of SEC, SWE, AOE, AWC, NSBE, SHPE, etc. It is a shame to see more than half of the seats unfilled, most of the food uneaten, and opportunity squandered.

### 2007-2008 spring

*Has participation in AdvanceVT events influenced your interest in an academic career, and if so, in what way?*

Reinforced it.

It has reaffirmed my interest in an academic career and mostly it has given me good advice to keep in mind as I make choices as a graduate student.

I have always wanted a career in education, and as a beginning graduate student I was determined to earn a PhD and enter academia. *AdvanceVT* may not have inspired me to pursue an academic career, but by discussing the issues and telling me what to expect, I am more confident and prepared for my job search next year.

It has made me more aware of my options.

The first *AdvanceVT* luncheon I attended actually scared me off from an academic career. It just seemed so competitive that I did not really have a chance at getting a job. However, that was a perspective from new faculty. When I attended a luncheon where department heads spoke it calmed me down a little. They made it seem easier.

It hasn't particularly increased or decreased my interest, it has simply helped me understand what I must do to succeed if academia is the career path I choose.

I was already interested in academia, and these seminars have increased my interest for sure. I could not attend the last two ones, because I was out of town. But, I will be very interested in participating if this program continues. It is very informative, and it gives you a better idea of how things work in an academic environment, something that from a student point of view it is not easy to realize.

For the most part, I feel that the *AdvanceVT* events have given me a better understanding of how to prepare for the academic job search, particularly issues such as negotiating and interviews.

I feel better prepared to make a decision about whether or not to pursue an academic career based on these seminars. I have found them very informative.

I was already interested in an academic career but *AdvanceVT* helped me understand a lot about many issues involved in academia.

Absolutely! These seminars and the *AdvanceVT* program have given me insight into the process of becoming and being a faculty member that I would not have gotten elsewhere. I extremely hope that *AdvanceVT* will be able to continue these seminars and workshops.

*Other comments?*

I really enjoyed the event.

It's a very good program. I have been benefiting from it and wish the best to its continued growth.

Thank you for providing us these opportunities. This information is invaluable.

So far there seem to be a lack of panelists from non-laboratory sciences. I would be very interested in the perspectives of female tenure-track professors (particularly mothers) in fields like math, statistics, computer science, and non-laboratory engineering, where you are not expected to construct a lab and/or conduct field research.

Actually I have signed in for one of a meeting but I couldn't take part and cancel it but I will be so glad that in future participate in these meeting because I'm first year graduate student and I need these information. Sorry that I can't give you good feedback.

This is a great program. Thank you.

I think the activities covered here by this program should be made available to all PhD students. I would go as far as saying it should be a compulsory seminar series for such students.

Great series! I will definitely attend more if offered!

The only suggestion I could make is to make the seminars monthly. When they are only weeks apart (like in February this year) it is sometime difficult to make them - at least for those that have field work. Also - maybe there is an opportunity to have some more informal discussion during the summer when people are less stressed with class schedules.

2008-2009

*Has participation in AdvanceVT events influenced your interest in an academic career, and if so, in what way?*

By encouraging me; if other women with families/who want families can do it, then so can I!

Yes, I have more interest in an academic career. But I haven't determined to take this path. Because it is hard and sometimes some research is meaningless.

Yes. It has made me think about the implications of working in academia and my hopes to switch back and forth between academia and industry.

I was already interested in an academic career, but the workshop I attended provided a lot of good information to help me.

Yes, encouraged me to pursue it but be aware of the impact of gender on what my career expectations are.

Although I enjoyed the seminar, I was already interested in an academic career. It did reinforce this however.

Yes, a lot of encouraging and useful information.

I have become more aware of the positions possible for women in academics.

I already knew that I wanted an academic career, thanks to a fantastic (informal) mentor that I met through a student organization at VT. But, the seminars have definitely made me feel more confident in my decision and my ability to follow through, as well as given me professional role models to emulate. The *AdvanceVT* program is fantastic (although I am often too busy to go to all the events that I would like to); I don't know what I'll do when it goes away.

Yes, I am looking into the possibility of working in a Research University even though I think I'd like to teach. *AdvanceVT* explained the differences and led me to also see teaching colleges as an option.

### *Other comments?*

The talk is kind of too general. But actually some questions like the interview process is quite situated to departments.

I have been to two of these seminars, a year apart and they were virtually the same. There needs to be a well defined topic that the speaker is informed of (Dr. Caitlin Kelleher said she was not aware that she would be speaking) and sticks to. Speakers should also be made aware of what previous and future speakers will be speaking about.

All the events were very useful. You can think of a workshop in future for few consecutive days.

Dr. Kelleher was not prepared for her talk and it was not all that impressive.

I think that the events so far have been very good and I appreciate the opportunity to attend and prepare for life after graduate school. Thanks!

I like existing program, they are all very useful. Thanks.

Very good, let more people know this program

I responded that Caitlin Kelleher's talk was only just "Good" mostly because I don't identify with her on a personal level (I got to spend some quality time with her outside of this event). But, I do think it is important for VT students to see other VT grads that have successfully moved into academic positions.

On another note, I was impressed by the high quality of the speakers – fantastic information, well-spoken, professional, etc. Being exposed to such confident, accomplished women is really important for striving students who don't have such figures filling tenure-track positions in their own departments. I can't thank *AdvanceVT* enough for giving me access to such sources of guidance and inspiration!

We were in a very tight, standing room only place in Donaldson Brown. It would have been better to scale up the room because there was barely enough space for all of us to get in.

### 2009-2010

*Has participation in AdvanceVT events influenced your interest in an academic career, and if so, in what way?*

It makes pursuing one seem less intimidating.

Yes. I am starting to consider the academic track after graduation.

In some ways it has made my desire to pursue an academic career seem more possible.

I have always been interested in a career in academia, so my participation in *AdvanceVT* events has helped me to focus my career goals as well as prepare me for everything I need to do to succeed.

Yes. It made me think about all aspects of academia including earning a grant.

It has reduced my interest in an academic career. Much of the information that was transmitted has led me to believe that I will not be able to have a successful career in academia and have the quality of life I desire.

Yes.

Definitely. I was leaning toward academia, but worried about many things in the field. *AdvanceVT* seminars taught me a lot of useful tips.

*Please take the opportunity to provide use with any other feedback or suggestions that would improve the quality of AdvanceVT events.*

I really enjoy the *AdvanceVT* events. Thank you!

I think making sure that careers in teaching universities are discussed is very important, as many of us will get jobs in that sector rather than research.

Lunch time seminars with lunch provided work great for my schedule and they are a welcome treat! Balancing some presentations with panel discussions works really well.

I have only attended one seminar, but I plan to attend more. Lunch provided was nice.

I really enjoy this program and look forward to attending. I frequently schedule myself to attend the seminars at the beginning of the semester. Being able to have lunch as part of the event is also a huge help.

It's good effort.

Please increase your publication of seminars by emailing postdocs, putting up the date and location on your website, and having it listed in VT daily news email. I missed several applicable seminars because I didn't know about them.

More social events would be fun - I really enjoyed the kick off party in the fall! Thanks for all you do!

