AdvanceVT **Annual Report**
Year 6: September 2008 – August 2009
National Science Foundation
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Contents

Program Overview

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 already institutionalized many of the Advance initiatives related to work-life balance and faculty recruiting. The following activities have on-going institutional support:

- Dual Career Assistance: program coordinator, data base, and services have permanent funding. In addition, the provost provides bridge funding to assist with some dual career appointments; $350,000 was spent for this purpose in 2008-09.
- College liaisons: The College of Engineering and the College of Science provide financial support for the college liaison program. College liaisons support faculty searches and networking and mentoring among women faculty.
- Faculty recruitment: As part of the recommendations of the Task Force on Race and the Institution, the provost established a base budget for several initiatives designed to attract potential faculty members from underrepresented groups, including an expansion of the *AdvanceVT* Visiting Scholars program to establish relationships with potential future faculty candidates outside the regular search process, development of a database of faculty candidates from underrepresented groups, and a "Future Faculty" workshop for PhD candidates from underrepresented groups preparing for academic careers.
- 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. $49,500 were spent in support of this program during 2008-09.
- Child care expansion: 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 who is expanding daycare in the community. In return for this annual subsidy, the provider will guarantee 60% of the 246 new slots to Virginia Tech families. This expansion of services addresses a long-term need documented by *AdvanceVT*'s faculty surveys.
- 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.

Significant accomplishments during year six include the expansion of available child care described above, the culmination of many years of effort by university leaders supported by the *AdvanceVT* program. *AdvanceVT* also conducted a repeat of the Faculty Work-Life survey in fall 2008 and submitted a proposal for a PAID grant to study changes in perceptions of leadership at ADVANCE Institutional Transformation grant recipient

institutions. In addition to maintaining a portfolio of workshops and seminars for current and future faculty, *AdvanceVT* co-hosted the sixth annual "Advancing Diversity at Virginia Tech" conference on January 12, with the Office of Equity and Inclusion, with a record 300 attendees.

Indicators of institutional change:

- o Nine women were promoted to the rank of professor in 2009, bringing the total number of women at the most senior faculty rank to 95 as of June 2009.
- o The number and percentage of women tenured and tenure-track faculty in the College of Engineering has increased from 21 (7.3%) in fall 2001 to 42 (13%) in fall 2008.
- o The Colleges of Science and Engineering now both have a female department head.

Participants

Project Management System and Infrastructure

During year six of the program, *AdvanceVT* continued to operate with a leadership team of faculty and administrators. Senior Vice President and Provost Mark McNamee continued as Principal Investigator (PI) for the Advance program at Virginia Tech. Associate Provost Patricia Hyer, Professor Beate Schmittmann and Associate Professor Tonya Smith-Jackson also continued as Co-PIs. Elizabeth Creamer, professor of Educational Leadership and Policy Studies, continued in her role as Assessment Director. Project Director Peggy Layne and Administrative Assistant Robyn Midkiff continued in their respective roles. Graduate assistants Ane Johnson and Leigh Harrell supported the program in year six. Associate Professors Roseanne Foti, Janis Terpenny, and Eileen Van Aken, and Associate Dean Nancy Ross served as Advance Professors and members of the leadership team. Dr. Ross continued as College Liaison to the College of Science and Dr. Van Aken as liaison to the College of Engineering. Associate Dean Jack Finney continued in his role on the Leadership Team and as leader of the Departmental Climate Initiative.

Overall responsibility for allocation of project funds resides with the Principal Investigator, Provost Mark McNamee, with day-to-day oversight delegated to Project Director Peggy Layne. All financial matters are conducted with the oversight of the university's Office of Sponsored Programs, in accordance with all appropriate policies and procedures. Administrative Assistant Robyn Midkiff processes financial paperwork and maintains all program files. Provost office bookkeeper Alva Phillips prepares monthly financial reports for review by Project Director Layne.

Leadership Team

During year six, the leadership team met monthly to review progress and plan activities. Program priorities for the year continued to focus on increasing visibility both on campus

and in the broader community, and moving towards institutionalization of *AdvanceVT* programs. The following individuals served on the Leadership Team:

Elizabeth Creamer, Assessment Director
Jack Finney, Department Climate Initiative
Roseanne Foti, Advance Professor
Patricia Hyer, Co-PI
Peggy Layne, Project Director
Mark McNamee, Principal Investigator
Nancy Ross, Advance Professor, College of Science Liaison
Beate Schmittmann, Co-PI
Janis Terpenny, Advance Professor
Eileen Van Aken, Advance Professor, College of Engineering Liaison

Executive Committee

The *AdvanceVT* Executive Committee included the PI and Co-PIs, the deans of the colleges of engineering and science, and the dean of the graduate school. During year six, the Executive Committee was discontinued. The deans were kept informed of *AdvanceVT* activities on an as needed basis. Co-PI Schmittmann joined the Leadership Team, and Co-PI Smith-Jackson was on research leave during 2008-2009.

Advisory Committee

The *AdvanceVT* Advisory Committee was reconstituted in 2008-2009 with the following goals:
   o to provide feedback to the *AdvanceVT* Leadership Team on progress towards *AdvanceVT* goals,
   o to identify and prioritize issues and possible actions for *AdvanceVT*,
   o to broaden participation in *AdvanceVT* across colleges and constituencies, and
   o to help *AdvanceVT* to maintain focus on the concerns and challenges of women faculty at Virginia Tech.
Representation on the advisory committee includes faculty members from each of the eight academic colleges and other important constituencies at Virginia Tech, such as the Women's Center, the Department Heads Council, and members of minority caucuses. The committee met twice during the spring semester 2009.

Organizational Partners

AdvanceVT is housed in the Office of the Provost, and collaborates with units across the university on various activities. These collaborations strengthen the institutionalization of *AdvanceVT* initiatives.

   o The Office for Equity and Inclusion co-sponsors the annual Advancing Diversity workshop.

- o The Colleges of Science and Engineering support college liaisons in their respective colleges.
- o The Graduate School supports a graduate assistant in the office of *AdvanceVT* and co-sponsors the annual welcome reception for women faculty and graduate students.
- o The Organization of Women Faculty co-hosts the welcome reception and other networking events for women faculty.
- o The Women's Center and the Women's Studies Program co-host the welcome reception and speakers throughout the year.
- o The Virginia Tech Center for Survey Research implemented both faculty surveys and assisted with survey development and data analysis.

Activities and Findings

<u>Research and Evaluation Activities and Findings</u>

2008 Faculty Work-Life Survey

In fall 2008, *AdvanceVT* conducted its second Faculty Work-Life Survey, a follow up to an initial survey in spring 2005. The purpose of both surveys was to assess faculty perceptions of their overall job satisfaction and of various attributes of the work environment at Virginia Tech. A link to the on-line survey was sent via email to all full-time instructional and research faculty at Virginia Tech, with several follow-up reminders sent over the course of a few weeks. A total of 700 tenured and tenure-track faculty responded to the survey, representing a response rate of 53%, slightly lower than the 2005 response rate of 59%.

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.

Most questions in the survey were answered on a 4-point scale where 1=strongly disagree, 2=somewhat disagree, 3=somewhat agree, and 4=strongly agree. Some questions were "reverse written" such that lower ratings are desirable (as opposed to higher ratings); these questions were reverse-coded prior to analysis so that for all items and all scales, higher values are desirable. Mean responses higher than 3.0 reflect positive perceptions ("somewhat agree" and "strongly agree").

Preliminary findings were presented at the January 12, 2009 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.

Lessons Learned from Assessment during Year Six

- o 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)
- o Scores on the work-life balance scale remained low across all colleges
- o Women and underrepresented minorities continue to have significantly lower scores on many of the scales than majority men

Training and Development Activities

Institutionalizing Change

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

Significant Accomplishments for Year Six:

- o The Provost and deans committed to providing continued financial support to *AdvanceVT* programs following expiration of the grant.
- o Virginia Tech entered into an agreement with a local child care provider to guarantee five years of funding through the Virginia Tech Foundation, thus enabling the provider to expand her facilities and increase the number of available child care slots by 246, with 60% of the spaces reserved for children of Virginia Tech faculty, staff, and graduate students. This is the culmination of many years of effort by university leaders and supported by the *AdvanceVT* program.
- o The 6th annual "Advancing Diversity at Virginia Tech" conference, cosponsored with the Office of Equity and Inclusion (formerly Multicultural Affairs), was held on January 12 with almost 300 registered participants, including faculty, staff, and administrators, the largest attendance yet. Featured speakers addressed building capacity for inclusive excellence and bias literacy. Breakout sessions addressed 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.

