AdvanceVT **Annual Report**
Year 4: September 2006 – August 2007
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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.

Significant accomplishments during year four include approval of a new part-time employment policy for tenure track faculty by the university governance structure and board of visitors, draft of a manual of successful strategies for developing and maintaining a positive department climate, presentations to the Task Force on Race and the Institution and the Black Caucus of findings from the 2005 faculty survey, and development and release of a request for information to commercial day care providers, in addition to maintaining a portfolio of workshops, seminars, grants, fellowships, and development programs. *AdvanceVT* hosted the Transforming the Professoriate conference for underrepresented graduate students and post-doctoral associates preparing for faculty careers in summer 2006.

Indicators of institutional change:
- The number and percentage of women tenure track faculty in the College of Engineering has increased from 21 (7.3%) in fall 2001 to 39 (14%) in fall 2006. According to the American Society for Engineering Education, Virginia Tech now has the third highest number of female engineering faculty in the U.S.
- A new policy on part-time appointments was developed and approved by the Board of Visitors in June 2007.
- The Dual Career Assistance Office provided assistance to 57 dual career couples through April 30, 2007.
- The first female department head in the College of Science, Dr. Beate Schmittmann in physics, was appointed in August 2006.

Participants

Project Management System and Infrastructure
During year four of the program, *AdvanceVT* operated under a leadership structure developed at the end of year three, with a subset of the Leadership Team also serving on the Executive Committee. Provost and Vice-President for Academic Affairs Mark McNamee continued as Principal Investigator (PI) for the Advance program at Virginia Tech, and Associate Provost Patricia Hyer continued as Co-PI. Professor Karen Thole left Virginia Tech in the summer of 2006 to become head of the Mechanical and Nuclear Engineering Department at Penn State, and Professor Nancy Love stepped down as Co-PI in order to devote more time to her research. Professor Beate Schmittmann and Associate Professor Tonya Smith-Jackson became Co-PIs and members of the Executive Committee. 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 Cynthia Fife also supported the program in year four. Associate Professor Roseanne Foti, Associate Dean Nancy Ross, Associate Professor Janis Terpenny, and Professor Andrea Dietrich served as Advance Professors and members of the leadership team. Dr. Foti led the leadership development program, Dr. Ross and Dr. Dietrich took on the new role of College Liaison, and Dr. Terpenny coordinated selection of fellowship recipients. Associate Dean Jack Finney and Women's Center Director Ellen Plummer also joined the Leadership Team as leaders of *AdvanceVT*'s new initiative on departmental climate and ongoing work on faculty recruitment. Leadership team and executive committee changes were implemented smoothly and resulted in a broadening of the scope of *AdvanceVT* activities and an increased attention to long term sustainability of the program.

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.

Executive Committee
During year four, the Executive Committee met twice each semester to provide programmatic oversight and high level support for the program, with increased attention to institutionalization and sustainability of *AdvanceVT* initiatives. The following individuals served on the Executive Committee:

- Mark McNamee, PI, Provost and Vice President for Academic Affairs
- Dick Benson, Dean, College of Engineering
- Lay Nam Chang, Dean, College of Science
- Karen DePauw, Vice Provost for Graduate Studies and Dean of the Graduate School
- Patricia Hyer, Co-PI, Associate Provost for Academic Administration
- Beate Schmittmann, Co-PI, Professor and Department Head, Physics
- Tonya Smith-Jackson, Co-PI, Associate Professor, Industrial and Systems Engineering
- Peggy Layne, Project Director

Leadership Team
During year four, the leadership team met monthly to review progress and plan activities. Program priorities for the year focused 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:

- Mark McNamee, PI, Provost and Vice President for Academic Affairs

- Elizabeth Creamer, Assessment Director, Professor of Educational Leadership and Policy Studies
- Andrea Dietrich, Professor, Civil and Environmental Engineering
- Jack Finney, Associate Dean for Administrative and Faculty Affairs, College of Science
- Roseanne Foti, Associate Professor of Psychology
- Patricia Hyer, Co-PI, Associate Provost for Academic Administration
- Ellen Plummer, Director, Women's Center
- Nancy Ross, Associate Dean for Research, Graduate Studies, and Outreach, College of Science
- Janis Terpenny, Associate Professor, Engineering Education
- Peggy Layne, Project Director

Work Groups and Committees

During year four, *AdvanceVT* started a new initiative focused on department climate, in addition to continuing efforts directed towards university policies, preparing young women scholars for faculty careers, improving faculty recruitment, and preparing women faculty for leadership roles. These efforts were overseen by committees and work groups of faculty and administrators.

Institutionalizing Change

Policy Review

Chair: Patricia Hyer, Co-PI, Associate Provost for Academic Administration
Co-Chair: Anne Zajac, Associate Professor, Biomedical Science
- Brenda Davy, Assistant Professor, Human Nutrition, Food, Exercise
- Julie Dunsmore, Associate Professor, Psychology
- Sam Easterling, Professor, Civil and Environmental Engineering
- Carola Haas, Associate Professor, Fisheries and Wildlife Science
- Anne McNabb, Associate Dean, Graduate School
- Kent Nakamoto, Professor and Department Head, Marketing
- Deborah Olsen, Associate Professor, Educational Leadership
- Bob Stephens, Professor and Department Head, Psychology
- Tess Wynn, Assistant Professor, Biological Systems Engineering

Department Climate

Chair: Jack Finney, Associate Dean, College of Science
- Carla Finkielstein, Assistant Professor, Biological Sciences
- Joe Merola, Professor and Department Head, Chemistry
- Ishwar Puri, Professor and Department Head, Engineering Science and Mechanics
- Eileen Van Aken, Associate Professor, Industrial and Systems Engineering

Empowering Women as Leaders and Scholars

Research Seed Grants

Chair: Madeline Schreiber, Associate Professor, Geological Sciences
- Roger Avery, Associate Dean, Veterinary Medicine
- Ed Henneke, Associate Dean, College of Engineering
- Lisa Kennedy, Assistant Professor, Geography
- Kathleen Meehan, Assistant Professor, Electrical Engineering
- Nancy Ross, Associate Dean, College of Science

Leadership Development Program

Chair: Roseanne Foti, Advance Professor, Associate Professor, Psychology
- Andrea Dietrich, Professor, Civil and Environmental Engineering
- Brad Fenwick, Vice President for Research
- Elizabeth Grabau, Associate Professor and Department Head, Plant Pathology, Physiology, and Weed Science
- Mary Kasarda, Associate Professor, Mechanical Engineering

Increasing Representation of Women Faculty in Science and Engineering

Faculty Recruitment

Chair: Ellen Plummer, Director, Women's Center

AdvanceVT Visiting Scholars

Chair: Vicky Soghomonian, Associate Professor, Physics
- Ruth Grene, Professor, Plant Pathology, Physiology, and Weed Science
- Taranjit Kaur, Assistant Professor, Biomedical Science
- Leigh McCue, Assistant Professor, Aerospace and Ocean Engineering
- Layne Watson, Professor, Computer Science

Advancing Women into Faculty Careers

Ph.D. and Post-doctoral fellowships

Chair: Janis Terpenny, Associate Professor, Engineering Education
- Dennis Dean, Professor, Biochemistry
- Carola Haas, Associate Professor, Fisheries and Wildlife Science
- Mary Kasarda, Associate Professor, Mechanical Engineering
- Angela Scarpa, Associate Professor, Psychology

Graduate Student and Post-doc Seminars

Chair: Elisa Sotelino, Professor, Civil and Environmental Engineering

Activities and Findings

Research and Evaluation Activities and Findings

On June 8 – 9, 2006, *AdvanceVT* hosted an NSF site visit team for a mid-term evaluation of the program. The team met with almost 60 Virginia Tech faculty, administrators, and graduate students during the course of a two day visit. Feedback from the site visitors recognized the progress *AdvanceVT* has made in raising awareness of gender bias on campus and especially among search committees, preparing graduate students for faculty careers, developing leadership skills for women faculty, and revising university policies that impact work/life balance. Recommendations from the site visitors included bringing in an external evaluation team for additional feedback, expanding and documenting formative assessment activities for individual program elements, developing a leadership transition plan, and implementing more formal programs for department heads.

In response to the recommendations of the site visit committee, *AdvanceVT* engaged Dr. Lisa Frehill, Executive Director of the Commission on Professionals in Science and Technology and former PI of the Advance program at New Mexico State University, and Ms. Barbara Bogue, Associate Professor of Engineering Science and Mechanics and Women in Engineering, Penn State University, to conduct an external evaluation of the program. The evaluators reviewed program materials, including those prepared for the NSF site visit as well as publications, internal reports, and the project web site, and met on campus with six university administrators and 16 faculty members, in addition to the *AdvanceVT* leadership team, during a two day visit in early November. Their report provided specific recommendations for strengthening evaluation and assessment activities, planning for sustainability, and addressing campus climate including broader diversity issues. Many of the recommendations of the site visit team and the external evaluators have been incorporated into program activities in year four and plans for year five, including pre- and post-surveys of leadership development program participants and more systematic tracking of the career progress of research seed grant recipients.

During year four the *AdvanceVT* assessment team continued to interview faculty hired in the colleges of science and engineering in 2003 and 2004 and conducted additional analyses of the university-wide faculty survey fielded in spring 2005 and evaluations of specific *AdvanceVT* programs.

Science and Engineering 2003-04 New Hire Cohort Interviews

The assessment director continued the practice of conducting annual informal interviews with members of the faculty cohort who first joined the Virginia Tech science and engineering faculty in 2003 and 2004. Findings are interesting because they offer a way

to capture the issues faculty see as pressing in the early years of their appointment prior to tenure. Interviews during the fourth year brought forward some interesting new issues. Employment of spouses continued to be a significant concern for almost all of the members of the cohort. There was a bit of a "baby boom" among the male, but not female members of the cohort. With the process of preparing a dossier looming in a year for most members of the cohort, most seemed to be gauging their progress against expectations. All interviewed had received substantive feedback about their progress.

Faculty Climate Survey

In the fall of 2006 *AdvanceVT* conducted department and college level analyses of the responses to the 2005 faculty survey and presented a comparison of department level responses with the average response for the respective college to the college deans. For confidentiality reasons, college and department level analyses did not include breakdowns by gender or ethnicity. The analyses were also presented to department heads in the colleges of science and engineering. In the spring of 2007, *AdvanceVT* performed additional analyses of responses by ethnicity at the university level and shared those findings with the provost's Task Force on Race and the Institution and the university black caucus. Discussions with both of those groups informed plans for a repeat of the survey in the final year of the grant.

Other AdvanceVT Program Evaluations

The *AdvanceVT* assessment team is currently in the process of surveying recipients of research seed grants in years two, three, and four, and interviewing participants in the second year of the leadership development program. Interviews will also be conducted with current and former leadership fellowship and PhD fellowship recipients. Participants in programs for graduate students and post-docs were asked to respond to an online survey. Reports on these evaluation activities will be completed in late summer 2007.