**AdvanceVT Transforming the Professoriate Conference**  
**July 20-22, 2006**  
**Post-Conference Evaluation**

On July 20-22, 2006, *AdvanceVT* held the Transforming the Professoriate conference at the Skelton Conference Center at the Inn at Virginia Tech. The goal of this conference was to provide female graduate students and postdoctoral associates in science and engineering with the tools to plan for a successful career in academia. With a special emphasis on women of color, the conference also served as a preliminary faculty recruitment effort by providing a forum to expose nationally-competitive senior female doctoral students and postdoctoral researchers from around the country to Virginia Tech’s science and engineering programs.

In order to participate in the conference, graduate students and postdoctoral associates were required to apply for one of the conference positions available. The application process was coordinated with the University of Maryland Baltimore County’s Faculty Horizons program. Sixty-eight scholars were chosen to attend, with all expenses paid. The conference boasted participants from India, South America and Eastern Europe. Ninety percent (90%) of the participants were women; 43% Caucasian/White, 16% African-American/Black, 21% Asian/Pacific Islander, 8% Hispanic/Latino, 9% Other.

Prior to the onset of the conference Dr. Tonya Smith-Jackson and her conference committee provided the participants with a Blackboard web site, hosted by Virginia Tech. This site allowed participants the opportunity to connect prior to the conference with other attendees and with conference speakers and presenters. The web site also afforded participants the chance to share their expectations for the conference with conference organizers, thus informing the content and the organization of the conference. Post conference activities were also conducted on the Blackboard site.

The post-conference evaluation survey allowed participants to rank events, express the perceived value and usefulness of the materials and sessions, and identify conference achievements and opportunities presented by networking with participants and professionals in academe. Fifty-eight participants completed the post-conference evaluation.

The first section of the evaluation asked participants to rank which session most helped them to understand the importance of being a faculty member.

<b>Activity</b>	<b>Rank (# of votes)</b>
Opening Remarks (Dr. Karen Depauw, Dean, Graduate School Virginia Tech)	2 (22)
How to Achieve a Positive and Successful Career in Academe (Dr. Kimberly Jones, Associate Professor, Environmental Engineering, Howard University)	1 (47)
Closing Session	3 (18)



In the next section of the evaluation participants were instructed to indicate the perceived value of individual workshop/panel discussions using a Likert scale (1=not valuable to 5=extremely valuable). The workshops/panel discussions contended with issues vital to success in the academic workforce, presented by faculty members from Virginia Tech and other institutions. Overall, the workshops received an average rating of 4.19 on the 1-5 scale, demonstrating a high perceived value for all the sessions.

<b>Workshop/Panel Discussions</b>	<b>Average Response (SD)</b>
Contemporary Pedagogy and Marketing Your Teaching Philosophy (Dr. Shelli Fowler, Virginia Tech)	4.58 (.65)
Working Environment Expectations: Teaching & Research (Dr. Eileen Van Aken, Virginia Tech; Dr. Fay Cobb Payton, North Carolina State)	4.27 (.76)
Interviewing (Dr. Rosanne Foti, Virginia Tech)	4.24 (.85)
Negotiating (Dr. Angela Scarpa, Dr. Robert Jones, Dr. Kevin Boyle, and Dr. F.M. Anne McNabb, Virginia Tech)	4.15 (.83)
Importance of Networking (Dr. Giti Khodaparast, Virginia Tech)	3.43 (1.17)
Teaching Colleges : Preparation and Perspectives (Dr. Amy Cheng Vollmer, Swarthmore College)	4.66 (.61)
Research Funding and Proposal Writing (Dr. Robert Porter, Virginia Tech)	4.64 (.59)
Budgeting & Project Management (Dr. Susan Duncan, Virginia Tech)	3.47 (1.14)
Family and Work Life Balance (panel)	4.23 (.80)
Bringing Minority Issues & Discrimination to Light (facilitated discussion)	4.29 (.76)
Town Hall on Issues (facilitated discussion)	4.11 (.56)
<b>Overall</b>	<b>4.19</b>

<b>Conference Events</b>	<b>Average Response (SD)</b>
Thursday Barbecue on the Lawn	4.24 (.74)
Friday Dinner and Social Activity	4.13 (.77)
<b>Overall</b>	<b>4.19</b>

Participants indicated that the conference materials would be useful to very useful (4.83) to them in the future.

Regarding knowledge sharing, participants noted that the conference increased their knowledge of best practices in making career decisions (44), teaching, research and service (41), the hiring process in academe (39), and managing family and work balance in their careers (30).

Participants were also asked to rank conference achievements and networking opportunities provided by the conference events.

<b>Conference Achievements</b>	<b>Rank (# of votes)</b>
Provided participants with tools to plan for a successful career in academia.	1 (52)
Reflected upon current issues related to women in academia	2 (49)
Met the professional development needs of those who work or planning to work in an academic environment	3 (44)
Communicated a national call to advance women into faculty careers	4 (43)
Trained senior female doctoral students and postdoctoral researchers in science and engineering for a successful career in academia.	5 (41)
Made me interested in applying for a faculty position at Virginia Tech	6 (36)

<b>Networking Opportunities</b>	<b>Rank (# of votes)</b>
Learn more about careers in academia	1 (51)
Exchange relevant ideas and information with peers	2 (45)
Connect with professionals and collaborators in academia	3 (38)

A great deal of time and effort went into organizing the conference to maximize outcomes for the participants. This effort included an online site for participants and a preconference discussion board. The evaluation asked participants to use a Likert scale (1-5) to indicate their agreement with statements regarding conference organization and planning. Participants agreed to strongly agreed with most statements about the conference. The lowest level of agreement was with the statement regarding the pre-conference Blackboard site (3.84). Participants noted that they were neutral to agree on the usefulness of this conference mechanism.

<b>Conference Organization</b>	<b>Average Response (SD)</b>
It was easy to register for this conference	4.47 (.98)
The pre-conference Blackboard site helped me gain a better understanding of the conference	3.84 (.73)

The conference goals and other pertinent information were clearly communicated	4.38 (.64)
The convening of this conference by <i>AdvanceVT</i> meets the needs of participants	4.62 (.52)

Participants were asked to rank which communication apparatus was most successful in “getting the word out” about the conference. The use of email stood out as the most useful in promoting the conference to potential participants.

Conference Promotion	Rank (# of votes)
E-mail	1 (36)
Word of mouth	2 (15)
Advance.vt.edu	3 (6)
Other web sites	4 (4)
<i>AdvanceVT</i> publications	5 (1)

The evaluation also asked participants to indicate how many conferences they had attended in the 2005-2006 academic year. The average response was 2.12.

Finally, conference attendees were asked to evaluate statements regarding the overall quality of the conference. Again, using a Likert scale (1-5) to agree or disagree, participants strongly agreed that the conference was worth attending (4.84, SD .37). On a 1-4 scale (1=poor, 4=excellent), participants ranked the overall quality of the conference as good to excellent (3.78, SD .46).

**Additional comments:**

Not all participants chose to leave qualitative feedback, but those who did provided important insight into the most successful components of the conference. First and foremost, participants overwhelmingly noted the networking opportunities offered by the conference, particularly being able to network with other students and academic women.