Year six saw the continuation of the *AdvanceVT* initiative with College of Science and Engineering liaisons. Dr. Nancy Ross, associate dean in the College of Science, and Dr.

Eileen Van Aken, associate professor and associate department head of industrial and systems engineering in the College of Engineering, served as liaisons in their respective colleges. The college liaison role focused on enhancing the faculty search process and building community among women in the two colleges. Liaisons met with departmental search committees as well as all female and many male candidates for faculty positions in their respective colleges to inform them of work/life resources at Virginia Tech and *AdvanceVT* programs and to answer any questions. The liaisons were not members of the search committees, and so were able to discuss potentially sensitive issues with candidates in confidence.

- o College of Engineering Liaison provided summary reports of major themes to two engineering departments based on focus group and individual interviews with pre-tenured faculty; a total of three such reports. One overall theme across all three departments is the lack of proactive, effective research mentoring for pre-tenure faculty.
- o Collected preliminary data on mentoring from those departments rated most positively by faculty in the 2008 Faculty Work-life Survey. These data will be organized into a summary document with the intent of identifying "best practices" for mentoring across the university.
- o Co-hosted a networking reception for women faculty with the Organization of Women Faculty
- o Conducted a survey of post-tenure women faculty at Virginia Tech regarding issues faced; received 29 responses to the survey. Analyzed qualitative data and prepared a summary for review and discussion.
- o Co-hosted a workshop with the Organization of Women Faculty for post-tenure women faculty to identify most prevalent issues and discuss potential strategies/recommendations.

Jack Finney, professor of psychology, associate dean in the College of Science and former department head, continued to lead *AdvanceVT*'s focus on department climate in year six.

- o Jack Finney and Ishwar Puri, representing the Department Climate Committee, presented a session on department climate, mentoring and diversity at the New Department Heads and Academic Leaders Workshop in August 2008. Topics included mentoring and diversity.
- o Leadership Team members Jack Finney and Eileen Van Aken participated in a panel on department climate for the Virginia Tech Department Heads Roundtable in November and distributed copies of the *AdvanceVT* Department Climate Compendium. About 45 department heads from across the university attended.
- o Hosted a department climate workshop for 50 participants focused on mentoring at the January Advancing Diversity workshop; a panel of mentors and mentees discussed successful strategies for developing mentor-mentee relationships, mentoring faculty of color, and mentoring mid-level faculty.
- o Leadership team members Finney, Van Aken, Hyer, and Layne met with deans and department heads in April and May 2009 to present college and department

level analyses of the 2008 Faculty Work-Life Survey results. Individual reports were prepared and shared with all eight colleges and more than 50 individual departments highlighting actionable feedback from the survey on specific aspects of department climate.

Empowering Women as Leaders and Scholars

Goal: 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.

Significant Accomplishments for Year Six:

o Welcomed three new women department heads to Virginia Tech in fall 2008, including Dr. Barbara Ryder, Computer Science, the first female department head in the College of Engineering.
o Hosted four leadership lunches for women faculty. Speakers included Provost and *AdvanceVT* PI Mark McNamee, former provosts Charlotte Borst of Rhodes College and Peggy Meszaros of Virginia Tech, and a panel of associate deans discussing their career paths. Attendance at the events ranged from 16 to 30 faculty members.
o Hosted two well attended distinguished lectures:
   o Dr. Alice Eagly, professor and chair of social psychology, Northwestern University, and author of *Through the Labyrinth: The truth about how women become leaders*, spoke on women and leadership to an audience of 80 faculty and administrators.
   o Dr. Geraldine Richmond, Richard M. and Patricia H. Noyes professor of chemistry at the University of Oregon, spoke on women as leaders in the scientific enterprise to an audience of about 30 faculty members. Attendance was impacted by inclement weather on the day of Dr. Richmond's visit.
o Advance Professor Foti and Project Director Layne submitted a proposal for a PAID grant to evaluate changes in perceptions of leadership at ADVANCE Institutional Transformation grant recipient institutions.

Increasing Representation of Women in Science and Engineering

Goal: A significant increase in the percentage of women faculty in science and engineering at Virginia Tech.

During year six *AdvanceVT* continued its work with search committees and departments on successful faculty searches and hosted visiting scholars. The Visiting Scholars program has been expanded university wide with funding from the Office of the Provost, and provides funding to bring potential future faculty candidates with the potential to contribute to excellence and diversity to campus for brief visits.

Significant Accomplishments in Year Six:

- o Provided 600 copies of brochure on *Unrecognized Biases and Assumptions in Hiring, Promotion, and Tenure: Research and Tips for More Equitable and Effective Hiring Practices* for distribution by Office for Equal Opportunity to search committees.
- o *AdvanceVT* College of Engineering liaison attended the "charge" meeting with Dean Benson for the four department head search committees in 2008-09 (Civil and Environmental Engineering, Electrical and Computer Engineering, Mining and Minerals Engineering, and School of Biomedical Engineering) to distribute materials to illustrate what will be shared in meetings with each candidate during the on-site interview (information about *AdvanceVT*, new and revised VT family work-life policies, etc.) and to define process for scheduling COE liaison to meet with candidates.
- o College of Engineering Liaison met with 19 candidates for faculty positions in the College of Engineering; shared information on *AdvanceVT* with eight other candidates via email.

Advancing Women into Faculty Careers

Goal: A significant increase in the percentage of women in engineering and science who choose faculty careers.

AdvanceVT continued to host a series of lunch seminars for graduate students and post-docs on topics related to preparing for faculty careers. These seminars are open to students from all colleges, but emphasize issues of concern to women in STEM fields. In 2008-09, 148 students and post-docs participated in at least one of these seminars.

Seminar topics included:

- o NSF CAREER grant program
- o Scholarly publication
- o Types of higher education institutions in the U.S.
- o Academic job interviews
- o Your first year as a professor

In spring 2009, *AdvanceVT* conducted an annual evaluation of the graduate student and post-doc seminars. Forty-five participants responded to the survey. Respondents rated events good to excellent in terms of the overall quality and usefulness of the five events. The average rating was 4.08, very good, with "Academic Job Interviews" receiving the highest rating of 4.4. Respondents indicated "Getting started in an academic career: Perspectives from Teaching and Research universities" and "Effective teaching skills" as events they would be most likely to attend in the future. Respondents also noted that they would like to see seminars on grant writing, negotiation skills, and networking in a male dominated environment.

"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!" – Seminar participant

Outreach

In year six, *AdvanceVT* team members made several presentations on campus and traveled across the country and internationally making presentations on program activities and assessment findings at a wide variety of conferences and meetings.

Consultations and Advisory Panels for Other Advance Institutions:

o   PI McNamee participated in an external advisory board meeting for the Advance program at Northeastern University, Boston, MA, April 24, 2009.
o   Co-PI Hyer participated in an external advisory board meeting for the Advance program at the University of Alabama, Birmingham, February 23-24, 2009.
o   Leadership Team members Van Aken and Terpenny spoke on panels at Auburn University's Advance conference on "small wins" in May, 2009.
o   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.

Presentations at Virginia Tech:

- Creamer, E. (January 12, 2009). *AdvanceVT* Faculty Work-Life Survey Findings Annual Conference, Advancing Diversity at Virginia Tech. Blacksburg, VA.
- Finney, J. W., & Puri, I. (August 2008). *Departmental climate: The key to a productive department.* New Department Heads and Academic Leaders Workshop.
- Finney, J. W., Merola, J., Taylor, D., & Van Aken, E. (October 2008). *Departmental climate management.* Virginia Tech Department Heads' Council.
- Finney, J. W., Piercy, F., Davy, B., Folkart, J., & Perez-Quinonez, M. (January 2009). *Faculty mentoring: Perspectives from mentors and mentees.* Annual Conference, Advancing Diversity at Virginia Tech. Blacksburg, VA
- 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)
- 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.
- Layne, P. (May 5, 2009). *AdvanceVT Faculty Work-Life Survey Findings.* Commission on Equal Opportunity and Diversity. Blacksburg, VA.
- McNamee, M. (January 12, 2009). *Status report on AdvanceVT.* Annual Conference, Advancing Diversity at Virginia Tech. 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.