Lessons Learned from Assessment during Year Four

Interactions with members of the Task Force on Race and the Institution and the University Black Caucus made it clear that members of the minority community felt that the 2005 faculty climate survey did not fully address their concerns. Some were concerned that members of the minority community were not involved in developing the questions on the initial survey. In response to these concerns, *AdvanceVT* worked with members of the minority community to develop additional questions for the 2008 re-administration of the questionnaire. *AdvanceVT* continued to explore a variety of approaches to share the findings of the survey and other program activities with the university community and more thoroughly document activity level evaluations.

<u>Training and Development Activities</u>

College Liaisons

A new initiative for *AdvanceVT* in year four was the establishment of college liaisons for the colleges of science and engineering. The idea for college liaisons was borrowed from the UC Irvine Advance program, but the role of the liaison at Virginia Tech is less formal than at Irvine. Dr. Nancy Ross, associate dean in the College of Science, and Dr. Andrea Dietrich, professor of civil and environmental 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 all female and some male candidates for faculty positions 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 possibly sensitive issues with candidates in confidence. One candidate indicated that her meeting with the college liaison helped her to relax and made her campus interview less stressful. The college liaisons also hosted two networking events for female faculty and graduate students in the two colleges. Structured discussions at the events focused on department and campus climate issues.

Institutionalizing Change

During year four the Policy Review work group focused on developing a part-time employment policy for tenured and tenure-track faculty. Co-PI Pat Hyer, Associate Provost for Academic Administration, served as chair of the policy work group; Dr. Anne Zajac, associate professor of biomedical science in the college of veterinary medicine, served as co-chair. Advancing new or revised policies requires significant involvement with existing university governance structures, especially the Commission on Faculty Affairs and the Faculty Senate, which were deeply involved in the discussions and supportive of the proposed policy, which was approved by the University's Board of Visitors on June 4.

In addition to policy work accomplished through the *AdvanceVT* work group and faculty governance structure, there were significant accomplishments by other university committees and offices on issues identified by Advance, including childcare and dual career hires. The Co-PI /Associate Provost continued to play a key role in ensuring that these issues are addressed by the Provost's Office and other university structures and committees.

Significant Accomplishments for Year Four:
o Reviewed work/life policies with 45 new department heads and other university leaders at orientation on August 8-9, 2006;
o Reviewed policy changes with 100+ department heads, deans, and promotion and tenure committee chairs on September 22, 2006;

- Produced and distributed a brochure describing work-life balance programs for faculty at Virginia Tech, including child and elder care, support for dual career hires, family leave, stopping the tenure clock, and modified duties;
- Completed draft policy on part-time tenure track appointments. Policy was approved by Faculty Senate and the Commission on Faculty Affairs in March, by University Council in April, and the Board of Visitors in June;
- From July 1, 2006, to April 30, 2007, 57 new dual career cases have been logged into the database – 39 were recruitment cases and 18 were cases of retention for faculty who are already at Virginia Tech. A number of the dual career hires have been placed in positions at the university or in the community. A survey of referring department heads and of dual career partners was conducted to assess the effectiveness of the Dual Career Services Program.
- 19 requests for stopping the tenure clock (under newly revised policy) have been approved to date in 2006-07 – 9 women and 11 men. Three requests for modified duties have been approved for fall and spring 2006-07 (first year of implementation of new policy); none have been denied.

Department Climate

Jack Finney, professor of psychology, associate dean in the college of science and former department head agreed to lead this new effort in year four.

Significant accomplishments for the year:
- Reviewed college and department level analyses of responses to spring 2005 *AdvanceVT* faculty survey to identify departments that appear to have more positive than average and less positive than average responses.
- Presented college and department level data to college deans on November 9, 2006. Discussed with deans the best way to share information with department heads.
- Presented college and department level data to department heads at college-level meetings in November and December 2006.
- Surveyed all department heads in the colleges of science and engineering to collect information about departmental policies and procedures for faculty evaluations, mentoring, departmental governance, and communications.
- Held a workshop on Improving Department Climate at the annual Advancing Women at Virginia Tech workshop on January 9, 2007.
- Made a department climate presentation to the university's Task Force on Race and the Institution to identify common goals and strategies.
- Advised two department heads on strategies for implementing climate improvement strategies.
- Currently assembling a compendium of department and college strategies that contribute to positive climate with plans to disseminate across the university.
- Developing ways to train and make available facilitators to work more intensively with selected departments.
- Collaborating with the Graduate School to engage graduate students and graduate programs in the Department Climate Initiative.

o   A group of *AdvanceVT* faculty has initiated a study, based on the Climate Survey results, to evaluate the relationship of departmental climate to faculty productivity. The study will involve additional factor analyses of the climate results, the creation of productivity indices, and regression analyses.

Empowering Women as Leaders and Scholars

Leadership Development Program

Dr. Roseanne Foti, Associate Professor of Psychology, led a second cohort of tenured women faculty from across the university in an individualized leadership development program. Each participant completed an assessment of her current leadership skills with input from her colleagues, superiors, and subordinates. Dr. Foti worked with the participants to prepare individualized development plans and met with the participants for coaching sessions throughout the year. *AdvanceVT* offered a series of leadership skill workshops and seminars designed around the participants' strengths and weaknesses that were also open to faculty campus-wide. Workshops and seminars addressed negotiations and conflict resolution and the roles of university leaders, including the vice-president for graduate studies and university research center directors. The first cohort of eight participants included women from five of the university's eight colleges. One of the participants has subsequently been appointed head of the department of plant pathology, physiology, and weed science in the College of Agriculture and Life Sciences; another is currently associate dean for outreach and external affairs in the College of Liberal Arts and Human Sciences; a third has been appointed assistant department head in Biological Systems Engineering. The second cohort of five women was selected in spring 2006 and included women from three colleges. *AdvanceVT* is in the process of following up with participants in previous cohorts to track their career progress and leadership aspirations. Four colleges are represented in the third cohort, which is currently in the process of completing their self-assessments.

Leadership Fellowships

During year four, *AdvanceVT* reinstituted the Leadership Fellowship program, providing funds for three women to carry out proposed individual leadership development projects:
o   **Dr. Karen Inzana**, Professor, Small Animal Clinical Sciences. Dr. Inzana led a review of the fourth year experience in the College of Veterinary Medicine.
o   **Dr. Kathleen Jones**, Associate Professor, History. Dr. Jones worked with the Associate Dean of the College of Liberal Arts and Human Sciences to implement the college diversity plan.
o   **Dr. Mary Kasarda**, Associate Professor, Mechanical Engineering. Dr. Kasarda worked with the university's government relations staff on research and academic policy issues.
Dr. Kasarda was unable to complete her project due to extenuating circumstances, and will continue her proposed activities in year five. Summaries of Drs. Inzana and Jones' fellowship activities are attached.

Research Seed Grants

AdvanceVT selected six junior women faculty members from the 28 proposals received as recipients of the fourth round of research seed grants. The deans of participating colleges provide matching funds for this program. Previous recipients of research seed grants were asked to complete a survey describing their career progress and the impact of the research seed grant. A report summarizing this feedback is attached. This year's selection process was coordinated by previous *AdvanceVT* Seed Grant Recipient Dr. Madeline Schreiber. New seed grant recipients are as follows:

- **Dr. Lisa Belden**, Assistant Professor, Biological Sciences. Dr. Belden, in collaboration with Dr. Jill Sible, will be examining the mechanistic cellular basis of embryonic responses to stress in amphibians, with a focus on understanding the role of different cellular networks in regulating responses to DNA damage caused by UV-B radiation.
- **Dr. Taranjit Kaur**, Assistant Professor, Biomedical Science. Dr. Kaur will use Terminal Restriction Fragment Polymorphism (T-RFLP) and 16sRNA to characterize bacterial and fungal flora in a habituated population of wild chimpanzees in East Africa. Infectious zoonotic agents transmissible from non-human primates are of significant public health importance and hence, the benefit of introducing these techniques is enormous in terms of detecting emerging infectious diseases and characterizing potential reservoirs.
- **Dr. Pamela Murray-Tuite**, Assistant Professor, Civil and Environmental Engineering. An area of increasing concern with regard to terrorism in transportation is the possibility that a malicious entity obtains hazardous materials and uses them as a weapon. Dr. Murray-Tuite's research investigates the feasibility of using probabilistic neural networks (PNN) to identify hijacked hazardous materials trucks. PNN is a pattern classification technique that will identify when vehicles have reasonably deviated from their original routes, considering congestion and traffic incidents that require "normal" re-routing.
- **Dr. Christina Petersson-Wolfe**, Assistant Professor, Dairy Science. Dr. Petersson-Wolfe's study is designed to examine the potential link between microbial inoculants used in dairy feed and subsequent mastitis caused by the bacteria *Enterococcus* spp. The first objective of this project is to examine the ability of enterococci to survive the fermentation process observed during the production of dairy feed. Secondly, it is to study the ability of these bacterial strains to cause mastitis in the bovine mammary gland.
- **Dr. Nichole Rylander**, Assistant Professor, Mechanical Engineering. The objective of Dr. Rylander's project will be to characterize the response of laser irradiated tissue with multi-walled carbon nanotube (MWNT) inclusions to variations in MWNT characteristics and laser parameters through both experiments and development of a novel computational treatment planning model. Combinatorial therapies utilizing nanotechnology such as MWNT and laser therapy have the potential to provide a more effective and minimally invasive alternative to customary surgical resection of tumors.
- **Dr. Liquing Zhang**, Assistant Professor, Computer Science. Dr. Zhang will analyze the role of gene conversion in three Brucella bacterial genomes with economic,

agricultural, and national security importance. Identifying the differences and similarities in this important aspect among the three species will not only enhance our understanding of the role that gene conversion plays in bacteria evasion of immune systems, but also shed light on the possible mechanisms of their virulence and host preference that can be used for providing genetic targets for rapid discrimination among the three bacteria.

Increasing Representation of Women in Science and Engineering

During year four the Increasing Representation work group continued its work with search committees and departments on successful faculty searches and hosted several visiting scholars.

Significant Accomplishments in Year Four:

o Held session on recruiting a diverse faculty at the January 9 Advancing Women at Virginia Tech workshop, attended by faculty, department heads, and other administrators from across the campus. Speakers from the University of Michigan STRIDE program helped lead the workshop.
o Co-hosted visits by young scholars and potential faculty candidates. Visits included a technical talk, a networking lunch or reception, and informal interactions between speakers and interested women at Virginia Tech. Four visiting scholars visited Virginia Tech under the auspices of *AdvanceVT*:
   o Vy Tran, Department of Physics, astrophysics
   o Diane Ebert-May, Departments of Biological Sciences and Biochemistry, science education , establishing nationwide networks in science education
   o Leah Shaw, Department of Physics, quantitative biological physics
   o Nicole Key, Mechanical Engineering, turbomachinary

Advancing Women into Faculty Careers

The focus of the Advancing Women work group continues to be on activities that empower female graduate students and post-doctoral research associates through fellowships with a significant mentoring component, exposure to successful female faculty role models, and networking opportunities.