*“[J]ust meeting with other women was invaluable.”*

Participants also noted the conference organization, focusing on the trouble free travel arrangements, the usefulness of having materials and references available online, and the exemplary onsite preparation (including food and beverage). Many suggested another day of networking added to the conference, more downtime, and additional sessions.

*P1: Additional information on the job market and look and how to find job would be useful. Travel arrangements were wonderful and carefree- Thanks!*

*P3: Would like to see more graduate student women. I enjoyed this conference. Thanks.*

*P4: Has been a wonderful conference!!!*

*P6: This conference helped me to open my eyes for a career in academe. I also made contacts with people (women) in my field that shared their opportunities with me. These women also encouraged me at a time in my program where I was ready to give up the idea of completing my PhD. Thank you having this conference. Keep up the excellent work.*

*P7: Overall, the workshop was great. Thanks AdvanceVT. How can we have workshop on teaching learning techniques especially for those of us who were graduate research assistants.*

*P8: I would like to have spent time on working and getting feedback on my teaching philosophy & research statement*

*P9: I am one of the few who already interviewed for a position so the aspects of interviewing weren't as pertinent. But grant- writing, budgeting, women's issues, & just meeting networking with other women was invaluable. Thank you ! ( It was very well organized!)*

*P11: This conference has truly changed my life plan. It has fired up my determination to pursue an academic career. Thanks!*

*P12: Thank you for providing us this opportunity. I am very pleased with the conference and would highly recommend this conference to other students. Keep up the good work !!!*

*P14: It was a rewarding experience. It's my first time to have shared with so many great and interesting women. I felt very comfortable and learned many useful things for my career planning.*

*P15: I am going to recommend that my PhD advisor (and new postdoc advisor) send all of her female grad students to ADVANCE conferences!! Thank you! Why no attention to heterosexism??*

*P16: Q & A sessions were valuable in terms of hearing what other PhD speakers think about certain issues and/ or handled them. Some sessions were too informal and unstructured to be useful. Posting handouts, references ect. on the blackboard is a good idea.*

*P21: Great conference, well-organized, wonderful speakers! Thank you!*

*P23: Wow! This conference was way beyond my expectations. I have had a very enriching experience. I am ready to tread the path towards a profession on academia!*

*P26: This was one of the most informative conferences I've been to!*

*P27: A wonderful opportunity for women entering the academe! Everything was done in a professional manner and the material and speakers were fabulous, informative, and inspiring. Last discussion should have been earlier in workshop + broken up into small segments. It's such an overwhelming and depressing topic that I feel is handled better in small segments*

*P28: Just a suggestion: because the concurrent sessions are short request that the audience hold questions until the end of the talk. Perhaps less loss of focus & better ability to cover entire subject. Otherwise this has probably been the most important thing I've done for my carrer, is attending this conference, save finishing my PhD. Outstanding.*

*P29: How does one deal with academic job market when there are few jobs available and what are the alternatives. The session on Teaching College and Research Funding were excellent.*

*P30: Excellent workshop! More time with department specific department chairs and faculty may have been useful.*

*P31: Very well organized - thanks for everything! I would definitely recommend this conference to others.*

*P32: Thank you for inviting me.*

*P33: It was an amazing experience. Before I never had the chance to share & talk to so many PhD students (& so many women so highly prepared) & I realized that we all have same needs, concerns, & energy to live & give the best for our world. Thanks to AdvanceVT & hope to keep in touch.*

*P34: This was a great experience! I am so thankful I had the opportunity to attend + I look forward to continued discussion and networking.*

*P35: It is unfortunate that the name badges did not list the attendees current institution.*

*P37: Great conference. Great speakers, exceptional speakers: Pat Hyer, Tonya Smith-Jackson, Amy Cheng Vollmer. For those students who are not engineering and science, there need to be some speakers from other areas of academia. I think there was hit and miss of information relevant to non- engineering and science participants. Also for those at Virginia Tech there should be more information about job opportunities at Tech. How to set positions from your institution you are gaining your doctorate from. Overall,*

*conference was good but I personally have been to many conferences recently outside Tech and here at Tech hear same information.*

*P38: It was very clear that the coordinators & speakers cared about the topic & goals of the conference.*

*P39: The conference is extremely time intensive. Time downtime would be beneficial if possible. Otherwise, excellent format & breadth. Even depth in most circumstances*

*P40: I wish that these types of frank discussions + valuable information was part of every graduate program. I've never been surrounded by so many young talented women, especially minority women scientists. This whole experience has been extremely valuable and inspiring and has taken the frightening stigmas associated with academia far away. Thank you for letting me participate.*

*P41: Overall, this workshop was great and very helpful in terms of a lots of useful tips in a lots of areas. Thank you.*

*P42: All the arrangements and quality of the presentation was marvelous. My sincere thanks & appreciation go to all the management or committee. I hope what I learned from this conference will help me in my career in academia.*

*P43: Thank you for inviting me! Please continue + get other schools to pick up this program.*

*P45: If possible I'd like to know how make faculties think about the family and work life balance of female faculties*

*P46: More detail about funding & budgeting. Might be helpful to make workshop longer-add al day Thursday*

*P47: Everyone interested in a career in academia should be able to attend a conference like this! This has been one of the best managed conferences that I have been to! Way to go! :)*

*P49: Very worthwhile - Please continue.*

*P50: Thank you for making all the travel arrangements.*

*P52: Please consider expanding the conference to Sunday morning in order to allow another day for networking. Please consider adding a session/ panel on what one should look for when finding a postdoc and how to ensure that you have a successful post- doc ( ex. publishing, writing grants).*

*P53: Wonderful conference. Food was great. Invaluable info presented*

*P54: The food was superb!!! The first day (Fri.) was much more useful than the second day (Sat.). The speakers were much better on day one. I thought the conference was VERY well organized - excellent planning and implementation of activities & schedule :)*

*P55: I want to thank everyone who presented at this conference. Everyone offered valuable information and was friendly and approachable. I am returning with tons of ideas. But more importantly I am going back to my university inspired and excited about my future opportunities.*

*P56: The speaker for Budget management spent too much time talking about her experience getting a proposal funded. I was more interested in learning how to manage research projects. The best conference workshop for me was a tie: 1) 4 year college 2) academic job interview. I suggest using breaks to ask questions or have an informal discussion. Great conference!*

***AdvanceVT* PhD and Postdoctoral Fellowship Program  
Summary Report  
November 2010**

Overview

*AdvanceVT* supported ten postdoctoral fellows and nine PhD fellows during academic years 2004-05, 2005-06, 2006-07, and 2007-08, years two through five of the grant. The fellowships supported young scholars preparing for a faculty career, especially individuals from groups historically underrepresented in the professoriate. A mentoring plan was a key component of the fellowship, ensuring that the fellow developed appropriate knowledge and skills with support from senior colleagues. A member of the *AdvanceVT* leadership team met with each fellow and her mentor(s) mid-way through the fellowship year to review progress on the mentoring plan, and fellows were asked to report on the outcomes of their fellowship at the end of the year. All fellows reported at least one publication or conference presentation developed as a result of the fellowship.