Products

Conference presentations

o   Creamer, E., Harrell, L., Layne, P. (June 18, 2009). *The Benefits of Routine Performance Feedback.* Women in Engineering ProActive Network Annual Conference. Austin TX.
o   Creamer, E. G. (March 28, 2009). *Improving Departmental Climate.* Keynote Presentation sponsored by the Dean of Engineering. University of Maine.
o   Creamer, E. G. (September 18, 2008). *What Do We Know About the Culture in Engineering Departments.* First Webinar presentation by Women in Engineering ProActive Network. Broadcast to a national audience.
o   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)
o   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.
o   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.
o   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)
o   Hyer, P. (June 4, 2009). *Dual Career Issues at Virginia Tech.* Annual Conference, Higher Education Dual Career Network. Blacksburg, VA. (Keynote address)
o   Johnson, A., Layne, P., Terpenny, J. (June 16, 2009). *Empowering Women Leaders: ADVANCE Leadership Programs at a Doctoral STEM-Dominant University*. American Society for Engineering Education Annual Conference. Austin TX.
o   Layne, P. (November 6, 2008). *Overcoming Implicit Bias in the Workplace.* Society of Women Engineers Annual Conference. Baltimore MD.
o   Layne, P. & Vega, L. (June 10, 2009). *Advance Portal Website*. National Science Foundation Human Resource Development Joint Annual Meeting. Washington DC.

Internet products

The *AdvanceVT* website, www.advance.vt.edu, includes information about the Virginia Tech Advance leadership team, 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 faculty surveys, and other institutional data on women in science and engineering are also posted on the *AdvanceVT* website.

Virginia Tech received supplemental funding in the summer of 2008 to upgrade the Advance portal website, www.advance-portal.net. 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 are being added as time permits. New features on the web site include a tag cloud, new feature articles, web master tools, link submittal form, and a user survey.

Other products

AdvanceVT developed and distributed four newsletters highlighting activities during the summer 2008 through spring semester 2009, accomplishments of women faculty at Virginia Tech, and statistics on women in science and engineering at Virginia Tech and nationwide. The newsletters are distributed in hard copy to university deans, center directors, and department heads as well as at *AdvanceVT* events, are sent out by email to work group and committee members and posted on the *AdvanceVT* website at http://www.advance.vt.edu/News_and_Events/Past_Newsletters.htm .

Contributions

Human Resource Development

- o *AdvanceVT* reached 148 graduate students and post-doctoral researchers in the past year with seminars on preparation for faculty careers
- o 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.
- o Two former co-PIs on the grant are now department heads at other institutions.
- o One co-PI on the grant has become a department head at Virginia Tech.

Resources for Research and Education

- o *AdvanceVT*'s Department Climate Compendium (http://www.advance.vt.edu/Climate_Compendium/Introduction.html) contains descriptions of promising practices and successful strategies for promoting effective, efficient, and pleasant work environments in academe.
- o *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).
- o 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

- o 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.
- o Efforts to recruit more women faculty in STEM fields have been expanded to increase faculty diversity across all colleges.
- o *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

Year Six Financial Report

Quantitative Indicators of Activity and Progress

AdvanceVT **Year Six Financial Report and Year Seven Proposed Budget**

Budget Explanation for Current Year (Year Six)

Table 1 summarizes the budgeted and actual costs for the sixth year of the grant. Specific cost elements are explained below.

A. Senior Personnel

Mark McNamee continued to serve as Principal Investigator for year six of the grant and provides overall oversight of the program. Dr. McNamee will continue in this role during year seven. Five percent of Dr. McNamee's salary is provided by the university as cost sharing.

Patricia Hyer, Co-Principal Investigator, serves as a member of the leadership team and continues to lead the policy review and implementation effort. Twenty-five percent of Dr. Hyer's salary is provided as a cost share to *AdvanceVT* from the provost's office for each year of the program.

Tonya Smith-Jackson, associate professor of industrial and systems engineering, continued as a co-PI in year six. Dr. Smith-Jackson was on research leave and received no funding from the grant this year.

Beate Schmittmann, professor and department head in physics, continued as a co-PI and served on the leadership team in year six. Dr. Schmittmann received travel support funded by the grant.

Roseanne Foti, associate professor of psychology, continued to serve as a member of the leadership team in year six. Dr. Foti received travel support funded by the grant.

Eileen Van Aken, associate professor of industrial and systems engineering, continued in the position of college liaison for the college of engineering and a member of the leadership team in year six. Dr. Van Aken received a course buy-out in spring 2009 funded by the grant.

Nancy Ross, associate dean in the college of science, continued in the position of liaison for the college of science and member of the leadership team. Dr. Ross received an administrative supplement to her salary funded by the grant.

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. Dr. Finney received no compensation funded by the grant.

Janis Terpenny, associate professor of engineering education, served as a member of the leadership team. Dr. Terpenny received no compensation funded by the grant.

Elizabeth Creamer directs the assessment effort of Virginia Tech's Advance program. In the sixth year of the grant, Dr. Creamer received two course buy-outs paid for by the grant.

Peggy Layne, program director, provides full time day-to-day management of *AdvanceVT* program activities. During the sixth year of the grant, one month of her salary was paid for by the grant for coordination and oversight of the ADVANCE Portal Website. The remainder of her salary was provided by the university as part of its cost sharing commitment.

Total expenditures for senior personnel direct charged to the grant in year six are expected to total $46,130. This amount is 29% below the requested budget due to discontinuance of the Leadership Development Program and partial university support for the college liaisons.

B. Other Personnel

Robyn Midkiff provided part-time administrative support to the *AdvanceVT* program. Her salary is provided as a cost share by the provost's office.

Ane Johnson continued as *AdvanceVT*'s programmatic graduate assistant during the sixth year of the grant, providing support to the program director and the leadership team. Leigh Harrell provided support for survey data analysis and other assessment activities in fall semester 2008. The graduate students received salary, fringes, and tuition paid for by the graduate school.

Laurian Vega led the revisions and upgrade of the Advance Portal website as a graduate assistant funded by the grant.

No graduate student or post-doctoral fellowships were provided in year six.

Total expenditures for other personnel directly charged to the grant in year six are expected to total $19,733, 8% below the budgeted amount.

C. Fringes

During the sixth year of the grant, fringe benefits are calculated at the approved negotiated rates for faculty, staff, special research faculty, graduate assistants, and hourly employees. In year six, an estimated $15,387 will be spent on fringes. This amount is about one quarter less than the budget, a result of reduced spending on salaries.

D. Equipment

A computer was purchased to support upgrade of the ADVANCE Portal Website in year six, at a cost less than half the amount budgeted for this purpose.

E. Travel

In 2008-09, members of the *AdvanceVT* leadership team traveled to participate in the NSF Human Resource Development Joint Annual Meeting in June. Several 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 sixth year of the grant. Total travel expenditures for year six are anticipated to be $18,129, 19% below budget due to fewer visiting scholars funded than anticipated.

F. Participant Support

AdvanceVT hosted its sixth workshop for the Virginia Tech community in January 2009. This annual 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 (formerly Office of Multicultural Affairs), resulting in record attendance of 300 people. The total amount of participant support costs in year six is expected to be $7,621, 41% below budget due to cost sharing with the Office for Equity and Inclusion.

G. Other Direct Costs

G.1 Materials and supplies

AdvanceVT incurred expenses for the purchase of software and general office supplies. Grant funds were also expended for costs related to seminars with visiting speakers. Total expenses for materials and supplies in year six are expected to be $45,525, within 4% of budget.

G.2 Publication costs

In the sixth year of the grant, *AdvanceVT* continued to produce a variety of printed materials to enhance the visibility of the program on campus. Three 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 six was $4,183, 5% over the budgeted amount.

G.3 Consultants

AdvanceVT brought Daryl Chubin and Ruta Sevo to campus as keynote speakers for the annual Advancing Diversity workshop, and honoraria were provided to members of the portal website advisory board. External evaluators were not brought to campus this year, so expenditures in this category were $12,648, 21% 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 $10,394 were incurred in this category for year six of the grant, including tuition waivers for the portal website graduate assistant and charges for telephone and data lines. This amount is about 20% below the budget.

H. Total direct

Total direct costs charged to the grant in year six are estimated to be $179,832, vs. a budget of $225,601. Most of the difference is attributable to spending less than planned on faculty salaries.

I. Total indirect

Total indirect costs incurred in year six of the grant are expected to be $79,204. Indirect costs are incurred on all direct costs with the exception of tuition and equipment.

J. Total direct + indirect

Total direct and indirect costs direct charged to the grant in year six are projected to be $259,036 vs. a budget of $325,701, a variance of 20%.