Graduate Student and Post-doc Seminars

AdvanceVT hosted a series of monthly lunches for graduate students and post-docs on topics related to preparing for faculty careers:
   o Conflict Resolution and Negotiations, Dr. Barbara Butterfield and Dr. Jane Tucker, Humaned, October 30, 2006
   o Demystifying the Academic Job Search Process, Dr. Sam Easterling, Civil and Environmental Engineering, and Dr. Ken Eriksson, Geosciences, October 10, 2006

- o Why Consider an Academic Career in a Teaching-Centered Institution?, Dr. Hank Yochum, Associate Professor of Physics, Sweet Briar College, November 14, 2006
- o Getting Started in a Faculty Career, Dr. Carla Finkielstein, Biological Sciences, Virginia Tech, Dr. Leigh McCue, Aerospace Engineering, Virginia Tech, Dr. Irina Mazilu, Physics, Washington and Lee, Dr. Dorsa Sanadgol, Engineering, Sweet Briar College, February 20, 2007
- o Taking Humor Seriously, Ms. Jill Tietjen, Technically Speaking, LLC, March 1, 2007
- o Negotiating Academic Job Offers For Dual-Career Couples, Dr. Lisa Belden, Biological Sciences, Dr. Robert Jones, Biological Sciences, Dr. Anne McNabb, Graduate School, Dr. Ignacio Moore, Biological Sciences, Dr. Deborah Olsen, Educational Psychology, Dr. John Phillips, Biological Sciences, March 14, 2007
- o Changing Our World: True Stories of Women Engineers, Ms. Sybil Hatch, Convey Marketing and Communications, March 19, 2007
- o Thinking Outside the Box: Using Your Education for Fun and Profit After Grad School, Betsy Dulin, Esq., March 23, 2007
- o Thoughts on Gender and Technology, Dr. Cornelia Brunner, Center for Children and Technology, March 27, 2007
- o Contemporary Pedagogical Issues: How Do We Engage SOL-trained, Passive Learners?, Dr. Shelli Fowler, Graduate Education Development Institute, April 26, 2007

PhD and Post-doctoral Fellowships

AdvanceVT Professor Terpenny and *AdvanceVT* project director Layne met with the year four PhD and post-doctoral fellows funded by *AdvanceVT* and their mentors to discuss their career development and future plans and ways to improve the *AdvanceVT* fellowship program.

AdvanceVT selected two Ph.D. candidates from among 27 applicants and three post-doctoral fellows from among 13 applicants for year five of the grant. The fellowship application process requires submission of a mentoring plan to maximize the continued professional development of the awardees toward faculty careers. Year five fellowship recipients are:
- o **Krista Rule**, Ph.D. Fellow, Civil and Environmental Engineering. Ms. Rule is a Ph.D. candidate in the Environmental and Water Resource Engineering program in the Charles E. Via Department of Civil and Environmental Engineering. She received a B.S. degree in chemistry from the University of Idaho and an M.S. degree from Virginia Tech in Environmental Engineering. In her M.S. research, Krista investigated chemical reactions between the antibacterial agent Triclosan and common drinking water disinfectants. Her Ph.D. research focuses on the development of a biosensor for the detection of *Cryptosporidium parvum* in drinking water. She plans to finish her degree in the summer of 2008.
- o **Amy Villamagna**, Ph.D. Fellow, Fisheries and Wildlife Sciences. Amy grew up in the Hudson River Valley of New York. She earned her B.A. from Eckerd College in

St. Petersburg, Florida before joining the department of Sustainable Development and Conservation Biology at the University of Maryland–College Park for her master's degree. Since early in her academic career, Amy has pursued international science, particularly in developing areas. During her master's she worked for an international lake conservation organization where she first learned about Lake Chapala, Mexico, the present focus of her doctoral research. Amy joined Virginia Tech in January 2005, and since has been building an international research program in collaboration with a local Mexican university. Her research in Mexico explores to the effects of an invasive weed on the ecology of the lake with an emphasis on water bird ecology. As part of her *AdvanceVT* fellowship, Amy looks forward to exploring the role of women in international natural resource science and field ecology.

o **Lori Blanc**, Post-doctoral Fellow, Biological Sciences. Lori Blanc is a Ph.D. candidate in the department of Biological Sciences at Virginia Tech and will defend her dissertation in July 2007. Her areas of research expertise are avian community ecology and conservation biology. Recent work includes studies of how interactions between different species within an avian community can influence community structure and dynamics, and subsequently, impact endangered species management. She has received numerous grants and awards in recognition of her academic research, teaching and service including a National Science Foundation Doctoral Dissertation Improvement grant, a P.E.O. Scholar Award, an American Ornithologists' Union Presidential Citation award, and the Virginia Tech College of Science 06-07 Outstanding Graduate Student Award. She obtained her B.S. and M.S. in Computer Science from California Polytechnic State University, San Luis Obispo.

o **Armaghan Salehian,** Post-doctoral Fellow, Mechanical Engineering. Armaghan Salehian started her doctoral research in the fall of 2004 at the Center for Intelligent Material Systems and Structures at Virginia Tech. Her research interests include modeling and design of smart materials, finite element methods, design and vibration of large inflatable satellites using homogenization methods, and composite structures. Her PhD work focuses on vibration and control of large inflatable space structures using embedded macro-fiber composites. Armaghan received a Master of Science degree from Worcester Polytechnic Institute in Massachusetts in the June of 2003. For her master's thesis, she performed research on wave propagation in composite laminates and has used the theory of wavelets to detect the damage in these structures. She also received a Master of Science degree from University of Tehran in 2000 where she developed inverse methods for estimation of heat conductance coefficients of gases inside a rocket nozzle. She obtained her Bachelor of Science degree from Sharif University of Technology in 1997.

o **Kristine Urschel**, Post-doctoral Fellow, Animal and Poultry Sciences. Dr. Kristine Urschel is a Post-doctoral Fellow at the Middleburg Agricultural Research and Extension Center. Originally from Edmonton, Alberta, Canada, she earned her Bachelor of Science in Agriculture, with a major in Animal Science, from the University of Alberta. She then when on to pursue her doctoral studies in Nutrition and Metabolism at the University of Alberta, and defended her thesis, "Arginine synthesis and metabolism in neonatal piglets," in January 2007. Dr. Urschel joined Virginia Tech in April 2007 and her research interests include studying amino acid and protein metabolism in horses using isotopic techniques and examining the factors

that regulate muscle protein synthesis in horses, particularly in older horses where muscle wasting occurs.

Transforming the Professoriate conference

On July 20-22, 2006, *AdvanceVT* held the Transforming the Professoriate conference at the Skelton Conference Center at the Inn at Virginia Tech. The goal of this conference was to provide female graduate students and postdoctoral associates in science and engineering with the tools to plan for a successful career in academia. With a special emphasis on women of color, the conference also served as a preliminary faculty recruitment effort by providing a forum for exposing nationally-competitive senior female doctoral students and postdoctoral researchers from around the country to Virginia Tech's science and engineering programs. In order to participate in the conference, graduate students and postdoctoral associates were required to apply for one of the conference positions available. Sixty-eight scholars were chosen, with all expenses paid, to attend. The conference boasted participants from India, South America and Eastern Europe.

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

The conference itself covered a broad range of important and timely topics, including sessions on networking, negotiating, contemporary pedagogy and work/life balance. At each lunch Virginia Tech faculty members were on hand to facilitate conversations regarding academic careers and obstacles faced by women faculty, particularly those of color. One attendee remarked of the conference, "It was a rewarding experience. It's my first time to have shared with so many great and interesting women. I felt very comfortable and learned many useful things for my career planning."

Other Year Four Activities and Accomplishments

Building Community among Women
o Co-hosted a third annual fall welcome reception for women faculty and graduate students in collaboration with the Graduate School, Women's Center, Women's Studies Program, and the Organization of Women Faculty.
o Hosted two networking receptions for women faculty and graduate students in the colleges of science and engineering.
o Co-hosted a peer mentoring workshop for pre-tenured faculty with the Organization of Women Faculty.

Building Awareness and Understanding University-Wide
o Held fourth annual Advancing Women at Virginia Tech workshop on January 9, 2007. Over 100 Virginia Tech faculty members and administrators attended. The workshop included presentations from members of the University of Michigan STRIDE committee and a panel of new women department heads. Breakout sessions discussed how to develop and maintain a positive department climate and keys to successful faculty searches.

Outreach

AdvanceVT team members gave several presentations about the program at other universities and professional conferences.
- Amelink, C., and Creamer, E. G. (2006). Spillover and job satisfaction of married/partnered faculty members. Research paper presentation. Association for the Study of Higher Education National Conference. Anaheim, CA, November 1-4, 2006.
- Saddler, T., and Creamer, E. G. (2006). Collegiality and the job satisfaction of science and engineering women and minority faculty. Poster presentation. Association for the Study of Higher Education (ASHE) National Conference. Anaheim, CA, November 1-4, 2006.
- Terpenny, J. (2006). "Advancement of Women in Engineering," Sungkyunkwan University, Suwon, Korea, November 14, 2006 (invited lecture).
- Creamer, E. G., Malley, J., Stewart, A., and Valian, V. (2007). Cross-institutional studies of strategies associated with institutional transformation among nineteen ADVANCE institutions. Symposium proposal. American Educational Research Association. April 9-13, 2007.
- Hyer, P. (2007). Panelist at the conference "Gender Equity: Strengthening the Physics Enterprise in Universities and National Labs," May 6-8, 2007, hosted by the American Physical Society.
- Layne, P. (2007). "Using Data to Drive Institutional Change", panel presentation at the World Federation of Engineering Organizations International Colloquium on Empowering Women in Engineering and Technology, Tunis, Tunisia, June 6-8, 2007.
- Creamer, E., and Layne, P. (2007). "Elements of the Work Environment that Contribute to the Ability of Engineering Faculty to Manage Work-Life Tensions", American Society for Engineering Education Annual Conference, Honolulu, HI, June 24-27, 2007.

Products

Publications
AdvanceVT produced a new brochure on work-life balance programs for faculty, highlighting support for dual career hires, university policies on family leave, stopping the tenure clock, and modified duties, availability of child and elder care, campus lactation facilities, and the university's work-life resource center. Copies were distributed to all tenured and pre-tenure faculty.

AdvanceVT developed and distributed five newsletters highlighting activities during the fall semester 2006 and spring semester 2007, 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 . Guided by recommendations from the external reviewers, summaries of key findings from data collected through *AdvanceVT* are now being included in each issue of the newsletter.

Websites
The *AdvanceVT* website, www.advance.vt.edu, includes information about the Virginia Tech Advance leadership team, funding opportunities, accomplishments of women scientists and engineers at Virginia Tech, upcoming activities, a description of *AdvanceVT*'s assessment plan and informational resources for women graduate students and faculty. The site includes a copy of Virginia Tech's Advance proposal to NSF and links to the NSF Advance website as well as websites belonging to the other NSF Advance Institutional Transformation grant recipients. Annual reports, data from the faculty survey, and other institutional data on women in science and engineering are also posted on the *AdvanceVT* website. During the summer of 2007, the *AdvanceVT* web site will be redesigned to incorporate Virginia Tech's new website design templates.