Selection Process

The availability of the fellowships was advertised by email to Virginia Tech faculty in the targeted colleges, by announcement in the university's electronic newsletter, and on the *AdvanceVT* web site. Examples of the fellowship announcements and nomination instructions are included in Appendices A (PhD fellowships) and B (postdoctoral fellowships). Host departments submitted a completed nomination form, a statement of the nominee's career plan (PhD fellowships) or research plan (postdoctoral fellowships), curriculum vita, transcripts (PhD fellowships only), letters of recommendation, and a mentoring plan. Fellowship nominations were reviewed by a selection committee of faculty members from several disciplines.

The mentoring plan was a key component of the selection process. Mentoring activities oriented around the multiple skills that nominees would need to be proficient as a faculty member, such as teaching, advising, and research, were encouraged. A strong mentoring plan that demonstrated a thoughtful evaluation of the nominee's developmental needs frequently proved to be the deciding factor in awarding the fellowships. Review of the nominations also revealed many weak mentoring plans, demonstrating that faculty members do not automatically make good mentors, and that education around the concept and techniques of mentoring would be valuable for the faculty as well as graduate students and post-doctoral fellows.

Program evolution

In the first two years of the program, fellowship recipients were limited to the colleges of science and engineering. Based on feedback from faculty members, in years four and five the fellowships were made available to individuals in all science and engineering fields in which women are underrepresented in the professoriate, opening the program to the college of agriculture and life sciences and the college of natural resources. Over the life of the program, nominations were received from five different colleges (Engineering, Science, Agriculture and Life Sciences, Natural Resources, and Veterinary Medicine).



*AdvanceVT* planned to award two PhD fellowships and two postdoctoral fellowships in each of the four years. Between 8 and 27 individuals submitted applications for PhD fellowships each of the four years of the program. The postdoctoral fellowships were less popular, with only one application received in the first year of the program. Since the applicant was well qualified, one postdoctoral fellowship was awarded and funds were reallocated to support three PhD fellows that year. Four postdoctoral fellowship applications were received in the second year, and two were funded. Feedback indicated that one year of funding was not considered attractive to many faculty members seeking to hire a postdoctoral researcher, and the timing of the fellowship selection process did not necessarily coincide with a faculty member's need to hire a postdoc. In the last two years of the program, the postdoctoral fellowships provided supplemental funding of up to 50% of salary or \$20,000. As a result, 14 postdoctoral fellowship nominations were received for 2006-07, of which four were funded, and 13 nominations were received for 2007-08, of which three were funded.

### Outcomes

Of the nine PhD fellows, four are currently assistant professors, two are postdoctoral researchers, one is in an academic staff position, one works in industry, and the whereabouts of one are unknown. Of the ten postdoctoral fellows, three are currently assistant professors, two are still postdoctoral researchers, four are in research scientist or academic staff positions, and one is currently not seeking employment.

While the small number of participants makes evaluation of the impact of the PhD and postdoctoral fellowships difficult, feedback from fellowship recipients indicates a positive impact on their career development. Examples follow:

*"The AdvanceVT fellowship enabled me to take further steps along my career path and strengthen my publication record, which is necessary to be competitive for academic faculty positions."*

*"I believe that because of the Advance Program, I will have a much stronger CV and application package when I begin applying for jobs. In fact, I've been sharing my knowledge with colleagues several years ahead of me professionally as they interview for assistant professorships."*

*"The ADVANCE Fellowship gave me the opportunity to team teach a junior level class last spring, which was vital experience during the application and interview process."*

*"With the ADVANCE fellowship, I was able to start an independent research program; such experience is not often found among post-docs in my area of study. I'm currently applying for a faculty position at research institutions, and the fact that I have already started a research program and applied for grant support in this project gives me more confidence that I'll succeed in my academic career. Thanks to the ADVANCE program!"*



*AdvanceVT*

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Blacksburg, Virginia 24061  
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<http://www.advance.vt.edu>

***AdvanceVT Ph.D. Fellowship Program***

Virginia Tech's Advance Program is pleased to announce a request for nominations for its Ph.D. Fellowship Program for the 2004-2005 school year. This Program is designed for Ph.D. students from either the College of Engineering or the College of Science who aspire to pursue an academic career. The National Science Foundation's Advance Program recently awarded Virginia Tech a five-year institutional transformation grant in response to a national effort to increase the representation and advancement of women in academic science and engineering careers. The vision for Virginia Tech's Advance Program is to encourage cultural changes and remove barriers to success so that all members of the Virginia Tech community, faculty, students and staff, can reach their greatest potentials. You can find more information about the Virginia Tech Advance program at our website: <http://www.advance.vt.edu>.

One goal of Virginia Tech's Advance program is to encourage the career progression of students who exemplify the goals of NSF's Advance program. Nominations of students from underrepresented groups are especially encouraged. In this year's fellowship program, two awards will be given. Each award is a one year (12 month, beginning August 10) GRA stipend (20 hours per week, 100% GRA at department rate) and tuition waiver. Matching funds can be proposed (but are not required), and may include stipend, fee, travel or supply supplements pledged in addition to the fellowship amount, partial coverage for the stipend, or partial coverage for tuition.

Fellowship applications will be reviewed by a faculty panel reflecting diverse disciplines, and selection will be based on a number of criteria: quality of career plan and applicant's potential for success, academic and professional record, and letters of recommendation. Furthermore, nominating departments or academic units must propose a plan for mentoring the nominated student in ways that will prepare them for success as a faculty member. Mentoring activities oriented around the multiple tasks nominees will have to be proficient in as faculty, such as teaching, advising and research, are encouraged. *AdvanceVT* Ph.D. Fellowship recipients will be asked to give a presentation that highlights their accomplishments at an event to be scheduled toward the end of their fellowship year.

**Proposals are due to the *AdvanceVT* Office, 236 Burruss Hall (0180) by 5 pm on Monday, February 16, 2004.** Applicant finalists may be asked to undergo a personal interview as part of the selection process. Awards will be announced by Monday, March 29, 2004.

Questions about this program can be directed to the team leader of the Pipeline Element for *AdvanceVT*: Dr. Nancy Love, Department of Civil and Environmental Engineering, [nlove@vt.edu](mailto:nlove@vt.edu), 231-3980.



*AdvanceVT*

236 Burruss Hall (0180)  
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**Advance VT Ph.D. Fellowship Program  
Application Instructions**

All documents must be received as a single application packet at the address listed above by **Monday, February 16, 2004**. Application materials may be downloaded from the world wide web at [www.advance.vt.edu](http://www.advance.vt.edu); however, applications may not be submitted electronically.

**APPLICATION FORM.** Please type or print the information requested. Note that the first page of this form must be signed by the Department Head or Director of the primary academic unit for the applicant.

**STATEMENT OF CAREER PLAN.** Write a statement that is double-spaced, 12 point font, 1 inch margins and no more than 3 pages in length, beginning with your Career Plan title and your name. Indicate your academic career goals and how your current academic pursuits prepare you for success toward those goals. Discuss the professional and personal experiences that led you to aspire toward an academic career. State how, through your goals, you plan to impact your professional field. Your discussion can refer to your professional research plan, but your statement should not be solely focused on this element of your career.

**GRADUATE TRANSCRIPTS.** Attach all transcripts for post-baccalaureate studies. Official copies must be provided.

**CURRICULUM VITA.** Attach a curriculum vita that describes your academic training and performance, awards received, teaching experience, research experience, scholarship and professional service.