K. Residual

An estimated $221,000 in residual funds are expected at the end of year six. *AdvanceVT* has requested and received a no-cost extension through August 2010 to complete portal website upgrades and programmatic assessment activities and reporting. See the following section for the proposed year seven budget and explanation.

M. Cost sharing

Cost sharing provided by the provost's office, the graduate school, and returned overhead in year six included PI, co-PI, project director, and administrative assistant salaries, and two graduate assistantships.

Table 1
AdvanceVT **Year Six Budget Analysis**
(Includes Advance Portal Website)

	Year 6 Budget Request	Year 6 Expenses (Estimated)	Variance from Approved	% Variance
A. Senior Personnel	64,581	46,130	18,451	29%
B. Other personnel				
B.1. Post-doctoral associates		(833)		
B.2. Other professionals	0	0	0	
B.3. Graduate students	21,564	19,733	1,831	8%
B.4. Secretarial/ Clerical	0	0	0	
B.5. Undergraduate Students	250	0	250	100%
B.6. Other	0	0	0	
Total salaries + wages	86,395	65,030	21,365	25%
C. Fringe benefits	21,472	15,387	6,085	28%
Total salaries, wages + fringe	107,867	80,471	27,450	25%
D. Permanent equipment	2,000	913	1,087	54%
E. Travel (domestic)	22,500	18,129	4,371	19%
F. Participant support	13,000	7,621	5,379	41%
G. Other direct costs				
G.1 Materials & supplies	47,300	45,527	1,773	4%
G.2 Publications	4,000	4,183	(183)	-5%
G.3 Consultants	16,000	12,648	3,352	21%
G.4 Computer services				
G.5 Subcontracts				
G.6 Other	12,934	10,394	2,540	20%
Total other direct costs	80,234	66,752	7,482	9%
H. Total direct costs	225,601	179,832	45,769	20%
I. Total indirect costs (46.2% excluding tuition & equip.)	100,100	79,204	20,896	21%
J. Total direct + indirect	325,701	259,036	66,665	20%
K. Residual funds				
L. Amount this request				
M. Cost sharing				

AdvanceVT Year Seven Proposed Budget

Budget Explanation for Proposed Year Seven Budget

Survey and interview data collected by *AdvanceVT* confirm long-held concerns about the effectiveness of formal mentoring programs at Virginia Tech. The urgency of addressing this issue is all the greater because of the large number of new hires appointed during 2005-2007. While supporting the success of pre-tenure faculty is a high priority, there are also compelling needs and interests among those who are already tenured, as they seek to direct their careers in the most productive way. These issues will be the focus of activities for Year 7 of the project. A consultant has been identified and committed to conduct several workshops in September concerning research on mentoring, best practices for mentoring programs, and strategies for empowering mentees to develop networks of mentors to assist them. This will be followed by a variety of other activities designed to support departmental mentoring initiatives for both pre-tenure and tenured faculty members. In addition, the project team intends to spend significant time in finalizing documentation of project outcomes for both internal and external audiences, and to continue dissemination of findings in appropriate publications and at relevant conferences.

Table 2 summarizes proposed budgeted costs for the seventh year of the grant in accordance with the requested no-cost extension. The total amount budgeted for year seven is $220,706. Specific cost elements are explained below.

A. Senior Personnel

Provost Mark McNamee will continue to provide overall leadership to Virginia Tech's Advance project as Principal Investigator. Five percent of Dr. McNamee's salary is provided as a cost share to *AdvanceVT* from the provost's office.

Patricia Hyer will continue to serve as a Co-Principal Investigator and to lead the work element on institutional change, focusing on policy review and implementation. Twenty-five percent of Dr. Hyer's salary is provided as a cost share to *AdvanceVT* from the provost's office.

Peggy Layne, program director, provides day-to-day management of *AdvanceVT* program activities. In the seventh year of the grant, Ms. Layne will be paid directly by the grant for her work in support of the Advance portal website, with the remainder of her salary cost shared through overhead return and the office of the provost.

Nancy Ross will continue her role as liaison for the college of science, and will receive an administrative supplement from the grant. Eileen Van Aken will continue in her role as college liaison for the college of engineering, and will receive a course buy out. Other members of the leadership team will continue to support the project with compensation from the grant in the form of travel support.

Proposed total expenditures for senior personnel direct charged to the grant in year seven are $28,396.

B. Other Personnel

Robyn Midkiff provides part-time administrative support to the *AdvanceVT* program. Her salary is cost shared by the provost's office.

Molly Hall, a doctoral student in educational research, will provide support to the program director during year seven of the grant. Her assistantship, summer salary, and tuition will be paid for by the graduate school.

Laurian Vega, doctoral candidate in computer science, will continue to provide support for the Advance Portal web site. Her assistantship, summer salary, and tuition will be paid for by the grant.

Total budgeted expenditures for other personnel direct charged to the grant in year seven are $22,211.

C. Fringes

During the seventh year of the grant, fringe benefits will be charged at the university's negotiated and approved rates. In year seven, $9,692 is budgeted for fringes.

D. Equipment

No permanent equipment will be purchased with grant funds.

E. Travel

In year seven, members of the *AdvanceVT* leadership team will travel to participate in the Advance annual principal investigators' meeting. Members of the *AdvanceVT* team will also travel to other universities and conferences to benchmark best practices, share lessons learned, and develop relationships with potential future faculty candidates. *AdvanceVT* also anticipates bringing a variety of speakers to Virginia Tech throughout the year for seminars and workshops, including external consultants, senior scholars, doctoral students and post-doctoral scholars for pre-recruitment visits. Total travel expenditures for year seven are budgeted at $20,000.

F. Participant Support

In year seven of the grant, *AdvanceVT* will co-host the seventh annual university-wide conference on advancing diversity at Virginia Tech, with a high level outside speaker. Total budgeted participant support costs for year seven are $12,000.

G. Other Direct Costs

G.1 Materials and supplies

In year seven of the grant, *AdvanceVT* will again incur expenses for general office supplies and costs related to meetings of committees, leadership team, and seminars with visiting speakers. Total budgeted expenses for year seven are $25,500.

G.2 Publication costs

In the seventh year of the grant, *AdvanceVT* will produce additional newsletters and informational materials to publicize program activities and findings, including educational materials for search committees. The budgeted amount is $5,000.

G.3 Consultants

In year seven of the grant, *AdvanceVT* will engage the services of a consultant to lead a series of mentoring workshops and provide honoraria for the portal website advisory committee members. The total budgeted amount is $9,500.

G.4 Computer services

No computer services costs are anticipated for the Advance program.

G.5 Subcontracts

No subcontracts are anticipated as part of the Advance program.

G.6 Other

In this category are funds for dedicated telephone and data lines for the *AdvanceVT* office and graduate student tuition. Also included here is $20,000 for mini-grants to support faculty mentoring. The total budgeted amount is $31,738.

H. Total direct

Total direct costs charged to the grant in year seven are budgeted at $154,039.

I. Total indirect

Total indirect costs incurred in year seven of the grant are budgeted at $66,667. Indirect costs are incurred on all direct costs with the exception of tuition.

J. Total direct + indirect

Total direct and indirect costs direct charged to the grant in year seven are budgeted at $220,706.

K. Residual

AdvanceVT anticipates spending all of the requested funds on the activities described.

L. Amount of request for year seven

AdvanceVT requests approval to spend $220,706 of previously approved funds for year seven of the grant.

M. Cost sharing

Cost sharing will continue to be provided by the provost's office, the graduate school, and returned overhead in year six, and will include PI, Co-PI, program director, and administrative assistant salaries, and one graduate assistantship, exceeding the required amount of 20%.

Table 2
AdvanceVT **Year Seven Proposed Budget**

	Proposed Year 7 Budget
A. Senior Personnel	$28,398
B. Other personnel	
B.1. Post-doctoral associates	0
B.2. Other professionals	0
B.3. Graduate students	22,211
B.4. Secretarial/ Clerical	0
B.5. Undergraduate Students	0
B.6. Other	0
Total salaries + wages	50,609
C. Fringe benefits	9,692
Total salaries, wages + fringe	60,301
D. Permanent equipment	0
E. Travel (domestic)	20,000
F. Participant support	12,000
G. Other direct costs	
G.1 Materials & supplies	15,500
G.2 Publications	5,000
G.3 Consultants	9,500
G.4 Computer services	0
G.5 Subcontracts	0
G.6 Other	31,738
Total other direct costs	61,738
H. Total direct costs	154,039
I. Total indirect costs (46.2% excluding tuition & equip.)	66,667
J. Total direct + indirect	220,706
K. Residual funds	
L. Amount this request	
M. Cost sharing	

Current and Pending Support
(See GPG Section II.D.8 for guidance on information to include on this form.)