The Advance portal website, www.advance-portal.net, was converted from a "wiki" format to a static website to control spam and inappropriate content. Links to new Advance grant recipients' sites were added as they became available. The site is designed to serve as a center of communication among Advance project team members. It is organized to include links to important information based on pre-defined categories, includes a search engine and links to the institutional transformation grant recipients' sites. Occasional feature articles highlight events and activities of interest to the Advance community.

Attachments

Year Four Financial Report and Year Five Funding Request

Quantitative Indicators of Activity and Progress

Research Seed Grant Evaluation Report

Leadership Fellowship Summary Reports

AdvanceVT Year Four Financial Report and Year Five Revised Budget Request

Budget Explanation for Current Year (Year Four)

Table 1 summarizes the budgeted and actual costs for the fourth year of the grant. Specific cost elements are explained below. *AdvanceVT* made a strategic decision to spend some of the unspent funds carried over from the previous years of the program during year four.

A. Senior Personnel

Mark McNamee continued to serve as Principal Investigator for year four of the grant and provides overall oversight of the program. Dr. McNamee will continue in this role during year five. 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 executive committee and continued 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, became a co-PI in fall 2006 and served on the Executive Committee for *AdvanceVT*. Dr. Smith-Jackson received support for a graduate student funded by the grant instead of salary compensation.

Beate Schmittmann, professor and department head in physics, became a co-PI in fall 2006 and served on the Executive Committee for *AdvanceVT*. In the fourth year of the grant, Dr. Schmittmann received travel support funded by the grant instead of salary compensation.

Roseanne Foti, associate professor of psychology, continued to be responsible for the *AdvanceVT* leadership development program and served as a member of the leadership team. Dr. Foti received a course buy-out during the spring semester funded by the grant.

Andrea Dietrich, professor of civil and environmental engineering, served in the newly created position of college liaison for the college of engineering and served as a member of the leadership team in year four. Dr. Dietrich received a course buy-out and a month of summer salary funded by the grant.

Janis Terpenny, associate professor of engineering education, served as a member of the leadership team and coordinated selection of Ph.D. and post-doctoral fellowship recipients. She received two weeks of summer salary funded by the grant.

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

Peggy Layne, program director, provides full time day-to-day management of *AdvanceVT* program activities. During the fourth year of the grant, her salary was paid for with returned overhead as part of the university's cost sharing commitment.

Total expenditures for senior personnel direct charged to the grant in year four are expected to total $102,320. This amount exceeds the NSF approved budget for year four by almost 50%. In order to increase participation of faculty members in leadership roles, *AdvanceVT* spent more on faculty salaries in year four than in previous years.

B. Other Personnel

Administrative Support
Robyn Midkiff provided full-time administrative support to the *AdvanceVT* program in year four. Her salary is provided as a cost share by the provost's office.

Graduate Students
Ane Johnson continued as *AdvanceVT*'s programmatic graduate assistant during the fourth year of the grant, providing support to the program director and the leadership team. Her assistantship, summer salary, and tuition were paid for with grant funds.

Cynthia Fife was the assessment graduate assistant during the fall semester of 2006. Her assistantship and tuition were paid for with grant funds. Tonya Saddler joined the *AdvanceVT* program as a graduate assistant supporting assessment in summer 2007.

During the fourth year of Virginia Tech's Advance program, the graduate school provided support for two graduate fellowships. Their assistantships and tuition were provided as cost sharing by the graduate school.

Post-doctoral associates
AdvanceVT partially funded fellowships for four post-doctoral associates during the fourth year of the grant.

Total expenditures for other personnel directly charged to the grant in year four are expected to total $124,086. This is close to the budgeted amount of $126,017, and less than the approved amount of $143,838.

C. Fringes

During the fourth 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 four, $42,877 will be spent on fringes. This amount is about 12% more than the approved budget, a result of increased spending on salaries.

D. Equipment

No equipment was purchased using grant funds during year four.

E. Travel

In 2007, members of the *AdvanceVT* leadership team traveled to participate in the annual Advance principal investigators' meeting at NSF 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 three distinguished lecturers and four visiting scholars during the fourth year of the grant.

Total travel expenditures for year four are anticipated to be $24,254. This amount is within 1% of the approved amount.

F. Participant Support

AdvanceVT hosted its fourth workshop for the Virginia Tech community in January 2007. This annual event is a very effective way to reach a wide audience across campus. *AdvanceVT* hosted a national conference for graduate students and post-doctoral researchers preparing for faculty careers in July 2006, and some of those costs carried over into the fourth year of the grant. The total amount of participant support costs in year four is expected to be $33,072, almost triple what was budgeted, primarily due to the costs of the July 2006 conference.

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 meetings of the work groups, executive committee, and seminars with visiting speakers. Virginia Tech participated in the Collaborative on Academic Careers in Higher Education (COACHE) in this academic year in order to obtain additional data on the work environment for junior faculty both at Virginia Tech and comparable institutions. *AdvanceVT* shared these costs with the provost's office. Fees for participation in COACHE are reported here. Total expenses for materials and supplies in year four were $39,020, about 10% over the approved budget.

G.2 Publication costs

In the fourth year of the grant, *AdvanceVT* continued to focus on increased visibility of the program both on campus and in the wider community, and produced a variety of printed materials towards that end. A brochure describing university work/life policies was distributed to all teaching and research faculty on campus. Five newsletters were distributed to campus leaders and posted on the web. The total amount spent on publications in year four was $3,467, about 30% below the approved amount.

G.3 Consultants

AdvanceVT employed a local facilitator for planning meetings with the leadership team and brought in two external evaluators to provide feedback on the program. Costs for these services in the fourth year of the grant were $18,623. This amount is about 10% under the NSF approved budget.

G.4 Computer services

No computer services costs were incurred for the Advance program.

G.5 Subcontracts

No subcontracts were issues as part of the Advance program.

G.6 Other

Total costs of $176,129 were incurred in this category for year four of the grant, including tuition waivers for graduate assistants, research seed grants for six junior faculty members, expenses for leadership fellowships and the leadership development program for senior women faculty, and charges for telephone and data lines. This amount is about 20% above the NSF approved budget.

H. Total direct

Total direct costs charged to the grant in year four were $563,848, vs. a budget of $493,476. Most of the difference is attributable to spending more than planned on faculty salaries and carried over expenses from the 2006 graduate student conference.

I. Total indirect

Total indirect costs incurred in year four of the grant are expected to be $251,170. 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 four are $815,018 vs. a budget of $715,023, a variance of 14%.

K. Residual

No additional residual funds were generated during year four. *AdvanceVT* utilized funds carried over from the first three years of the program to increase the level of activity during year four.

L. Amount of request for year five

See the following section for the revised year five budget request and explanation.

M. Cost sharing

Cost sharing provided by the provost's office, the graduate school, and returned overhead in year four included PI, co-PI, project director, and administrative assistant salaries, and two graduate assistantships, and is projected to total approximately $250,000 for the period 9/1/06-8/31/07.

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

	Year 4 Approved Budget	Year 4 Revised Budget Request	Year 4 Expenses (Estimated)	Variance from Approved	% Variance
A. Senior Personnel	69,526	68,000	102,320	($32,794)	-47%
B. Other personnel					
B.1. Post-doctoral associates	90,738	86,265	69,106	$21,632	24%
B.2. Other professionals	0	0	0	$0	
B.3. Graduate students	53,100	38,752	54,980	($1,880)	-4%
B.4. Secretarial/ Clerical	0	0	0	$0	
B.5. Undergraduate Students	0	1,000	0	$0	-100%
B.6. Other	0	0	0	$0	
Total salaries + wages	213,364	194,018	226,406	($13,042)	-6%
C. Fringe benefits	38,408	50,567	42,877	($4,469)	-12%
Total salaries, wages + fringe	251,772	244,584	269,283	($17,511)	-7%
D. Permanent equipment	0	0	0	$0	
E. Travel (domestic)	24,500	23,250	24,254	$246	1%
F. Participant support	8,750	8,590	33,072	($24,322)	-278%
G. Other direct costs					
G.1 Materials & supplies	35,000	18,500	39,020	($4,020)	-11%
G.2 Publications	5,000	4,000	3,467	$1,533	31%
G.3 Consultants	20,500	9,000	18,623	$1,877	9%
G.4 Computer services	0	0	0	$0	
G.5 Subcontracts	0	0	0	$0	
G.6 Other	147,954	185,725	176,129	($28,175)	-19%
Total other direct costs	208,454	217,225	237,239	($28,785)	-14%
H. Total direct costs	493,476	493,649	563,848	($70,372)	-14%
I. Total indirect costs (46.2% excluding tuition & equip.)	221,547	221,375	251,170	($29,623)	-13%
J. Total direct + indirect	715,023	715,024	815,018	($99,995)	-14%
K. Residual funds	0	0	0		
L. Amount this request					
M. Cost sharing	143,013	288,763			

AdvanceVT Year Five Revised Budget Request

Budget Explanation for Revised Year Five Request

Table 2 summarizes revised budgeted costs for the fifth year of the grant and variations from the approved budget based on experience to date. The total amount budgeted for year five, $716,259, is the same as that previously approved. 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.

Roseanne Foti, Advance professor, will continue to lead the leadership development program as part of the work element on empowering women. In the fifth year of the grant, Dr. Foti will receive a course buy-out funded by the grant.

Elizabeth Creamer directs the assessment effort of Virginia Tech's Advance program. In the fifth year of the grant, 10% of Dr. Creamer's time during the academic year and one month of summer salary are paid for by the grant.

Peggy Layne, program director, provides full time day-to-day management of *AdvanceVT* program activities. In the fourth year of the grant, Ms. Layne's salary will be cost shared through overhead return.

In order to increase the involvement of women faculty at Virginia Tech in the Advance project, we anticipate providing financial support in the form of course buy-outs, summer salary, or travel money for additional individuals who make significant contributions to the project goals by taking the lead on a particular project or activity. These individuals will be identified in summer or fall 2007.

Proposed total expenditures for senior personnel direct charged to the grant in year five are $110,170.

B. Other Personnel

Post-Doctoral Fellows
AdvanceVT has awarded three partial post-doctoral fellowships for year five of the grant.

Administrative Support

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

Graduate Students
Tonya Saddler, a graduate student in educational leadership and policy studies, will provide support for assessment activities during year five of the grant. Her assistantship, summer salary, and tuition will be paid with grant funds.

Ane Johnson, a doctoral student in educational leadership and policy studies, will continue to provide support to the program director during year five of the grant. Her assistantship, summer salary, and tuition will be paid for with grant funds.

During year five of the grant, the graduate school will provide cost sharing support for two female graduate students in science and/or engineering.

Undergraduate Students
An undergraduate student may be hired on an hourly basis to transcribe interview tapes as needed.