**TWO LETTERS OF RECOMMENDATION.** Two letters of recommendation, one from your primary mentor for this fellowship year and one from another faculty member, are required. The letters should address how the recommender knows the applicant, the applicant's qualifications and potential for success as an academic, and any other information that may assist the committee in evaluating the applicant. These letters must be sealed in envelopes with the recommender's signature across the seal, and submitted at the same time as the application.

**A MENTORING PLAN.** The department or academic unit that endorses the student's application must submit a mentoring plan targeted toward the applicant. This plan, limited to 200 words, should outline who the primary mentor(s) will be, what activities the student will participate in that will ensure successful progress during the fellowship year, and additional activities that the student will be allowed to participate in that will enhance their professional network, visibility and career development. Examples of activities include (but are not limited to): pledged funds to travel to a national conference in the student's professional area, participation in an active

## Appendix A: PhD Fellowship Solicitation

program targeted at preparing the future professoriate, participation in Advance career development workshops, and participation in a mentored teaching experience.

### SELECTION CRITERIA

Below are examples of questions that the Selection Committee members will consider in their selection of Ph.D. Fellowship Recipients. Please consider these questions when preparing your application.

- Does the career plan articulate a well thought out and achievable set of goals?
- Does the applicant's academic record coincide with the stated goals such that the goals are realistic?
- Is the applicant's academic record progressing satisfactorily toward that needed for a successful academic career?
- Do the outside letters of recommendation reflect confidence in the applicant's abilities and potential as a professor?
- Is the mentoring plan sufficient to assist the applicant in their career development?

In the event that several high quality applicants apply, applicants may be invited to interview with one or more members of the committee. Applicants will be contacted if they are invited to undergo an interview. These interviews will not exceed one hour.

### REPORTING REQUIREMENTS

- Fellowship recipients will be required to meet with one or more members of the Advance VT Pipeline Element committee in December of the fellowship year to discuss their progress.
- Fellowship recipients will be asked to give a presentation that highlights their accomplishments during the fellowship year at an event to be announced, but which will occur toward the end of their fellowship year. An electronic copy of the presentation must be submitted to the chair of the fellowship program (Dr. Nancy Love).
- Toward the end of the fellowship year, recipients are required to complete a form that highlights their academic accomplishments during the year.



## Appendix A: PhD Fellowship Solicitation

<b>REFERENCES:</b>	
Name	Department
1.	
2.	

### **Signatures and Endorsements**

1. The attached information is accurate and correct to the best of my knowledge. If selected for the *AdvanceVT* Ph.D. Fellowship, I agree to comply with the specified reporting requirements:

\_\_\_\_\_  
Nominee Signature

\_\_\_\_\_  
Date

2. I endorse this Advance GRA Ph.D. Fellowship application and the mentoring plan.

\_\_\_\_\_  
Signature of Dept. Head or Director of Academic Unit

\_\_\_\_\_  
Date

\_\_\_\_\_  
Print Name: Dept Head or Director of Academic Unit

\_\_\_\_\_  
Dept./Academic Unit

Mail Code:\_\_\_\_\_

E-mail:\_\_\_\_\_

Phone No. \_\_\_\_\_

### **Items to append to this form (See Nomination Instructions for details)**

1. Statement of Career Plan (written by the nominee)
2. Graduate Transcripts
3. Curriculum Vitae
4. Two letters of Recommendation
5. Mentoring Plan (written by the nominating department)

**Due 5 pm, February 16, 2004**

236 Burruss Hall  
Mail Code 0180



*AdvanceVT*

236 Burruss Hall  
Mail Code 0180  
Blacksburg, Virginia 24061  
<http://www.advance.vt.edu>

***AdvanceVT* Postdoctoral Fellowship Program**

*AdvanceVT* is pleased to announce a call for nominations for its Postdoctoral Fellowship Program for the 2006-07 academic year. This program is designed for candidates whose success will further the efforts of *AdvanceVT* to promote the advancement of women into academic careers, and who meet Virginia Tech's Postdoctoral Associate classification (section 2.2.1.5 in the Special Research Faculty Handbook, [http://www.provost.vt.edu/web\\_pages/faculty\\_handbooks.html](http://www.provost.vt.edu/web_pages/faculty_handbooks.html)).

Virginia Tech is a recipient of a five-year institutional transformation grant from the National Science Foundation as part of a national effort to increase the representation and advancement of women in academic science and engineering careers. The vision for *AdvanceVT* is to encourage cultural changes and remove barriers to success so that all members of the Virginia Tech community, faculty, students, and staff, can reach their greatest potential. More information about *AdvanceVT* is available at <http://www.advance.vt.edu>.

Nominees with outstanding potential for a tenure-track academic future are sought. For the 2006-07 application year, nominees who obtain the Ph.D. at Virginia Tech or elsewhere will be considered. Departments are encouraged to nominate candidates from on-going postdoctoral searches and faculty applicants not extended an offer but who have promising credentials and would benefit from a postdoctoral experience. Postdoctoral fellowship recipients must have a primary appointment in a science or engineering field in which women are underrepresented in faculty positions. Candidates who are re-entering the academic workforce or who have followed a non-traditional career path are strongly encouraged to apply.

*AdvanceVT* Postdoctoral Fellowships will provide partial funding up to 50% of salary or \$20,000 for the academic year commencing mid-August 2006. Evidence that sufficient research supply funds are also available to achieve the research goals of the nominee is required.

Fellowship applications will be reviewed by a faculty panel reflecting diverse disciplines, and selection will be based on the following criteria:

- quality of research plan and applicant's potential for success,
- academic and professional record, and
- letters of recommendation.

In addition, the person who will advise the fellowship recipient (herein called the "Advisor") must propose a plan for mentoring the nominee in ways that will prepare her or him for success as a faculty member. Mentoring activities oriented around the multiple skills that nominees will need to be proficient as a faculty member, such as teaching, advising and research, are encouraged. Fellowship recipients will be asked to give a presentation that highlights their

## Appendix B: Postdoctoral Fellowship Solicitation

accomplishments at an event, such as a colloquium, to be scheduled toward the end of their fellowship year.

Proposal forms and detailed instructions are available at <http://www.advance.vt.edu>.  
**Proposals are due to the *AdvanceVT* Office, 236 Burruss Hall (0180) by 5 pm on Friday, March 31, 2006.** Awards will be announced by Friday, April 28, 2006.

Questions about this program can be directed to the *AdvanceVT* Program Director Peggy Layne at 231-9948 or [AdvanceVT@vt.edu](mailto:AdvanceVT@vt.edu).





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**AdvanceVT Postdoctoral Fellowship Program  
Nomination Instructions**

All documents must be received as a single application packet at the address listed above by **Friday, March 31, 2006**. Nomination materials are available at <http://www.advance.vt.edu>; however, applications may *not* be submitted electronically.

**APPLICATION COVER SHEET.** Please type the information requested. Note that the form must be signed by the Department Head or Director of the primary academic unit for the nominee.