The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.	
PAGE 1 of 1 Investigator: **Mark McNamee**	Other agencies (including NSF) to which this proposal has been/will be submitted.

Support: ☒ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title: Advance Institutional Transformation Award

PI: Mark McNamee   Co-PIs: Patricia Hyer, Beate Schmittmann, Tonya Smith-Jackson
Source of Support: National Science Foundation

Total Award Amount: $ 3,757,778   Total Award Period Covered: 9/1/03 – 8/31/10

Location of Project: Virginia Tech

Person-Months Per Year Committed to the   Cal: .2   Acad: Sumr:

Support: ☒ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title: PFI: Polymeric Membranes for Energy and the Environment

PI: James McGrath   Co-PI: Mark McNamee
Source of Support: National Science Foundation

Total Award Amount: $ 600,000   Total Award Period Covered: 7/15/09 – 6/30/11

Location of Project: Virginia Tech

Person-Months Per Year Committed to the Project.   Cal: .33   Acad: Sumr:

Support: ☐ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title:

PIs:
Source of Support:

Total Award Amount: $ Total Award Period Covered:

Location of Project: Virginia Tech

Person-Months Per Year Committed to the Project.   Cal: .   Acad: Sumr:

Support: ☐ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title:

Co-PIs:
Source of Support:

Total Award Amount: $ Total Award Period Covered:

Location of Project: Virginia Tech

Person-Months Per Year Committed to the Project.   Cal: Acad: Sumr:

Support: ☐ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title:

Co-PIs:
Source of Support:

Total Award Amount: $ Total Award Period Covered:

Location of Project: Virginia Tech

Person-Months Per Year Committed to the Project.   Cal: Acad: Sumr:

Current and Pending Support
(See GPG Section II.D.8 for guidance on information to include on this form.)

The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.	
PAGE 1 of 1 Investigator: **Patricia Hyer**	Other agencies (including NSF) to which this proposal has been/will be submitted.

Support: ☒ Current   ☐ Pending   ☐ Submission Planned in Near Future   ☐ *Transfer of Support

Project/Proposal Title: ADVANCE Institutional Transformation Award

PI: Mark McNamee Co-PIs: Patricia Hyer, Beate Schmittmann, Tonya Smith-Jackson

Source of Support: National Science Foundation

Total Award Amount: $ 3,757,778   Total Award Period Covered: 9/01/03 – 8/31/10

Location of Project: Virginia Tech

Person-Months Per Year Committed to the Project.   Cal: .5   Acad: Sumr:

Support: ☐ Current   ☐ Pending   ☐ Submission Planned in Near Future   ☐ *Transfer of Support

Project/Proposal Title:

Co-PIs:

Source of Support:

Total Award Amount: Total Award Period Covered:

Location of Project:

Person-Months Per Year Committed to the Project.   Cal: Acad: Sumr:

Support: ☐ Current   ☐ Pending   ☐ Submission Planned in Near Future   ☐ *Transfer of Support

Project/Proposal Title:

Co-PIs:

Source of Support:

Total Award Amount: $ Total Award Period Covered:

Location of Project: Virginia Tech

Person-Months Per Year Committed to the Project.   Cal: Acad: Sumr:

Support: ☐ Current   ☐ Pending   ☐ Submission Planned in Near Future   ☐ *Transfer of Support

Project/Proposal Title:

Co-PIs:

Source of Support:

Total Award Amount: $ Total Award Period Covered:

Location of Project: Virginia Tech

Person-Months Per Year Committed to the Project.   Cal: Acad: Sumr:

Support: ☐ Current   ☐ Pending   ☐ Submission Planned in Near Future   ☐ *Transfer of Support

Project/Proposal Title:

Co-PIs:

Source of Support:

Total Award Amount: $ Total Award Period Covered:

Location of Project: Virginia Tech

Person-Months Per Year Committed to the Project.   Cal: Acad: Sumr:

*If this project has previously been funded by another agency, please list and furnish information for immediately pre-ceding funding period.

NSF Form 1239 (10/99)   USE ADDITIONAL SHEETS AS NECESSARY

Current and Pending Support
(See GPG Section II.D.8 for guidance on information to include on this form.)

The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.

Investigator: **B. Schmittmann**

Other agencies (including NSF) to which this proposal has been/will be submitted.
NSF

Support:	☒ Current	☐ Pending	☐ Submission Planned in Near Future	☐ *Transfer of Support

Project/Proposal Title:

Statistical Mechanics of Systems far from Equilibrium

Co-PIs: R. K. P. Zia
Source of Support: NSF

Total Award Amount: $ 585,000   Total Award Period Covered: 6/15/07 – 6/14/10

Location of Project: Virginia Tech

Person-Months Per Year Committed to the Project.   Cal: 0   Acad: 2.25   Sumr: 2.00

Support:	☐ Current	☐ Pending	☐ Submission Planned in Near Future	☐ *Transfer of Support

Project/Proposal Title:

Co-PIs:
Source of Support:

Total Award Amount: Total Award Period Covered:

Location of Project:

Person-Months Per Year Committed to the Project.   Cal: Acad: Sumr:

Support:	☒ Current	☐ Pending	☐ Submission Planned in Near Future	☐ *Transfer of Support

Project/Proposal Title:

Advance Institutional Transformation Award

Co-PIs: Mark McNamee, Patricia Hyer, Tonya Smith-Jackson
Source of Support: NSF

Total Award Amount: $ 3,757,788   Total Award Period Covered: 9/1/03 – 8/31/10

Location of Project: Virginia Tech

Person-Months Per Year Committed to the Project.   Cal: .25   Acad: Sumr:

Support:	☐ Current	☐ Pending	☐ Submission Planned in Near Future	☐ *Transfer of Support

Project/Proposal Title:

Co-PIs:
Source of Support:

Total Award Amount: Total Award Period Covered:

Location of Project:

Person-Months Per Year Committed to the Project.   Cal: Acad: Sumr:

Support:	☐ Current	☐ Pending	☐ Submission Planned in Near Future	☐ *Transfer of Support

Project/Proposal Title:

Co-PIs:
Source of Support:

Total Award Amount: $ Total Award Period Covered:

Location of Project: Virginia Tech

Person-Months Per Year Committed to the Project.   Cal: Acad: Sumr:

*If this project has previously been funded by another agency, please list and furnish information for immediately pre-ceding funding period.

NSF Form 1239 (10/99)   USE ADDITIONAL SHEETS AS NECESSARY

Current and Pending Support
See GPG Section II.D.8 for guidance on information to include on this form.

The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.	
Investigator: **Tonya Smith-Jackson, Ph.D.** Associate Professor, ISE	Other agencies (including NSF) to which this proposal has been/will be submitted:

Support: **XCurrent** Pending Submission planned in near future ☐ Transfer of support			
Project/Proposal Title: **NaFEAS: Near & Far Environment Awareness System**			
Source of Support: National Science Foundation			
Total Award Amount: **$96,000** Total Award Period Covered: 08/30/08 – 08/29/09			
Location of Project: Virginia Tech, Center for Wireless Technologies			
Person-months committed to project: Cal: 0.00 Acad: 1 Sumr: .5			

Support: **XCurrent** Pending ☐ Submission planned in near future ☐ Transfer of support			
Project/Proposal Title: **I FEEL SCIENCE: Haptic-Thermal Interfaces for users with severe visual impairments**			
Source of Support: National Science Foundation			
Total Award Amount: **$238,000** Total Award Period Covered: 11/30/07 – 11/29/09			
Location of Project: Virginia Tech, Center for Wireless Technologies			
Person-months committed to project: Cal: 0.00 Acad: 1 Sumr: .5			

Support: **XCurrent** Pending ☐ Submission planned in near future ☐ Transfer of support			
Project/Proposal Title: **Research Experiences for Undergraduates: Cognitive Communications**			
Source of Support: NSF			
Total Award Amount: **$350,562** Total Award Period Covered: 4/30/09 – 04/29/12			
Location of Project: Virginia Tech, Wireless@VT			
Person-months committed to project: Cal: 0.00 Acad: .5 Sumr: 1.5			

Support: **XCurrent** Pending ☐ Submission planned in near future ☐ Transfer of support			
Project/Proposal Title: **Collaborative Research: Implementation of Vertically-Integrated Curriculum for Cognitive Radio Communications**			
Source of Support: National Science Foundation			
Total Award Amount: **$175,000** Total Award Period Covered: 8/1/09 – 7/31/11			
Location of Project: NSF			
Person-months committed to project: Cal: 0.00 Acad: .5 Sumr: .5			