Total budgeted expenditures for other personnel direct charged to the grant in year five are $91,804.

C. Fringes

During the fifth year of the grant, fringe benefits will be charged at the university's negotiated and approved rates. In year five, $53,672 is budgeted for fringes. This is an increase over the original proposal budget due to increases in the university's negotiated fringe rates.

D. Equipment

No permanent equipment will be purchased with grant funds.

E. Travel

In year five, members of the *AdvanceVT* leadership team and work groups will travel to participate in the Advance annual principal investigators' meeting. Members of the *AdvanceVT* team will also travel to other Advance institutions, 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 five are budgeted at $21,200.

F. Participant Support

In year five of the grant, *AdvanceVT* will host another workshop for Virginia Tech faculty with a high level outside speaker. Also budgeted in this category are incentives for faculty to participate in interviews as part of *AdvanceVT*'s assessment program. Total budgeted participant support costs for year five are $12,250.

G. Other Direct Costs

G.1 Materials and supplies

In year five of the grant, *AdvanceVT* will again incur expenses for general office supplies and costs related to meetings of the work groups, leadership team, executive committee, and seminars with visiting speakers. Total budgeted expenses for year five are $43,000. This amount is based on experience in prior years.

G.2 Publication costs

In the fifth 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 $6,000.

G.3 Consultants

In year five of the grant, *AdvanceVT* will engage the services of outside advisors or gender equity experts for workshops and seminars and provide speaker honoraria for high level visiting scholars. The budgeted amount is $25,000.

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

AdvanceVT has awarded six research seed grants to junior women faculty to assist them in preparing grant proposals for external funding for year five of the grant. *AdvanceVT* has also selected five women for the third year of a structured leadership development program. The program includes assessment, preparation of individualized development plans, and a series of informational and skill building workshops for participants and other women faculty. Also in this category are funds for departmental incentives to support participation in *AdvanceVT* or other gender equity related activities, tuition waivers for graduate assistants working on the

project, and dedicated telephone and data lines for the *AdvanceVT* office. The total budgeted amount is $131,695.

H. Total direct

Total direct costs charged to the grant in year five are budgeted at $494,791.

I. Total indirect

Total indirect costs incurred in year five of the grant are budgeted at $221,456. 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 five are budgeted at $716,246.

K. Residual

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

L. Amount of request for year five

AdvanceVT requests approval to spend $716,246 for year five of the grant.

M. Cost sharing

Cost sharing provided by the provost's office, the graduate school, and returned overhead in year five will include PI, Co-PI, program director, and administrative assistant salaries, and two graduate assistantships, exceeding the required amount of $143,013.

Table 2
AdvanceVT **Year Five Revised Budget Request**

	Original Year 5 Budget	Revised Year 5 Budget Request
A. Senior Personnel	$74,046	$110,170
B. Other personnel		
B.1. Post-doctoral associates	96,636	50,000
B.2. Other professionals	0	0
B.3. Graduate students	54,970	41,554
B.4. Secretarial/ Clerical	0	0
B.5. Undergraduate Students	0	250
B.6. Other	0	0
Total salaries + wages	225,652	201,974
C. Fringe benefits	40,904	53,672
Total salaries, wages + fringe	266,556	255,646
D. Permanent equipment	0	0
E. Travel (domestic)	23,750	21,200
F. Participant support	8,750	12,250
G. Other direct costs		
G.1 Materials & supplies	35,000	43,000
G.2 Publications	5,000	6,000
G.3 Consultants	20,500	25,000
G.4 Computer services	0	0
G.5 Subcontracts	0	0
G.6 Other	135,000	131,695
Total other direct costs	195,500	205,695
H. Total direct costs	494,556	494,791
I. Total indirect costs (46.2% excluding tuition & equip.)	221,703	221,456
J. Total direct + indirect	716,259	716,246
K. Residual funds		
L. Amount this request		716,246
M. Cost sharing	143,013	

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: Bridging the Gap Between New Materials, Fuel Cell Devices and Products: An Alliance of Virginia Universities (VT-VCU)

PI : James E. McGrath   Co-PI: Mark McNamee

Source of Support: NSF

Total Award Amount: $ 600,000.00   Total Award Period Covered: May 1, 2004 – April 30, 2006; NCTE to April 30, 2007

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: Advance Institutional Transformation Award

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

Total Award Amount: $ 3,734,965   Total Award Period Covered: 9/1/03 – 8/31/08

Location of Project: Virginia Tech

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

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

Project/Proposal Title: Partnership for Water Purification

PIs: James McGrath
Source of Support:

Total Award Amount: $ 600,000   Total Award Period Covered: 3/1/07 – 2/28/09

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:

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.

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: Beate Schmittmann, Tonya Smith-Jackson
Source of Support: National Science Foundation

Total Award Amount: $ 3,734,965 Total Award Period Covered: 9/01/03 – 8/31/08

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: 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:

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:

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*If this project has previously been funded by another agency, please list and furnish information for immediately preceding 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.	
PAGE 1 of 2 Investigator: **Andrea Dietrich**	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: Impacts of Lining Materials on Water Quality: Lab-Scale Studies

Co-PIs:

Source of Support: Awwa Research Foundation (through Weston Solutions)

Total Award Amount: $ 132,775   Total Award Period Covered: Nov 2006-Nov 2008

Location of Project: Virginia Tech

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

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

Project/Proposal Title: Mechanisms of Metallic Flavor from Drinking Water

Co-PIs:

Source of Support: Institute for Public Health and Water Research

Total Award Amount: $ 200,000   Total Award Period Covered: August 2006-August 2008

Location of Project: Virginia Tech

Person-Months Per Year Committed to the Project.   1 mo/yr   Cal: Acad: Sumr:

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

Project/Proposal Title: Towards Sustainable Materials Use for Water Infrastructure

Co-PIs:

Source of Support: National Science Foundation

Total Award Amount: $ 1,638,000   Total Award Period Covered: 08/03-07-07

Location of Project: Virginia Tech

Person-Months Per Year Committed to the Project.   1 mo/yr   Cal: Acad: Sumr:

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

Project/Proposal Title: Research Experience for Undergraduates

Co-PIs:

Source of Support: National Science Foundation

Total Award Amount: $ 12,000   Total Award Period Covered: Sept 2005-Aug 2008

Location of Project: Virginia Tech

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

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

Project/Proposal Title: Natural Resources and Environment

Co-PIs:

Source of Support: United States Department of Agriculture

Total Award Amount: $ 269,000   Total Award Period Covered: July 2002-August 2007

Location of Project: Virginia Tech

Person-Months Per Year Committed to the Project.   .25 mo   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 2 of 2 Investigator: Andrea Dietrich	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: IGERT: Macromolecular Interfaces with Life Sciences

Co-PIs:

Source of Support: National Science Foundation

Total Award Amount: $3,200,000   Total Award Period Covered: 02/04-02/10

Location of Project: Virginia Tech

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

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

Project/Proposal Title: AdvanceVT Leadership Fellowship Grant Program

Co-PIs:

Source of Support: National Science Foundation through Virginia Tech's ADVANCE Institutional Transformation award

Total Award Amount: $ 36,711   Total Award Period Covered: 01/07-08/07

Location of Project: Virginia Tech

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

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

Project/Proposal Title: Engineering Sustainable Polyethylene Potable Water Infrastructure

Co-PIs:

Source of Support: National Science Foundation

Total Award Amount: $ 307,626   Total Award Period Covered: 08/07-05/09

Location of Project: Virginia Tech

Person-Months Per Year Committed to the Project.   65% PI   Cal: Acad: Sumr:

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

Project/Proposal Title: Evaluating Critical Relationships Between New and Aged Polyethyethylene Water Pipe and Drinking Water Contaminants Using Advanced Material Characterization Techniques

Co-PIs:

Source of Support: Awwa Research Foundation

Total Award Amount: $ 200,000   Total Award Period Covered: Aug 2007-Aug 2009

Location of Project: Virginia Tech

Person-Months Per Year Committed to the Project.   100% PI   Cal: Acad: Sumr: 0

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*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.	
PAGE 1 of 1 Investigator: **Elizabeth Creamer**	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:

Investigating the Gender component: Cultures that Promote Equity in Undergraduate Engineering

Co-PIs: Carol Burger, Peggy Meszaros
Source of Support: NSF

Total Award Amount: $ 448,970   Total Award Period Covered: 10/01/05-09/30/08

Location of Project: Virginia Tech

Person-Months Per Year Committed to the Project.   Cal: Acad: .5   Sumr: 2

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:

RES – Women in Information Technology: Pivotal Transition from School to Careers Supplement

Co-PIs: Carol Burger, Peggy Meszaros
Source of Support: NSF

Total Award Amount: $ 134, 250   Total Award Period Covered: 10/01/04-08/30/05

Location of Project: Virginia Tech

Person-Months Per Year Committed to the Project.   Cal: 1   Acad: Sumr:

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

Project/Proposal Title:

Advance Institutional Transformation

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

Total Award Amount: $ 3,734,965   Total Award Period Covered: 9/01/03 – 8/31/08

Location of Project: Virginia Tech

Person-Months Per Year Committed to the Project.   Cal: Acad: 0.9   Sumr: 1.0

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*If this project has previously been funded by another agency, please list and furnish information for immediately preceding 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: **Public Safety Cognitive Radio: Phase 3 Dispatcher System Design**
Source of Support: National Institute of Justice
Total Award Amount: **$525,000**   Total Award Period Covered: 7/1/07 –1/31/08
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: 8/1/06 – 7/21/07
Location of Project: VT, Industrial and Systems Engineering
Person-months committed to project: Cal: 0.00   Acad: 0   Sumr: 0

Support: XCurrent   Pending   ☐ Submission planned in near future   ☐ Transfer of support
Project/Proposal Title: **Public Safety Cognitive Radio**
Source of Support: National Institute of Justice
Total Award Amount: $725,000   Total Award Period Covered: 2/1/07 – 1/31/08
Location of Project: VT, Industrial and Systems Engineering
Person-months committed to project: Cal: 0.00   Acad: 10   Sumr: 10

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: X Current   ☐ Pending   ☐ Submission planned in near future   ☐ Transfer of support
Project/Proposal Title: **Center for Innovation in Construction Safety and Health/ICTAS**
Source of Support: NIOSH
Total Award Amount: 3,447,166   Total Award Period Covered: 9/15/04-9/14/09
Location of Project: VT Institute for Critical Technologies and Applied Sciences
Person-months committed to project: Cal: 0.00   Acad: 1.00   Sumr: 1.00

Support: X Current   ☐ Pending   ☐ Submission planned in near future   ☐ Transfer of support
Project/Proposal Title: **Training Needs Analysis for Construction Safety and Health**
Source of Support: NIOSH/CDC
Total Award Amount: $276,679   Total Award Period Covered: 9/20/04 – 8/31/06
Location of Project: Center for Innovation in Construction Safety and Health/ICTAS
Person-months committed to project: Cal: 0.00   Acad: 1.00   Sumr: 1.00

Support: XCurrent   ☐ Pending   ☐ Submission planned in near future   ☐ Transfer of support
Project/Proposal Title: **Sensemaking and Distributed Cognition**
Source of Support: Army Research Office
Total Award Amount: **$139,500**   Total Award Period Covered: 10/1/04 – 9/30/06
Location of Project: VT Assessment and Cognitive Ergonomics Lab
Person-months committed to project: Cal: 0.00   Acad: .50   Sumr: 1.00

Support: X Current   Pending   ☐ Submission planned in near future   ☐ Transfer of support
Project/Proposal Title: **Cultural ergonomics to improve pesticide safety**
Source of Support: NIOSH
Total Award Amount: $155,000   Total Award Period Covered: 10/1/01 – 6/30/06
Location of Project: VT Assessment and Cognitive Ergonomics/Safety Engineering Lab
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: **System Safety Approach to Driver Competency and Safety Training**
Source of Support: UPS
Total Award Amount: $450,000   Total Award Period Covered: 6/1/06 – 11/7/07
Location of Project: Center for Innovation in Construction Safety and Health
Person-months committed to project: Cal: 0.00   Acad: 0.00   Sumr: .5

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: ☒ Current ☐ Pending ☐ Submission planned in near future ☐ Transfer of support	
Project/Proposal Title: **Advance Institutional Transformation Award** Source of Support: National Science Foundation Total Award Amount: $ 3,734,965 Total Award Period Covered: 9/1/03 – 8/31/08 Location of Project: Virginia Tech Person-months committed to project: Cal: 0.00 Acad: .5 Sumr:	
*If this project has previously been funded by another agency, please list and furnish information for immediately preceding funding period.	