**RESEARCH PLAN FOR THE NOMINEE.** A research statement must be submitted that is limited to *1000 words*. We anticipate that this statement will be written by the advisor, the nominee or both; therefore, please identify the author(s) of the statement at the beginning of the document. The statement should articulate a clear research plan for the nominee that is targeted to an educated reader who may not be proficient in the research discipline being targeted. As a minimum, the research plan should explain:

- why the research is important,
- how the research will help the nominee's professional development,
- why the nominee is the right person to execute the research plan, and
- what is the significance of the nominee's work to date in the context of the research plan.

**MENTORING PLAN FOR THE NOMINEE.** The person who will serve as the primary advisor to the postdoctoral fellowship recipient (herein called "Advisor") must submit a mentoring plan for the nominee that is no more than *500 words*. The statement shall address the following:

- what mentoring activities will be offered to the nominee and the Advisor's role,
- how these mentoring activities will ensure successful professional progress during the fellowship year, and
- what additional activities the nominee will be encouraged to participate in that will enhance her or his professional network, visibility and career development.

**BUDGET.** The Budget Form (provided) must be completed, and shall include:

- Requested salary and fringe benefit costs for the nominee,
- Salary and fringe benefits being provided by the advisor or department,
- Travel funds being provided for the nominee to attend conferences and workshops, conduct field work, or to support any other professional travel needs, and
- Supply funds being provided to support the nominee's work.

## Appendix B: Postdoctoral Fellowship Solicitation

A justification statement for each item in the budget shall be given and should address how the costs listed are being provided (by what funding means) and why the funds are sufficient to address the research and mentoring plan for the nominee. The form must be signed by the Advisor. If additional funds are being provided by another faculty member, a department or another academic unit, the person responsible for releasing those funds if the nominee is selected must also sign the form.

**CURRICULUM VITAE.** Attach a curriculum vitae that describes the nominee's academic training and performance, awards received, teaching experience, research experience, scholarship and professional service.

**TWO LETTERS OF RECOMMENDATION.** Two letters of recommendation, one from the nominee's Ph.D. advisor and one from another person who is technically qualified to evaluate the nominee, are required. The letters should address how the recommender knows the nominee, the nominee's qualifications and potential for success as an academic, and any other information that may assist the committee in their evaluation of the application. These letters must be submitted at the same time as the application. The post-doctoral advisor may submit a third letter of recommendation, if desired and if it offers information not elaborated upon elsewhere in the application materials.

### REPORTING REQUIREMENTS

- Postdoctoral Fellowship recipients will meet with one or more members of the *AdvanceVT* Pipeline Element committee during the fellowship year to discuss both their progress and ideas for the fellowship program.
- Fellowship recipients will be asked to give a presentation that highlights their accomplishments during the fellowship year at an event to be announced, such as a colloquium, which will occur toward the end of their fellowship year. An electronic copy of the presentation must be submitted to the *AdvanceVT* program representative.
- Toward the end of the fellowship year, recipients will write a letter to the *AdvanceVT* Pipeline committee that highlights her or his academic accomplishments during the year, thoughts on how the fellowship helped her or him progress professionally, plans for the future, and ideas for what changes should be made to the program to improve it.

Appendix B: Postdoctoral Fellowship Solicitation



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**ADVANCEVT POSTDOCTORAL FELLOWSHIP PROGRAM  
APPLICATION COVER SHEET**

**NOMINEE INFORMATION:**

Name of Nominee:	(Last)	(First)	(Middle Initial)
Select One:	<input type="checkbox"/> Female	<input type="checkbox"/> Male	

Education beyond high school (List degrees received, beginning with most recent degree):

<b>Dates Attended</b>	<b>Institution</b>	<b>Degree Received</b>	<b>Major Subject</b>
<b>From</b>	<b>To</b>		

**POST-DOCTORAL ADVISOR'S INFORMATION:**

Name: (Last)	(First)	Title:
Department:	College:	
Mailing Address:		
Phone No.	E-mail address:	

**TWO LETTERS OF REFERENCE:**

<b>Name</b>	<b>Relation to Nominee</b>	<b>Employer</b>
1.		
2.		

**SIGNATURES AND ENDORSEMENTS:**

- The attached information is accurate and correct to the best of my knowledge. If I am selected for the *AdvanceVT* Postdoctoral Fellowship, I agree to comply with the specified reporting requirements:

\_\_\_\_\_  
Nominee Signature

\_\_\_\_\_  
Date

Appendix B: Postdoctoral Fellowship Solicitation

2. I endorse this Advance Postdoctoral Fellowship application and its contents.

\_\_\_\_\_  
Signature of Dept. Head or Director of Academic Unit

\_\_\_\_\_  
Date

\_\_\_\_\_  
Print Name: Dept Head or Director of Academic Unit

\_\_\_\_\_  
Dept./Academic Unit

Mail Code: \_\_\_\_\_

E-mail: \_\_\_\_\_

Phone No. \_\_\_\_\_

**Due 5 pm, March 31, 2006**  
236 Burruss Hall, Mail Code 0180

Appendix B: Postdoctoral Fellowship Solicitation



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**ADVANCEVT POSTDOCTORAL FELLOWSHIP PROGRAM  
BUDGET FORM**

All of the costs to be provided refer to the Postdoctoral Fellow and not other personnel or Advisors associated with the nominee.

ITEMS	AMOUNT BUDGETED	REQUESTED FROM ADVANCEVT
Salary		
Fringes <sup>1</sup>		
Research-related travel		
Research-related supplies		
Other costs (please describe in the justification section)		
Totals (right click, select Update Field)	\$ 0.00	\$ 0.00

<sup>1</sup> Use the current fringe benefits rate for Postdoctoral Fellow.

Please attach a justification statement for each budget item listed above. Identify who is providing funding for each budget item. Individuals who provide funding other than the Advisor must sign below or on an attached sheet.

**SIGNATURES**

By signing below, I verify that the funds listed above that exceed those requested from AdvanceVT will be provided during the fellowship year for the Postdoctoral Fellow nominee.

\_\_\_\_\_  
Signature, Advisor

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name, Advisor

If other faculty or administrators are involved with committing funds on behalf of the nominee, those individuals must also verify availability of those funds by signing below. Add additional sheets with all the requested information, as necessary.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
E-mail Address

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Print Name

---

Title

---

Department (please print)

---

Phone Number

**Due 5 pm, March 31, 2006**

236 Burruss Hall, Mail Code 0180

## ***AdvanceVT Final Financial Report***

### *Budget Explanation for Current Year (Year Seven)*

Table 1 summarizes the budgeted and actual costs for the seventh year of the grant. Specific cost elements are explained below.

#### A. Senior Personnel

Mark McNamee continued to serve as Principal Investigator for the grant and provided overall oversight of the program. Patricia Hyer, Co-Principal Investigator, served as a member of the leadership team and continued to lead the policy review and implementation effort. Tonya Smith-Jackson, associate professor of industrial and systems engineering, and Beate Schmittmann, professor and department head in physics, continued as co-PIs and served on the leadership team. Roseanne Foti, associate professor of psychology, Janis Terpenney, professor of engineering education and mechanical engineering, and Elizabeth Creamer, professor of educational leadership continued to serve as members of the leadership team. Eileen Van Aken, associate professor of industrial and systems engineering, and Nancy Ross, associate dean in the college of science, continued in their positions as liaisons for the colleges of engineering and science, respectively, and members of the leadership team. Dr. Ross received an administrative supplement to her salary funded by the grant. Dr. Van Aken received a course buy-out from the dean of engineering to support her role as college liaison. Jack Finney, associate dean in the college of science, continued to serve as a member of the leadership team and leader of the department climate initiative. Peggy Layne, program director, provided full time day-to-day management of *AdvanceVT* program activities, including oversight of the ADVANCE Portal Website. During the seventh year of the grant, one month of her salary was paid for by the grant for coordination and oversight of the ADVANCE Portal Website.