Support: **XCurrent** Pending ☐ Submission planned in near future ☐ Transfer of support			
Project/Proposal Title: **Accessibility of a SmartPhone for Users with visual and physical disabilities**			
Source of Support: Toshiba Corporation			
Total Award Amount: **$35,032** Total Award Period Covered: 2/1/09 –8/31/09			
Location of Project: Virginia Tech, Center for Wireless Technologies			
Person-months committed to project: Cal: 0.00 Acad: 1 Sumr: 0			

Support: **XCurrent** Pending ☐ Submission planned in near future ☐ Transfer of support			
Project/Proposal Title: **Occupational Safety and Health Training Grant**			
Source of Support: NIOSH			
Total Award Amount: **$60,000** Total Award Period Covered: 7/1/09 – 6/30/10			
Location of Project: VT, Industrial and Systems Engineering			
Person-months committed to project: Cal: 0.00 Acad: 0 Sumr: 0			

Support: **X Current** Pending ☐ Submission planned in near future ☐ Transfer of support			
Project/Proposal Title: **Interfaces for the Embodied Mind**			
Source of Support: National Science Foundation			
Total Award Amount: $200,000 Total Award Period Covered: 1/1/06 – 12/31/09			
Location of Project: Virginia Tech			
Person-months committed to project: Cal: 0.00 Acad: 0.40 Sumr: 0.50			

Support: **XCurrent** Pending ☐ Submission planned in near future ☐ Transfer of support			
Project/Proposal Title: **Sensemaking in command and control**			
Source of Support: Army Research Office			
Total Award Amount: $24,987 Total Award Period Covered: 1/1/09 – 7/31/09			
Location of Project: Virginia Tech			
Person-months committed to project: Cal: 0.00 Acad: 1 Sumr: 1			

Support: Current **XPending** ☐ Submission planned in near future ☐ Transfer of support			
Project/Proposal Title: **Fall protection considering usability and worker attitudes**			
Source of Support: NIOSH			
Total Award Amount: 558,129 Total Award Period Covered: 1/1/06 – 12/31/09			

Current and Pending Support
See GPG Section II.D.8 for guidance on information to include on this form.

The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.	
Investigator: **Tonya Smith-Jackson, Ph.D.** Associate Professor, ISE	Other agencies (including NSF) to which this proposal has been/will be submitted:
Location of Project: Virginia Tech Person-months committed to project: Cal: 0.00 Acad: 1 Sumr: 1	
Support: X Current **X Pending** ☐ Submission planned in near future ☐ Transfer of support Project/Proposal Title: **Center for Innovation in Construction Safety and Health** Source of Support: NIOSH Total Award Amount: 24,997,155 Total Award Period Covered: 8/15/09-8/14/16 Location of Project: VT Institute for Critical Technologies and Applied Sciences Person-months committed to project: Cal: 0.00 Acad: 3.00 Sumr: 2.00	
*If this project has previously been funded by another agency, please list and furnish information for immediately preceding funding period.	

AdvanceVT Year Six 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 is currently completing the sixth year of its Advance program. Where possible, indicators are reported with data from prior years for comparative purposes. The format for this annual reporting reflects the 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.

Indicators presented below include numbers and percentages of women scientists and engineers in various 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

Table 1 shows the number and percent of women faculty in the Virginia Tech 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. In fall 2008, there were 316 tenured and tenure-track faculty in the College of Engineering, of which 41 (13%) were women. This is a significant increase from the fall of 2003 when there were 26 (9.4%) women. Nationwide, 12.3% of tenured and tenure track engineering faculty were women in 2008, 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 on the tenure track (biomedical engineering).

The College of Science had 200 tenured and tenure-track faculty in fall 2008, including 35 women (18%). While the overall number of women faculty in the college has increased since 2003, the percentage has remained the same.

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. The number of women at the rank of professor in the College of Engineering decreased from fall 2007 to fall 2008 due to the departure of two senior women professors, but the college gained its first female department head in the department of computer science. The number of women at the rank of professor in the College of Science remained the same.

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, who 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.

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. (Source: IR website, www.irpa.vt.edu, file name: HC_trend_fa99-08_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 six years following its inception. All female candidates from both colleges have successfully met the criteria for promotion and/or tenure over the past seven 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 2007, including attrition and time to promotion. During those 11 years, a total of 79 assistant professors were hired in the College of Science (55 men and 24 women) and 130 assistant professors were hired in the College of Engineering (97 men and 33 women). Of those hired, 36 have subsequently left Virginia Tech (15 scientists, four female and eleven male, and 21 engineers, six female and 15 male). Seventeen percent of the female scientists hired during this period have been promoted to the rank of associate, compared with 45% of the male scientists.   This is, at least in part, due to the fact that more male faculty are hired with prior experience and more women faculty stop the tenure clock.

Average time to promotion for assistant professors hired between 1996 and 2007 in the College of Engineering was 5.60 years for women and 5.46 years for men. In the College of Science, average time to promotion for women in this group was 6.25 years and for men 4.68 years.

Years in Rank by Gender, Promotion to Professor

Table 4a summarizes time in rank by examining scientists and engineers hired during 1996-2007 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 130 assistant professors hired (33 women, 97 men) between 1996 and 2007 in the College of Engineering, six male and one female engineer have been promoted to professor. The College of Science hired 79 assistant professors during this same time period (24 women, 55 men). Nine male scientists (16%) 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 1996-2007 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 1 female (13%) 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, five males (33%) and two females (33%) 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 (35 women and 148 men), women spent an average of 9.34 years at the rank of associate professor while men spent an average of 8.43 years at the associate

professor rank. Even greater variations in time in rank occur across colleges, from 6.37 years in the College of Science to 12.56 years in the College of Architecture and Urban Studies. Since the majority of women faculty members are in the College of Liberal Arts and Human Sciences, where the average time at the associate professor rank was 11.92 years, 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 13.4 years versus women professors who have on average 6.5 years. In science, the average years of service for male professors is 17.5 years versus women who have on average 9.7 years. University wide, male professors have been at Virginia Tech about 15.6 years versus females who have 10.1 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 six 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 1997-2008. The proportion of women leaving is significantly higher than for men (see also Table 3), a statistic that invites further investigation.

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 the 2003-04, 2004-05, 2005-06, 2006-07, 2007-08, and 2008-09 academic years 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. Eleven (41%) of the 27 associate deans in the academic colleges are women, plus one of two associate deans in the Graduate School (50%). Only 10 of the 61 (16%) academic department heads are women; four of the ten women heads are in the College of Liberal Arts and Human Sciences. In fall of 2008, Virginia Tech gained its first female department head in the College of Engineering when Dr. Barbara Ryder became head of the Computer Science Department. The College of Business also gained a female department head in the Department of Management. 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; 2 of 14 (14%) executive administrators are women. Three women (21%) 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 14 (7%) UDPs is female; 3 of 10 (30%) 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 9 women at the professor rank in science and six in engineering, and many of these have only recently been promoted to professor.

Of the 123 eminent scholars at the university, only seven (6%) are women, nevertheless an increase over the past six years when the number varied between 2% and 4%. Two of these women are in the College of Liberal Arts and Human Sciences, two 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 2008-09, 2 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 2008-09 academic year, 4 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 2008-09 academic year. Five 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 2008-09, only two of whom were women. During the 2008-09 academic year the College of Science had an eight-member P&T committee with four 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 six years.

Recruitment

Table 9 summarizes the number and percent of new hires in the College of Engineering and the College of Science from fall 1997 to fall 2008. Recruitment of female scientists and engineers has improved somewhat following the inception of the Advance grant in 2003, although both the number and percent of women hired has remained consistent over the past two academic years. Thirty-eight percent (38%) of assistant professors and 33% of the professors hired during the 2007-08 academic year in the College of Engineering were women. Twenty-eight percent (28%) of the assistant professors and fifty percent (50%) of hires at the associate professor rank in the College of Science were female in this most recent year. Five men and no women were hired at the rank of associate professor in the College of Engineering and one man and no women were hired at the rank of professor in the College of Science.