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	Other agencies (including NSF) to which this proposal has been/will be submitted.
Investigator: **B. Schmittmann**	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: $ 555,000   Total Award Period Covered: 6/1/04 – 5/31/07, NCE to 6/30/08

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:

Statistical Mechanics of Systems far from Equilibrium

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

Total Award Amount: $ 390,000   Total Award Period Covered: 6/15/07 – 6/14/09

Location of Project: Virginia Tech

Person-Months Per Year Committed to the Project.   Cal: 2.25   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: $ 3,734,965   Total Award Period Covered: 9/1/03 – 8/31/08

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: 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:

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*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.

PAGE 1 of 1 Investigator: **Roseanne J. Foti**	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:
IGERT: Exploring interfaces through graduate education and research
Co-PIs: Mike Hochella, John Little, George Filz, Beate Schmittmann, Brenda Winkel
Source of Support: NSF
Total Award Amount: $ 3,398,801   Total Award Period Covered:
Location of Project: Virginia Tech
Person-Months Per Year Committed to the Project.   Cal: Acad: Sumr: .8

Support: ☒ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support
Project/Proposal Title:
Advance Institutional Transformation Award
Co-PIs: Mark McNamee, Patricia Hyer, Beate Schmittmann, Tonya Smith-Jackson
Source of Support: NSF
Total Award Amount: $ 3,734,965   Total Award Period Covered: 9/1/03 – 8/31/08
Location of Project: Virginia Tech
Person-Months Per Year Committed to the Project.   Cal: Acad: .5   Sumr:

Support: ☐ Current ☒ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support
Project/Proposal Title:
The effects of experience on the content and structure of cognitive categories about leadership
Co-PIs:
Source of Support: Army Research Institute
Total Award Amount: $ 118,300   Total Award Period Covered: 10/1/05 – 9/30/06
Location of Project: Virginia Tech
Person-Months Per Year Committed to the Project.   Cal: Acad: .25   Sumr:

Support: ☐ Current ☒ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support
Project/Proposal Title:
A cost-benefit utility analysis of alternative treatment methods
Co-PIs: Robert Stephens, John Donovan
Source of Support: NIH
Total Award Amount: $ 500,000   Total Award Period Covered: 2 years
Location of Project: Virginia Tech
Person-Months Per Year Committed to the Project.   Cal: Acad: .5   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:

AdvanceVT Year Four Quantitative Indicators of Activity and Progress

As part of the reporting requirements of Virginia Tech's Advance Institutional Transformation award, 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 fourth 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 cohort analysis that was included in *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. *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, 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 the previous three 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 2006, there were 311 tenured and tenure-track faculty in the College of Engineering, of which 39 (12.5%) were women. This is a significant increase from the fall of 2003 when there were 26 (9.4%) women. Nationwide, 10.6% of tenured and tenure track engineering faculty were women in 2005, according to the American Society for Engineering Education's Profiles of Engineering and Engineering Technology Colleges. Two engineering departments continue to have no women faculty on the tenure track.

The College of Science had 192 tenured and tenure-track faculty in fall 2006; 31 were women (16.1%). The number of women in the College of Science decreased between 2001 and 2004, but is now beginning to recover.

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 to six (4%) in 2006 through the

departure of two senior women faculty members. One of these, a former Co-PI on the *AdvanceVT* program, left to become department head at another university, so while her departure is a loss for Virginia Tech, it could be considered a gain in the broader context of the goals of NSF's ADVANCE program. The College of Science still has eight women (7%) at the rank of professor, losing one woman professor since the fall of 2003.

Tenured and Tenure-Track Women Faculty in the Colleges of Engineering and Science Fall 2001 - 2006
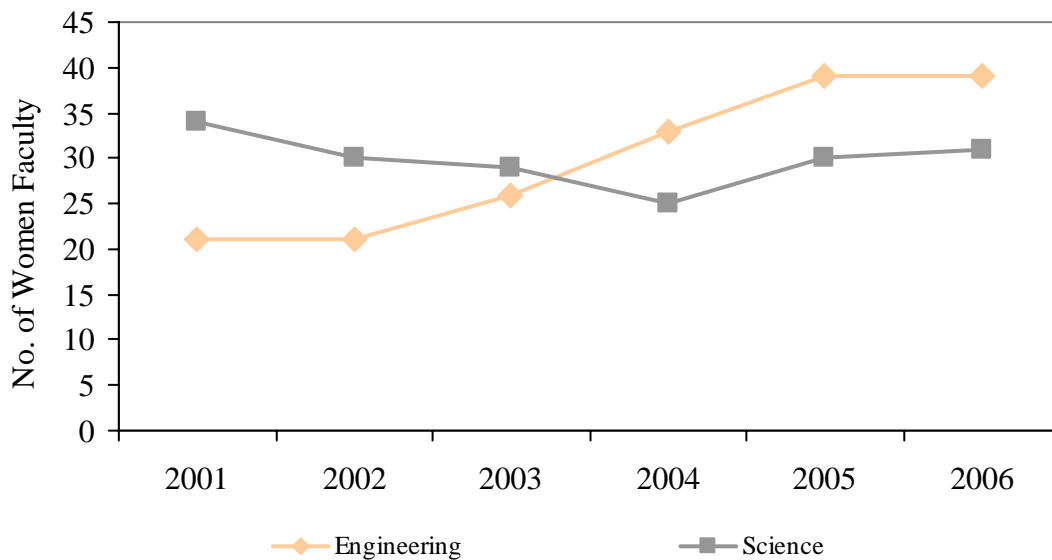
Source: Virginia Tech Office of Institutional Research and Policy Analysis

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 (on leave at NSF during 2005-07) 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 of curriculum, instruction, and advising; both positions are currently filled by women 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 far more such positions than the College of Engineering, teaching many sections of lower division mathematics and science courses; about half of the non-tenure appointments in the College of Science are in the department of mathematics. Women fill about 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.

To put these college numbers within the perspective of the university as a whole, 2004 marked the first year a slight increase in total numbers of tenure track faculty had been recorded in several years, with 1281 tenured and tenure track faculty university wide. That total increased to 1344 in fall 2006. Prior to 2004, 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 have been resignations as faculty have sought better opportunities and salaries elsewhere. Rebuilding of the faculty has begun although it will take some time and substantial budget increases to recover. (Source: IR website, www.irpa.vt.edu, file name: HC_trend_fa97-06_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 four years following its inception. All female candidates from both colleges have successfully met the criteria for promotion and/or tenure over the past five 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 2005, including attrition and time to promotion. During those nine years, a total of 54 assistant professors were hired in the College of Science (37 men and 17 women) and 105 assistant professors were hired in the College of Engineering (78 men and 27 women). Of those hired, 24 have subsequently left Virginia Tech (nine scientists, three female and six male, and 15 engineers, five female and ten male). One quarter of the female scientists hired during this period have been promoted to the rank of associate, compared with almost 60% of the male scientists. About one-third of both male and female engineers have been promoted to associate professor.

Men were more likely to be hired with prior experience and credit towards tenure than women. Three of the female assistant professors and four male professors hired during this time period extended the tenure clock. Average time to promotion for assistant professors hired between 1997 and 2005 in the College of Engineering was 5.75 years for women and 5.57 years for men. In the College of Science, average time to promotion for women in this group was 6.25 years and for men 4.59 years.

Years in Rank by Gender, Promotion to Professor

Table 4a summarizes time in rank by examining scientists and engineers hired during 1996-2005 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 105 assistant professors hired (27 women, 78 men) between 1997 and 2005 in the College of Engineering, two male and one female engineer have been promoted to professor. The College of Science hired 54 assistant professors during this same time period (17 women, 37 men). Five male scientists (13%) 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 1996-2004 the College of Engineering hired five women and 28 men at the associate professor rank. Among those hired as associate professors in the College of Engineering, nine males (32%) have been promoted to the rank of professor after three to eight years in the associate professor rank. The College of Science hired four women and nine men at the associate professor rank in that time frame. Among those hired, three males (33%) and two females (50%) have been promoted to professor after spending four to seven years in the rank of associate professor.

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 13.3 years versus women professors who have on average 5.8 years. In science, the average years of service for male professors is 19.2 years versus women who have on average 9.2 years. University wide, male professors have been at Virginia Tech about 15.8 years versus females who have 9.9 years. Not surprisingly, these data show that women are relatively recent additions to the faculty ranks in engineering and science. These percentages have changed little over the past four 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 1997-2006. The proportion of women leaving is significantly higher than for men (see also Table 3).

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, and 2006-07 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 (Agriculture and Life Sciences) is a woman. In addition, the Dean of Libraries is a woman. This has remained consistent for the past four academic years. A new female dean in the College of Liberal Arts and Human Sciences will begin her appointment in the fall of 2007. Eight (36%) of the 23 associate deans in the academic colleges are women, plus one of three associate deans in the Graduate School (33%). Only eight of the 67 (11%) academic department heads are women; five of the eight women heads are in the College of Liberal Arts and Human Sciences. The first female department head in the College of Science, *AdvanceVT* Co-PI Beate Schmittmann, was appointed in fall 2006. Women are also scarce in senior-level leadership positions at the university. The three most senior positions (president, provost, executive vice president) are held by men; one woman serves as Vice President for Development and University Relations, another serves as Vice President for Student Affairs, and a third as Vice Provost for Graduate Studies and Dean of the Graduate School. Two women (15%) are directors of university-level research centers.