Total expenditures for senior personnel direct charged to the grant in year seven were \$13,653. This amount is 52% below the requested budget due to college of engineering support for the college liaison.

#### B. Other Personnel

Robyn Midkiff provided part-time administrative support to the *AdvanceVT* program. A portion of her salary was provided as a cost share by the provost's office. Molly Hall, graduate student in educational research and evaluation, joined the program as *AdvanceVT*'s programmatic graduate assistant during the seventh year of the grant, providing support to the program director and the leadership team. She received salary, fringes, and tuition paid for by the graduate school. Laurian Vega, PhD candidate in computer science, led the revisions and upgrade of the Advance Portal website as a graduate assistant funded by the grant. Tom DeHart, incoming graduate student in computer science, provided support for the Portal website during the summer of 2010 and was paid as an hourly wage employee by the grant.

Total expenditures for other personnel directly charged to the grant in year seven were \$19,161, 14% below the budgeted amount.

### C. Fringes

Fringe benefits are calculated at the approved negotiated rates for faculty, staff, special research faculty, graduate assistants, and hourly employees. In year seven, \$4,918 was spent on fringes. This amount is 49% less than the budget, a result of reduced spending on salaries.

### D. Equipment

No equipment was purchased with grant funds during year seven.

### E. Travel

In 2009-10, members of the *AdvanceVT* leadership team traveled to participate in the NSF Human Resource Development Joint Annual Meeting in June and ADVANCE PI meeting in November. Members of the *AdvanceVT* team attended conferences throughout the year and presented information about the program. In addition, *AdvanceVT* provided travel support for two distinguished lecturers and two visiting scholars during the seventh year of the grant. Total travel expenditures were \$11,152, 44% below budget due to fewer conference presentations and fewer visiting scholars funded than anticipated.

### F. Participant Support

*AdvanceVT* hosted its seventh annual Advancing Diversity workshop for the Virginia Tech community in January 2010. This event is a very effective way to reach a wide audience across campus, and was co-hosted again this year with the Office for Equity and Inclusion, with attendance of close to 300 people. The total amount of participant support costs in year seven was \$16,068, 34% over budget due to high attendance and increased cost for the keynote speaker.

### G. Other Direct Costs

#### G.1 Materials and supplies

*AdvanceVT* incurred expenses for the purchase of software and general office supplies during year seven. Grant funds were also expended for costs related to seminars with visiting speakers and to support Virginia Tech's participation in the COACHE survey of pre-tenure faculty. Total expenses for materials and supplies in year seven were \$31,518, double the budgeted amount due primarily to the cost of participating in the COACHE survey.

#### G.2 Publication costs

*AdvanceVT* continued to produce a variety of printed materials to enhance the visibility of the program on campus. Four newsletters were distributed to campus leaders and posted on the web.



Brochures on work-life programs and unintended bias were reprinted for distribution to new faculty members and search committees. The total amount spent on publications in year seven was \$3,255, 35% below the budgeted amount.

### G.3 Consultants

*AdvanceVT* brought Dr. Mary Deane Sorcinelli, Associate Provost for Faculty Development at the University of Massachusetts, Amherst, to Blacksburg to present a series of mentoring workshops in fall 2009. Expenditures in this category were \$3,500, 63% below the amount budgeted.

### G.4 Computer services

No computer services costs were incurred for the *Advance* program.

### G.5 Subcontracts

No subcontracts were issued as part of the *Advance* program.

### G.6 Other

Total costs of \$30,219 were incurred in this category for year seven of the grant, including tuition waivers for the portal website graduate assistant, charges for telephone and data lines, mini-grants to departments to address climate issues, and micro-grants to pre-tenure faculty to facilitate the development of mentoring networks. This amount is 5% below the requested budget.

## H. Total direct

Total direct costs charged to the grant in year seven were \$133,444, vs. a budget of \$154,039. Reduced spending on faculty salaries and consultants was offset by increased spending on the annual workshop and participation in the COACHE survey.

## I. Total indirect

Total indirect costs incurred in year seven of the grant were calculated at the approved rates for a total of \$57,654.

## J. Total direct + indirect

Total direct and indirect costs direct charged to the grant in year seven were \$191,098 vs. a budget of \$220,706, a variance of 13%.

## K. Residual

The amount spent during year seven was \$29,608 less than the amount budgeted.

M. Cost sharing

Cost sharing provided by the provost's office, the graduate school, and returned overhead in year seven included PI, co-PI, project director, and administrative assistant salaries, and one graduate assistantship. The cost sharing report has been submitted by Virginia Tech's Office of Sponsored Programs.

**Table 1**  
**AdvanceVT Year Seven Budget Analysis**  
(Includes Advance Portal Website)

	<b>Year 7 Budget</b>	<b>Year 7 Expenses</b>	<b>Variance</b>	<b>% Variance</b>
<b>A. Senior Personnel</b>	\$28,398	\$13,653	\$14,745	52%
<b>B. Other personnel</b>				
B.1. Post-doctoral associates	\$0	\$0		
B.2. Other professionals	\$0	\$0		
B.3. Graduate students	\$22,211	\$19,161	\$3,050	14%
B.4. Secretarial/ Clerical	\$0	\$0		
B.5. Undergraduate Students	\$0	\$0		
B.6. Other	\$0	\$0		
Total salaries + wages	\$50,609	\$32,814	\$17,795	35%
<b>C. Fringe benefits</b>	\$9,692	\$4,918	\$4,774	49%
Total salaries, wages + fringe	\$60,301	\$37,732	\$22,569	37%
<b>D. Permanent equipment</b>				
<b>E. Travel (domestic)</b>	\$20,000	\$11,152	\$8,848	44%
<b>F. Participant support</b>	\$12,000	\$16,068	(\$4,068)	-34%
<b>G. Other direct costs</b>				
G.1 Materials & supplies	\$15,500	\$31,518	(\$16,018)	-103%
G.2 Publications	\$5,000	\$3,255	\$1,745	35%
G.3 Consultants	\$9,500	\$3,500	\$6,000	63%
G.4 Computer services	\$0	\$0		
G.5 Subcontracts	\$0	\$0		
G.6 Other	\$31,738	\$30,219	\$1,519	5%
Total other direct costs	\$61,738	\$68,492	(\$6,754)	-11%
<b>H. Total direct costs</b>	\$154,039	\$133,444	\$20,595	13%
<b>I. Total indirect costs</b>	\$66,667	\$57,654	\$9,013	14%
<b>J. Total direct + indirect</b>	\$220,706	\$191,098	\$29,608	13%
<b>K. Residual funds</b>		\$29,608		
<b>L. Amount this request</b>	NA	NA	NA	NA
<b>M. Cost sharing</b>				

## *Budget Explanation for Life of Grant*

Table 2 summarizes the budgeted and actual costs for the life of the grant, September 2003 through August 2010. Specific cost elements are explained below.