For faculty searches in the 2007-08 academic year in the College of Science, nine job openings were posted, 25% of the applicants were women, 34% of the candidates interviewed on campus were women, and 50% of the ten faculty members hired were women. In the College of Engineering, for 18 job postings 12% of the applicants were women, 15% of the candidates interviewed on campus were women, and 18% of the 22 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 the 2007-08 academic year. Due to the timing of annual report submittal and the academic hiring calendar, this is the most recent data available for inclusion at this time. Because the number of faculty (especially women faculty) hired in any single department in a given year is small, specific data are not reported here in order to protect individual confidentiality. A more rigorous analysis of possible gender effects controlling for academic discipline (at the department level) may require aggregating data across several years.

During the 2007-08 academic year, the Virginia Tech College of Engineering provided an average start-up package (exclusive of salary) for female assistant professors of $267,882 while the average startup package for male assistant professors was $240,394. The value of start-up packages for assistant professors in the College of Engineering ranged from a low of $110,122 in Industrial and Systems Engineering to a high of $564,407 in Mechanical Engineering. One female was hired at the associate professor level and one at the professor level in the College of Engineering in 2007-08. Their start-up packages averaged $456,064. The average start-up package for male associate professors was $271,327, and values ranged from $221,634 to $331,543. The average start-up package for males hired at the rank of professor was $596,030, and values ranged from $237,337 to $1,086,710.

The College of Science provided an average start-up package for female assistant professors of $113,585 during 2007-08 and the comparable figure for male assistant professors is $84,138 with a range of $0 in biological sciences to $220,000 in physics. One woman was hired at the associate professor level in the College of Science in 2007-08, with a start-up package of $1,758,513.

Salary

A complete salary equity study was conducted during summer 2007 and was included with last year's annual report. Such studies are conducted every two or three years at Virginia Tech. 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 like rank.

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

Tenured and Tenure Track Faculty

	# of Women Fall 2008				# of Men Fall 2008				% Women Within Rank Fall 2008			
	Prof	Assoc	Asst	Total	Prof	Assoc	Asst	Total	Prof	Assoc	Asst	Total
College of Engineering	**6**	**18**	**17**	**41**	**130**	**95**	**50**	**275**	**4%**	**16%**	**25%**	**13%**
Advanced Research Institute*	0	0	0	0	1	0	0	1	-	-	-	0%
Aerospace and Ocean Eng	0	0	1	1	8	3	5	16	-	-	17%	6%
Biomedical Engineering	0	0	0	0	1	1	3	5	-	-	-	0%
Chemical Engineering	0	1	1	2	9	1	1	11	-	50%	50%	15%
Civil & Env. Engineering	2	4	1	7	21	12	2	35	9%	25%	33%	17%
Computer Science	1	2	1	4	10	15	8	33	9%	12%	11%	11%
Elec & Comput Engineering	1	2	3	6	32	23	11	66	3%	8%	21%	8%
Engineering Education*	0	2	3	5	1	5	1	7	-	29%	75%	42%
Eng. Science & Mechanics	0	0	1	1	14	6	2	22	-	-	33%	4%
Industrial & Systems Eng.	0	4	1	5	8	5	7	20	-	44%	13%	20%
Materials Sci & Engineering	2	0	2	4	5	5	1	11	29%	-	67%	27%
Mechanical Engineering	0	3	2	5	16	17	8	41	-	15%	20%	11%
Mining & Minerals Eng.	0	0	1	1	4	2	1	7	-	-	50%	13%

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

	Prof	Assoc	Asst	Total	Prof	Assoc	Asst	Total	Prof	Assoc	Asst	Total
College of Science	**9**	**10**	**16**	**35**	**97**	**40**	**28**	**165**	**8%**	**20%**	**36%**	**18%**
Biological Sciences	3	1	6	10	15	6	6	27	17%	14%	50%	27%
Chemistry	2	2	0	4	13	6	5	24	13%	25%	-	14%
Economics	0	1	1	2	7	1	3	11	-	50%	25%	15%
Geosciences	1	1	1	3	10	4	1	15	9%	20%	50%	17%
Mathematics	2	0	1	3	29	7	4	40	6%	-	20%	7%
Physics	1	1	2	4	10	8	5	23	9%	11%	29%	15%
Psychology	0	4	2	6	7	6	1	14	-	40%	67%	30%
Statistics	0	0	3	3	6	2	3	11	-	-	50%	21%

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

Other Faculty

	# of Women Fall 2008				# of Men Fall 2008				% Women Within Rank Fall 2008			
	A/P	Inst	Res	Total	A/P	Inst	Res	Total	A/P	Inst	Res	Total
College of Engineering	**6**	**10**	**10**	**26**	**6**	**11**	**57**	**74**	**50%**	**48%**	**15%**	**26%**
Advanced Research Institute*	0	0	1	1	1	0	2	3	-	-	33%	25%
Aerospace & Ocean Eng	0	0	1	1	0	1	12	13	-	-	8%	7%
Biomedical Engineering	0	0	0	0	0	0	4	4	-	-	-	-
Chemical Engineering	0	0	1	1	0	0	2	2	-	-	33%	33%
Civil & Env. Engineering	1	1	1	3	0	0	12	12	100%	100%	8%	20%
Computer Science	0	2	0	2	0	2	2	4	-	50%	-	33%
Dean – Engineering	3	0	0	3	4	0	0	4	43%	-	-	43%
Elec & Comput Engineering	1	2	1	4	0	2	8	10	100%	50%	11%	29%
Engineering Education*	0	2	1	3	0	0	0	0	-	100%	-	100%
Eng. Sci. & Mechanics	0	1	2	3	0	2	3	5	-	33%	40%	38%
Industrial & Systems Eng.	0	1	0	1	0	1	0	1	-	50%	-	50%
Materials Sci & Engineering	0	1	1	2	0	0	5	5	-	100%	17%	29%
Mechanical Engineering	1	0	1	2	1	2	6	9	50%	-	14%	18%
Mining & Minerals Eng.	0	0	0	0	0	1	1	2	-	-	-	-

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

	A/P	Inst	Res	Total	A/P	Inst	Res	Total	A/P	Inst	Res	Total
College of Science	**2**	**23**	**25**	**50**	**2**	**22**	**45**	**69**	**50%**	**51%**	**36%**	**42%**
Biology	0	1	7	8	0	3	13	16	-	25%	35%	33%
Chemistry	0	4	9	13	0	3	15	18	-	57%	38%	42%
Dean of Science	2	0	0	2	2	0	0	2	50%	-	-	50%
Economics	0	0	0	0	0	3	0	3	-	-	-	-
Geosciences	0	1	4	5	0	1	7	8	-	50%	36%	38%
Mathematics	0	15	0	15	0	7	0	7	-	68%	-	68%
Physics	0	0	0	0	0	1	8	9	-	-	-	-
Psychology	0	1	4	5	0	2	1	3	-	33%	80%	63%
Statistics	0	1	1	2	0	2	1	3	-	33%	50%	40%

A/P=Admin & 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
College of Engineering	**5%**	**14%**	**29%**	4%	15%	26%	6%	15%	25%	4%	15%	24%	3%	11%	19%
Advanced Research Institute*	-	-	-	-	-	-	-	-	20%	-	-	-	-	-	-
Aerospace and Ocean Eng	10%	-	25%	-	25%	25%	-	33%	25%	-	33%	-	-	25%	-
Biomedical Engineering	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemical Engineering	-	33%	33%	-	33%	-	-	33%	-	-	50%	-	-	40%	-
Civil & Env. Engineering	12%	14%	67%	12%	13%	40%	13%	13%	25%	-	19%	67%	-	11%	67%
Computer Science	-	11%	10%	-	10%	20%	-	15%	22%	-	22%	18%	-	-	-
Elec & Comput Engineering	3%	9%	20%	3%	10%	16%	4%	12%	6%	4%	6%	8%	3%	-	11%
Engineering Education*	-	38%	75%	-	38%	80%	-	33%	80%	-	25%	60%	-	-	50%
Eng. Science & Mechanics	-	-	50%	-	-	-	-	-	-	-	-	-	-	-	-
Industrial & Systems Eng.	-	44%	29%	-	40%	20%	-	33%	50%	-	22%	80%	-	20%	67%
Materials Sci & Engineering	22%	-	33%	25%	-	33%	25%	-	50%	29%	-	50%	25%	-	-
Mechanical Engineering	-	11%	38%	-	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

	Prof	Assoc	Asst	Prof	Assoc	Asst	Prof	Assoc	Asst	Prof	Assoc	Asst	Prof	Assoc	Asst
College of Science	**8%**	**20%**	**39%**	8%	19%	43%	7%	19%	50%	7%	18%	33%	8%	20%	36%
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
College of Engineering	**57%**	**40%**	**16%**	**54%**	**44%**	**14%**	**54%**	**36%**	**14%**	**53%**	**32%**	**15%**	**43%**	**52%**	**18%**
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