Professorships

Table 7 also presents data on the gender of endowed professors or eminent scholars at the college and university level at Virginia Tech. Endowed professorships at Virginia Tech are a fairly recent phenomenon, dating back to the first capital campaign in the mid-1980s. Prior to that the university had established a rank for the most distinguished faculty using state funds; these were called University Distinguished Professors (UDP). UDP appointments are restricted to no more than 1% of the full-time faculty, and they remain the most prestigious faculty appointment for outstanding researchers. The Alumni Distinguished Professor (ADP) is also a coveted university-wide appointment which recognizes those whose contributions have been especially strong in teaching and service, although the selected faculty also have very substantial research records. Unlike the University Distinguished Professorships, the ADP appointments are endowed by donations from alumni. They are currently being awarded for a ten-year period. Both types of distinguished professor appointments are made on the basis of a call for nominations university-wide; a university-level committee makes recommendations for appointments to the provost and president. One of 13 (8%) UDPs is female; 3 of 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 eight women at the professor rank in science and six in engineering, and many of these have only recently been promoted to professor.

AdvanceVT Co-PI and Advance Professor Karen Thole became the first female engineering faculty member to hold an endowed professorship in 2005-06, but left at the end of that year to become a department head at another university, leaving one female mathematician among the university's 106 eminent scholars (holder of an endowed professorship or chair). Two other women are identified as eminent scholars, both in the College of Liberal Arts and Human Sciences.

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. During 2005-06, 4 of 9 members were women, with the proportion of women on the committee still greatly exceeding their representation among full professors. 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 2006-07 academic year, 6 of the 11 departments in the College of Engineering had at least 1 woman member on the P&T committee. This represents an increase from the representation of women on P&T committees during 2003-04. In the College of Science, only four departments reviewed faculty members for promotion and tenure during the 2006-07 academic year. Three of those four 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 24 members during 2006-07, two of whom were women. During the 2006-07 academic year, the College of Science had an eight-member P&T committee with no 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 four years.

Recruitment

Table 9 summarizes the number and percent of new hires in the College of Engineering and the College of Science from fall 1998 to September 30, 2006. 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 was down in the fall of 2006 compared with the previous three years. Twenty-three percent (23%) of assistant professors hired during the 2006-07 academic year in the College of Engineering were women. Thirty percent (30%) of the assistant professors and twenty-five percent (25%) of hires at the associate professor rank in the College of Science were female in this most recent year. In the College of Engineering, no new hires were female at the associate professor rank and the only new hire at the rank of professor was male.

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

Virginia Tech has a fairly complete database of start-up packages for new faculty hired in the fall of 2006. 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 2005-06 academic year, the Virginia Tech College of Engineering provided an average start-up package (exclusive of salary) for female assistant professors of $120,113 while the average startup package for male assistant professors was $134,665. The value of start-up packages for assistant professors in the College of Engineering ranged from a low of $35,000 in Engineering Education to a high of $207,500 in Computer Science. The average start-up package for female associate professors was $153,695, while the average for male associate professors was $297,239, and values ranged from $140,000 to $421,468. No women were hired at the rank of professor in the College of Engineering this year. The average start-up package for males hired at the rank of professor was $292,833, and values ranged from $0 to $635,000.

The College of Science provided an average start-up package for female assistant professors of $232,566 during 2005-06 and the comparable figure for male assistant professors is $241,042 with a range of $0 in economics to $482,083 in biological sciences. At the associate professor level, the average start-up package for female new hires was $206,359 while for males it was $531,000, with values ranging from $58,218 in statistics to $657,500 in biological sciences. The College of Science did not hire any women at the level of professor. The average start-up package for males hired at the rank of professor was $133,033.

Salary

A complete salary equity study was conducted during year one of Virginia Tech's Advance program and included with the first annual report. Multiple regression techniques following the

Paychecks methodology were used to assess the impact of gender on faculty salaries across the university. In year two, Virginia Tech computed average, minimum, and maximum salaries by gender and rank for departments in the colleges of engineering and science. Virginia Tech continues to monitor equity in faculty salaries, and the Office of Institutional Research and Effectiveness is currently preparing a report for presentation to the university's Board of Visitors. That report is not available for inclusion with this annual report, but will be completed by the end of the current grant year.

Table 1. Number and Percent of Women in Science/Engineering by Rank and Department, Fall 2006
Tenured and Tenure Track Faculty

	Women			Men			% Women Fall 2006 Within Rank			% Women Fall 2005 Within Rank			% Women Fall 2004 Within Rank			% Women Fall 2003 Within Rank		
	Prof	Assoc	Asst	Prof	Assoc	Asst	Prof	Assoc	Asst	Prof	Assoc	Asst	Prof	Assoc	Asst	Prof	Assoc	Asst
College of Engineering	**6**	**16**	**17**	**132**	**91**	**49**	**4%**	**15%**	**26%**	**6%**	**15%**	**25%**	**4%**	**15%**	**24%**	**3%**	**11%**	**19%**
Aerospace and Ocean Eng	-	1	1	10	3	3	-	25%	25%	-	33%	25%	-	33%	-	-	25%	-
Biomedical Engineering	-	-	-	-	1	2	-	-	-	-	-	-	-	-	-	-	-	-
Chemical Engineering	-	1	-	6	2	2	-	33%	-	-	33%	-	-	50%	-	-	40%	-
Civil & Env. Engineering	3	2	2	22	14	3	12%	13%	40%	13%	13%	25%	-	19%	67%	-	11%	67%
COE Northern Virginia	-	-	-	1	-	-	-	-	-	-	-	20%	-	-	-	-	-	-
Computer Science	-	2	2	8	18	8	-	10%	20%	-	15%	22%	-	22%	18%	-	-	-
Dean - Engineering	-	-	-	1	-	-	-			-	-	-	-	-	-	-	-	-
Elec & Comput Engineering	1	2	3	31	19	16	3%	10%	16%	4%	12%	6%	4%	6%	8%	3%	-	11%
Engineering Education*	-	3	4	2	5	1	-	38%	80%	-	33%	80%	-	25%	60%	-	-	50%
Eng. Science & Mechanics	-	-	-	17	5	3	-	-	-	-	-	-	-	-	-	-	-	-
Industrial & Systems Eng.	-	4	1	7	6	4	-	40%	20%	-	33%	50%	-	22%	80%	-	20%	67%
Materials Sci & Engineering	2	-	1	6	3	2	25%	-	33%	25%	-	50%	29%	-	50%	25%	-	-
Mechanical Engineering	-	1	3	16	13	4	-	7%	43%	11%	6%	33%	12%	8%	17%	13%	8%	20%
Mining & Minerals Eng.	-	-	-	5	2	1	-	-	-	-	-	-	-	-	-	-	-	-

formerly Engineering Fundamentals

	Women			Men			% Women Fall 2006 Within Rank			% Women Fall 2005 Within Rank			% Women Fall 2004 Within Rank			% Women Fall 2003 Within Rank		
College of Science	**8**	**11**	**12**	**98**	**47**	**16**	**8%**	**19%**	**43%**	**7%**	**19%**	**50%**	**7%**	**18%**	**33%**	**8%**	**20%**	**36%**
Biological Sciences	3	2	5	17	9	3	15%	18%	63%	15%	20%	60%	14%	22%	50%	15%	11%	80%
Chemistry	2	1	-	12	9	5	14%	10%	-	13%	10%	-	6%	22%	-	6%	22%	-
Economics	-	1	1	8	1	-	-	50%	100%	-	33%	-	14%	-	-	14%	20%	-
Geosciences	1	1	-	9	5	-	10%	17%	-	-	25%	-	-	17%	100%	9%	25%	33%
Mathematics	1	1	2	31	5	3	3%	17%	40%	6%	17%	40%	3%	22%	-	3%	22%	-
Physics	1	1	2	8	9	3	11%	10%	40%	13%	-	50%	13%	-	33%	10%	-	50%
Psychology	-	4	2	7	6	-	-	40%	100%	-	33%	100%	14%	33%	100%	14%	36%	50%
Statistics	-	-	-	6	3	2	-	-	-	-	25%	50%	-	-	50%	-	20%	50%

Table 1 continued: Other Faculty

	Women			Men			% Women Fall 2006 Within Rank			% Women Fall 2005 Within Rank			% Women Fall 2004 Within Rank			% Women Fall 2003 Within Rank		
	A/P	Inst	Res	A/P	Inst	Res	A/P	Inst	Res	A/P	Inst	Res	A/P	Inst	Res	A/P	Inst	Res
College of Engineering	**7**	**7**	**12**	**6**	**9**	**76**	**54%**	**44%**	**14%**	**54%**	**36%**	**14%**	**53%**	**32%**	**15%**	**43%**	**52%**	**18%**
Aerospace & Ocean Eng	-	-	3	-	-	7	-	-	30%	-	-	25%	-	-	-	-	-	-
Biomedical Engineering	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
COE Northern Virginia	-	1	-	1	-	2	-	100%	-	-	-	33%	-	-	-	-	-	-
Chemical Engineering	-	-	-	-	-	3	-	-	-	-	-	-	-	-	20%	-	-	25%
Civil & Env. Engineering	-	1	1	-	-	9	-	100%	10%	-	100%	11%	-	50%	25%	-	50%	31%
Computer Science	-	2	-	-	3	5	-	40%	-	-	40%	-	-	40%	-	-	40%	-
Dean – Engineering	5	-	2	4	1	8	56%	-	20%	55%	-	20%	60%	-	30%	43%	75%	-
Elec & Comput Engineering	1	1	1	-	2	8	100%	33%	11%	100%	33%	10%	100%	33%	8%	-	50%	10%
Engineering Education*	-	-	-	-	-	1	-	-	-	-	-	-	-	50%	-	-	50%	100%
Eng. Sci. & Mechanics	-	1	1	-	1	6	-	50%	14%	-	-	13%	-	-	-	-	-	-
Industrial & Systems Eng.	-	-	1	-	1	13	-	-	7%	-	-	7%	-	-	6%	-	-	-
Materials Sci & Engineering	-	1	2	-	-	4	-	100%	33%	-	50%	33%	-	50%	40%	-	100%	40%
Mechanical Engineering	1	-	1	1	-	7	50%	-	13%	-	-	14%	-	-	20%	-	-	25%
Mining & Minerals Eng.	-	-	-	-	1	2	-	-	-	-	-	-	-	-	-	-	-	-
Ctr for Intell. Mat.-CIMSS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	17%

formerly Engineering Fundamentals

	Women			Men			% Women Fall 2006 Within Rank			% Women Fall 2005 Within Rank			% Women Fall 2004 Within Rank			% Women Fall 2003 Within Rank		
College of Science	**2**	**21**	**17**	**2**	**20**	**49**	**50%**	**51%**	**26%**	**50%**	**49%**	**21%**	**50%**	**52%**	**23%**	**0%**	**56%**	**25%**
Biology	-	1	6	-	3	15	-	25%	29%	-	33%	33%	-	33%	33%	-	20%	50%
Chemistry	-	3	6	-	3	15	-	50%	29%	-	43%	11%	-	67%	22%	-	57%	20%
Dean of Science	2	-	-	2	-	-	50%	-	-	50%	-	-	50%	-	-	-	-	-
Economics	-	-	-	-	1	-	-	-	-	-	-	-	-	20%	-	-	50%	-
Geosciences	-	-	1	-	1	6	-	-	14%	-	-	22%	-	-	11%	-	50%	20%
Mathematics	-	16	-	-	5	-	-	76%	-	-	65%	-	-	71%	-	-	71%	-
Physics	-	-	1	-	2	13	-	-	7%	-	-	-	-	-	-	-	-	-
Psychology	-	-	2	-	2	-	-	-	100%	-	-	67%	-	-	75%	-	-	75%
Statistics	-	1	1	-	3	-	-	25%	100%	-	50%	100%	-	33%	50%	-	50%	50%

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

Note: The "COE Northern Virginia" is a satellite office for the College of Engineering and is not considered a separate department. Nor is the Biomedical Engineering program a traditional department. Traditional departments, responsible for tenure decisions, for each center are based on the Virginia Tech, Blacksburg campus.