### A. Senior Personnel

Senior Personnel costs were budgeted and expended for the assessment director, co-PIs, other lead faculty members, and a fraction of the project director's time. Additional expenses were incurred in this category to support the faculty member who directed the leadership development program and faculty members serving as college liaisons.

### B. Other Personnel

Other Personnel costs were originally budgeted for post-doctoral fellowship recipients and graduate assistants. After the first year of the grant, the leadership team redesigned the post-doctoral fellowship program due to a low number of applicants and redirected some of those funds to support faculty members participating in the leadership development program and serving as college liaisons. Amounts budgeted in the portal website supplement for "other professionals" and "undergraduates" were used instead for senior personnel and graduate students.

### C. Fringes

Expenses for fringe benefits were calculated at the approved rates.

### D. Equipment

Two computers to support development and maintenance of the ADVANCE Portal website were purchased at costs below the budgeted amounts.

### E. Travel

*AdvanceVT* leadership team members traveled to attend NSF ADVANCE PI meetings each year and to present findings about the Advance program at other universities and a variety of professional conferences, including the American Society for Engineering Education, the Association for the Study of Higher Education, the American Educational Research Association, the Women in Engineering ProActive Network, and the Society of Women Engineers. The program director presented talks about *AdvanceVT* at two international conferences, an International Colloquium on Empowering Women in Engineering and Technology sponsored by the World Federation of Engineering Organizations in Tunis, Tunisia, and an International Conference of Women Engineers and Scientists in Lille, France. Department heads traveled to attend seminars and workshops presented by other Advance institutions. Consultants, distinguished lecturers, and visiting scholars traveled to the Virginia Tech campus each year to give presentations and meet with the leadership team.

## F. Participant Support

Costs in this category were significantly over budget because the proposal envisaged a small annual workshop with attendance estimated at 50 people per year. This workshop had over 150 participants in the first year and has grown to an attendance close to 300. The annual Advancing Diversity at Virginia Tech workshop is one of the most visible events hosted by *AdvanceVT* and reaches individuals across campus. Costs for the Transforming the Professoriate conference held in year three of the grant were also charged in this category even though they were budgeted elsewhere.

## G. Other Direct Costs

### G.1 Materials and supplies

Virginia Tech requested and received approval to charge operating expenses, including office supplies, to the grant because the *AdvanceVT* program is housed in a free-standing office suite with office furniture and equipment dedicated to the program. Costs for meetings and seminars are also reported here. In addition, *AdvanceVT* supported Virginia Tech's participation in the COACHE survey of pre-tenure faculty.

### G.2 Publication costs

*AdvanceVT* produced newsletters highlighting program activities three to six times each year. In addition, *AdvanceVT* produced a brochure on unintended bias in evaluation for distribution to search committees, a brochure on university work/life balance policies and programs for distribution to faculty candidates and new faculty members, handouts and brochures highlighting findings of two faculty work/life surveys, posters for presentation at PI meetings and conferences, and two brochures highlighting overall program activities.

### G.3 Consultants

Consultants were brought to campus to present a series of workshops on negotiation and communication and on mentoring. A teambuilding consultant provided advice to the leadership team in the second and third years of the program. External evaluators provided feedback on the program early in year four. This category also includes honoraria for distinguished lecturers and keynote speakers for the annual Advancing Diversity workshops.

### G.4 Computer services

No computer services costs were incurred for the Advance program.

### G.5 Subcontracts

No subcontracts were issued as part of the Advance program.

## G.6 Other

Costs in this category include tuition for graduate assistants, telephone and data lines for the *AdvanceVT* office, research seed grants for pre-tenure faculty in years two through five, and mini-grants to departments to address climate issues and micro-grants to pre-tenure faculty to develop mentoring networks in year seven. Leadership fellowships and support for participants in the leadership development program in years two through five were also budgeted and reported in this category.

### H. Total direct

Total direct costs came to \$2,781,018 over the life of the grant, 7% over budget.

### I. Total indirect

Total indirect costs were calculated at approved rates for a total of \$956,387, under budget by 18%.

### J. Total direct + indirect

Total expenses came to \$3,737,405 over seven years, half a percent under the budget amount of \$3,757,778.

### K. Residual

Residual funds total \$20,374.

### M. Cost sharing

Cost sharing was provided by the Office of the Senior Vice-President and Provost in the form of salary support for the program director and administrative assistant, office space renovations, and partial salary for the PI and co-PI. The graduate school provided support for graduate assistants over the life of the grant. A cost-sharing report has been submitted by Virginia Tech's Office of Sponsored Programs.

**Table 2**  
**AdvanceVT Final Budget Analysis**  
(Includes Advance Portal Website supplements)

	<b>Budget</b>	<b>Expenses</b>	<b>Variance</b>	<b>% Variance</b>
<b>A. Senior Personnel</b>	\$528,122	\$689,772	(\$161,650)	-31%
<b>B. Other personnel</b>				
B.1. Post-doctoral associates	\$342,574	\$180,569	\$172,005	49%
B.2. Other professionals	\$25,979	\$3,333	\$22,646	87%
B.3. Graduate students	\$307,131	\$307,132	(\$1)	0%
B.4. Secretarial/ Clerical	\$0	\$0	\$0	0%
B.5. Undergraduates	\$23,064	\$4,213	\$18,851	82%
B.6. Other	\$0	\$0	\$0	0%
Total salaries + wages	\$1,236,870	\$1,185,019	\$51,851	4%
<b>C. Fringe benefits</b>	\$215,870	\$219,038	(\$3,168)	-1%
Total salaries, wages + fringe	\$1,452,740	\$1,404,058	\$48,683	3%
<b>D. Permanent equipment</b>	\$6,000	\$4,192	\$1,808	30%
<b>E. Travel (domestic)</b>	\$140,000	\$136,073	\$3,927	3%
<b>F. Participant support</b>	\$43,750	\$141,728	(\$97,978)	-224%
<b>G. Other direct costs</b>				
G.1 Materials & supplies	\$183,000	\$253,678	(\$70,768)	-39%
G.2 Publications	\$24,000	\$34,955	(\$10,955)	-46%
G.3 Consultants	\$112,000	\$76,769	\$35,231	31%
G.4 Computer services	\$0	\$0	\$0	0
G.5 Subcontracts	\$0	\$0	\$0	0
G.6 Other	\$631,842	\$729,565	(\$97,723)	-15%
Total other direct costs	\$950,842	\$1,094,967	(\$144,125)	-15%
<b>H. Total direct costs</b>	\$2,593,332	\$2,781,018	(\$187,686)	-7%
<b>I. Total indirect costs</b>	\$1,164,446	\$956,387	\$208,059	18%
<b>J. Total direct + indirect</b>	\$3,757,778	\$3,737,405	\$20,374	0.54%
<b>K. Residual funds</b>		\$20,374		
<b>L. Amount this request</b>	NA	NA	NA	NA
<b>M. Cost sharing</b>				