	A/P	Inst	Res	A/P	Inst	Res	A/P	Inst	Res	A/P	Inst	Res	A/P	Inst	Res
College of Science	**25%**	**57%**	**29%**	**50%**	**51%**	**26%**	**50%**	**49%**	**21%**	**50%**	**52%**	**23%**	**0%**	**56%**	**25%**
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

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

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

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

Table 3: Tenure and Promotion Outcomes as of September 2008, New Assistant Professor Cohorts 1996-2007

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	6.5	5.2	-	2	-	-	-	-
1997/98	1	5	1	5	6.0	5.0	-	-	-	2	-	-
1998/99	1	8	1	7	6.0	4.6	-	1	-	1	-	-
1999/00	1	3	-	2	-	4.0	1	1	-	1	-	-
2000/01	3	2	-	1	-	4.0	3	1	-	-	-	-
2001/02	-	4	-	3	-	5.0	-	1	-	-	-	-
2002/03	1	2	-	2	-	3.5	-	-	-	-	1	-
2003/04	2	3	-	-	-	-	-	-	-	-	2	3
2004/05	6	3	-	-	-	-	-	1	-	-	6	2
2005/06	3	7	-	-	-	-	-	-	-	-	3	7
2006/07	4	11	-	-	-	-	-	-	-	-	4	11
Total Number of New Hires ('96-'07)	24	55	4	25	--	--	4	7	-	4	16	23
College Total Percentage ('96-'07)	30%	70%	17%	45%	--	--	17%	13%	-	7%	67%	42%
College Average Time to Tenure					6.25	4.68						

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	6.5	4.5	1	2	-	-	1*	0
1997/98	2	11	1	9	6.0	5.8	1	2	-	-	0	0
1998/99	6	9	5	9	5.4	6.0	1	0	1	1	0	0
1999/00	1	8	-	6	-	5.2	1	2	-	-	0	0
2000/01	0	11	-	6	-	5.7	-	5	-	-	0	0
2001/02	1	8	-	6	-	5.7	-	1	-	-	1	1
2002/03	4	9	2	1	5.0	4	1	1	-	-	1*	7
2003/04	4	8	-	1	-	4	-	1	-	-	4	6
2004/05	5	9	-	1	-	3	-	-	-	-	5	8
2005/06	3	10	-	-	-	-	-	-	-	-	3	10
2006/07	3	8	-	-	-	-	-	-	-	-	3	8
Total Number of New Hires ('96-'07)	33	97	10	43	--	--	5	14	1	1	18	40
College Total Percentage (96-'07)	25%	75%	30%	44%	--	--	15%	14%	3%	1%	55%	41%
College Average Time to Tenure					5.60	5.46						

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

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

* 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, 1996/97-2006/07

	College of Engineering				College of Science			
Number Hired as Assistant	**Women N=33**		**Men N=97**		**Women N=24**		**Men N=55**	
Number Promoted to Professor	**Women N=1**		**Men N=6**		**Women N=0**		**Men N=9**	
Years in Rank	**Number**	**% of Women**	**Number**	**% of Men**	**Number**	**% of Women**	**Number**	**% of Men**
0-2	-	-	1	1%	-	-	2	5%
3-5	1	3%	4	4%	-	-	7	14%
6-8	-	-	1	1%	-	-	-	-
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, 1996/97-2006/07

	College of Engineering				College of Science			
Number Hired as Associate	**Women N=8**		**Men N=51**		**Women N=7**		**Men N=15**	
Number Promoted to Professor	**Women N=1**		**Men N=11**		**Women N=2**		**Men N=5**	
Years in Rank	**Number**	**% of Women**	**Number**	**% of Men**	**Number**	**% of Women**	**Number**	**% of Men**
0-2	-	-	-	-	-	-	-	-
3-5	1	13%	7	14%	1	14%	2	13%
6-8	-	-	4	8%	1	14%	2	13%
9-11	-	-	-	-	-	-	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 2008

College of Engineering

| | Gender | | | | |
| | M | | F | | |
Rank	N	Average Years	N	Average Years	Total N
Professor	130	19.3	6	12.3	136
Associate Professor	95	11.1	18	8.0	113
Assistant Professor	50	2.6	17	2.9	67
Total	**275**	**13.4**	**41**	**6.5**	**316**

College of Science

| | Gender | | | | |
| | M | | F | | |
Rank	N	Average Years	N	Average Years	Total N
Professor	97	22.7	9	20.3	106
Associate Professor	40	15.4	10	11.4	50
Assistant Professor	27	2.0	16	2.7	43
Total	**164**	**17.5**	**35**	**9.7**	**199**

University Total

| | Gender | | | | |
| | M | | F | | |
Rank	N	Average Years	N	Average Years	Total N
Professor	490	22.2	85	19.8	575
Associate Professor	336	13.7	130	11.6	466
Assistant Professor	199	2.5	135	2.6	334
Total	**1025**	**15.6**	**350**	**10.1**	**1375**

Source: advance_time_at_vt_063009.html, 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 - 2008

	Assistant		Associate		Professor		Total Attrition	
	Women	Men	Women	Men	Women	Men	Women	Men
1997-1998								
College of Engineering	-	1	-	1	-	2	-	4
College of Science	-	7	-	-	1	1	1	8
1998-1999								
College of Engineering	-	-	-	-	1	2	1	2
College of Science	1	3	1	1	-	-	2	4
1999-2000								
College of Engineering	1	1	-	5	-	2	1	8
College of Science	-	-	-	1	-	3	-	4
2000-2001								
College of Engineering	2	1	-	2	-	2	2	5
College of Science	-	3	-	-	-	1	-	4
2001-2002								
College of Engineering	-	1	-	1	-	1	-	3
College of Science	-	-	1	2	-	1	1	3
2002-2003								
College of Engineering	1	-	1	-	-	3	2	3
College of Science	-	-	-	-	-	-	-	-
2003-2004								
College of Engineering	-	3	-	2	-	5	-	10
College of Science	2	1	-	1	2	-	4	2
2004-2005								
College of Engineering	-	1	-	1	-	2	-	4
College of Science	-	-	1	-	-	-	1	-
2005-2006								
College of Engineering	1	-	1	1	1	-	3	1
College of Science	-	-	-	1	1	-	1	1
2006-2007								
College of Engineering	-	2	-	2	-	2	-	6
College of Science	1	3	2	4	1	1	4	8
2007-2008								
College of Engineering	-	1	1	1	2	3	3	5
College of Science	-	1	-	-	-	-	-	1
Total 1997-2008	9	29	8	26	9	31	26	86

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

Table 7. Faculty Leadership Positions

2003-2004 Academic Year by College	All Faculty	Total Women	% Women	Univ. Admin.	CALS	CAUS	COB	COE	COS	LAHS	NR	VM
										Number of Women		
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	Total Women	% Women	Univ. Admin	CALS	CAUS	COB	COE	COS	LAHS	NR	VM
										Number of Women		
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	Total Women	% Women	Univ. Admin	CALS	CAUS	COB	COE	COS	LAHS	NR	VM
										Number of Women		
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	-	-

Table 7. Faculty Leadership Positions (continued)

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	-	-

* 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					
College Total	6	7%	78	93%	84						9	11%	75	89%	84					

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					
College Total	10	13%	69	87%	79						10	10%	76	90%	86					

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					
College Total	12	14%	72	86%	84						10	12%	74	88%	84					

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 |
	#	%	#	%	#	#	%	#	%	#
Biological Sci	2	25%	6	75%	8	3	33%	6	67%	9
Chemistry	0	-	7	100%	7	0	-	5	100%	5
Economics	0	-	4	100%	4	0	-	4	100%	4
Geosciences	2	33%	4	67%	6	1	17%	5	83%	6
Mathematics	0	-	8	100%	8	1	14%	6	86%	7
Physics	1	13%	7	87%	8	0	-	5	100%	5
Psychology	3	50%	3	50%	6	3	50%	3	50%	6
Statistics	0	-	4	100%	4	0	-	4	100%	4
College Total	**8**	**16%**	43	84%	51	**8**	**17%**	38	83%	46

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

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

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

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

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

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

Source: Data provided by respective colleges

Table 9. Tenure-Track New-Hires
College of Engineering and College of Science, 1997-2008

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

Source: Data from bov_newhires_total_30JUN09.