Source: Table 1 2007_COE_COS_update_fa06data.xls, IR&E (R. Gile)

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

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	-	-
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	-	-

Notes: Faculty hired at the rank of associate professor, but without tenure, who are then considered for tenure are included in the upper table. Faculty hired at the professor level, but without tenure, who are then considered for tenure, are included in the lower table. Data provided by S. Karlin as of May 2007.

Table 3: Tenure and Promotion Outcomes as of May 2007, New Assistant Professor Cohorts 1996-2005

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	-	-	-	-	-	-
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	2	-	-	-	1	1
2001/02	-	4	-	1	-	4.0	-	-	-	-	-	3
2002/03	1	2	-	1	-	2.0	-	-	-	-	1	1
2003/04	2	3	-	-	-	-	-	-	-	-	2	3
2004-05	6	3	-	-	-	-	-	-	-	-	6	3
Total Number of New Hires ('96-'05)	17	37	4	22	--	--	3	4	-	2	10	11
College Total Percentage ('96-'05)	31%	69%	24%	59%	--	--	18%	11%	-	5%	59%	30%
College Average Time to Tenure					6.25	4.59						

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*	-
1997/98	2	10	1	8	6.0	6.0	1	2	-	-	-	-
1998/99	6	9	5	9	5.4	6.0	1	-	1	1	-	-
1999/00	1	8	-	6	-	5.2	1	2	-	-	-	-
2000/01	-	11	-	3	-	5.3	-	3	-	-	-	5
2001/02	1	8	-	-	-	-	-	-	-	-	1	8
2002/03	4	9	-	-	-	-	-	-	-	-	4	9
2003/04	4	8	-	-	-	-	-	-	-	-	4	8
2004/05	5	9	-	-	-	-	-	-	-	-	5	9
Total Number of New Hires ('96-'05)	27	78	8	30	--	--	4	9	1	1	15	39
College Total Percentage (96-'05)	26%	74%	30%	38%	--	--	15%	12%	4%	1%	56%	50%
College Average Time to Tenure					5.75	5.57						

Note: Percentages are within cohort/sex, except for the column '# in Cohort;' these are percents male and female of total incoming cohort.
Source: data source advance1_9697_Assist_042007.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, 1996/97-2004/05

	College of Engineering				College of Science			
Number Hired as Assistant	Women N=27		Men N=78		Women N=17		Men N=37	
Number Promoted to Professor	Women N=1		Men N=18		Women N=0		Men N=5	
Years in Rank	Number	% of Women	Number	% of Men	Number	% of Women	Number	% of Men
0-2	-	-	-	-	-	-	2	5%
3-5	1	4%	2	3%	-	-	3	8%
6-8	-	-	-	-	-	-	-	-
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, 1996/97-2003/04

	College of Engineering				College of Science			
Number Hired as Associate	Women N=5		Men N=28		Women N=4		Men N=9	
Number Promoted to Professor	Women N=0		Men N=9		Women N=2		Men N=3	
Years in Rank	Number	% of Women	Number	% of Men	Number	% of Women	Number	% of Men
0-2	-	-	-	-	-	-	-	-
3-5	-	-	7	25%	1	25%	2	22%
6-8	-	-	2	7%	1	25%	1	11%
9-11	-	-	-	-	-	-	-	-
12-14	-	-	-	-	-	-	-	-
15 or more	-	-	-	-	-	-	-	-

Source: Data source advance1_9697_assoc_042407.sas plus each additional year for cohorts; advance1_9697_assist_042007.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 2006

College of Engineering

| | Gender | | | | |
| | M | | F | | |
Rank	N	Average Years	N	Average Years	Total N
Professor	132	18.8	6	12.7	138
Associate Professor	91	11.1	16	7.2	107
Assistant Professor	49	2.7	17	2.1	66
Total	**272**	**13.3**	**39**	**5.8**	**311**

College of Science

| | Gender | | | | |
| | M | | F | | |
Rank	N	Average Years	N	Average Years	Total N
Professor	98	23.7	8	19.3	109
Associate Professor	47	15.5	11	10.3	58
Assistant Professor	16	1.8	12	1.4	28
Total	**161**	**19.2**	**31**	**9.2**	**192**

University Total

| | Gender | | | | |
| | M | | F | | |
Rank	N	Average Years	N	Average Years	Total N
Professor	506	21.8	77	18.5	583
Associate Professor	338	13.7	132	11.2	470
Assistant Professor	178	2.8	112	2.6	290
Instructor	1	22.2	-	-	1
Total	**1023**	**15.8**	**321**	**9.9**	**1344**

Source: advance_time_at_vt_050307.sas, Tenured and Tenure-Track Faculty only
(Defined as Tenure Codes T, P, C, and E) and Academic Colleges only
Census date, September 30, 2006

Table 6. Voluntary, Non-Retirement Attrition, by Rank and Gender, 1997-2006

	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	-	3	-	-	-	-	-	3
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
Total 1997-2006	8	18	5	19	5	24	18	61

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 30MAY07
Source code: departures_faculty_vol_053007.sas

Table 7. Faculty Leadership Positions

2003-2004 Academic Year by College	All Faculty	Number of Women										
		Total	% Women	Univ. Admin.	CALS	CAUS	COB	COE	COS	LAHS	NR	VM
Full Professors*	575	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 Promotion & Tenure Committee**	9	5	56%	-	-	1	-	-	1	2	-	1
University Distinguished Professors	13	1	8%	-	-	-	-	-	-	1	-	-
Alumni Distinguished Professors	9	3	33%	-	-	-	-	-	-	3	-	-
Eminent Scholars	100	3	3%	-	-	-	-	-	1	2	-	-

2004-2005 Academic Year by College	All Faculty	Number of Women										
		Total	% Women	Univ. Admin	CALS	CAUS	COB	COE	COS	LAHS	NR	VM
Full Professors*	572	65	11%	-	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 Promotion & Tenure 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	-	-

* September census date used, other rows represent June data, total excludes any found among university administration
** Includes faculty member participants only, including faculty member-at-large

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 ADPs, UDPS, Eminent Scholar listings, DDD list, IR data for full professors

Table 7. Faculty Leadership Positions, continued

2005-2006 Academic Year by College	All Faculty	Number of Women										
		Total	% Women	Univ. Admin	CALS	CAUS	COB	COE	COS	LAHS	NR	VM
Full Professors*	588	74	13%	-	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 Promotion & Tenure Committee**	9	4	44%	-	-	-	1	-	1	1	-	1
University Distinguished Professors	13	1	8%	-	-	-	-	-	-	1	-	-
Alumni Distinguished Professors	11	3	27%	-	-	-	-	-	-	3	-	-
Eminent Scholars	106	4	4%	-	-	-	-	1	1	2	-	-

2006-2007 Academic Year by College	All Faculty	Number of Women										
		Total	% Women	Univ. Admin.	CALS	CAUS	COB	COE	COS	LAHS	NR	VM
Full Professors*	583	77	13%	-	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 Promotion & Tenure Committee**	9	5	56%	-	1	-	-	-	1	1	-	1
University Distinguished Professors	13	1	8%	-	-	-	-	-	-	1	-	-
Alumni Distinguished Professors	10	3	30%	-	-	-	-	-	-	3	-	-
Eminent Scholars	112	3	3%	-	-	-	-	-	1	2	-	-

* September census date used, other rows represent June data, total excludes any found among university administration
** Includes faculty member participants only, including faculty member-at-large

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 ADPs, UDPS, Eminent Scholar listings, DDD list, IR data for full professors

Table 8. Virginia Tech Promotion and Tenure Committees

College of Engineering	Departmental Committee 2003-2004					Departmental Committee 2004-2005					Departmental Committee 2005-2006					Departmental Committee 2006-2007				
	F		M		All	F		M		All	F		M		All	F		M		All
	#	%	#	%	#	#	%	#	%	#	#	%	#	%	#	#	%	#	%	#
AOE	0	-	8	100%	8	0	-	9	100%	9	0	-	9	100%	9	0	-	7	100%	7
ChE	0	-	4	100%	4	0	-	4	100%	4	0	-	4	100%	4	0	-	5	100%	5
CEE	0	-	6	100%	6	1	17%	5	83%	6	1	17%	5	83%	6	1	17%	5	83%	6
CS	0	-	4	100%	4	0	-	6	100%	6	0	-	7	100%	7	0	-	7	100%	7
ECE	0	-	8	100%	8	1	10%	9	90%	10	1	17%	5	83%	6	1	11%	8	89%	9
EngEd	0	-	5	100%	5	1	20%	4	80%	5	2	40%	3	60%	5	2	40%	3	60%	5
ESM	0	-	7	100%	7	0	-	7	100%	7	0	-	6	100%	6	0	-	7	100%	7
ISE	3	16%	16	84%	19	2	12%	15	88%	17	3	19%	13	81%	16	4	21%	15	79%	19
MSE	1	11%	8	89%	9	1	20%	4	80%	5	1	20%	4	80%	5	1	20%	4	80%	5
ME	2	20%	8	80%	10	3	30%	7	70%	10	2	20%	8	80%	10	1	9%	10	91%	11
MME	0	-	4	100%	4	0	-	5	100%	5	0	-	5	100%	5	0	-	5	100%	5
College Total	6	7%	78	93%	84	9	11%	75	89%	84	10	13%	69	87%	79	10	10%	76	90%	86

College of Science	Departmental Committee 2003-2004					Departmental Committee 2004-2005					Departmental Committee 2005-2006					Departmental Committee 2006-2007				
	F		M		All	F		M		All	F		M		All	F		M		All
	#	%	#	%	#	#	%	#	%	#	#	%	#	%	#	#	%	#	%	#
Bio Sci	2	25%	6	75	8	3	33%	6	67%	9	2	22%	7	78%	9	0	-	-	-	-
Chemistry	0	-	7	100	7	0	-	5	100%	5	0	-	7	100%	7	1	14%	6	86%	7
Economics	0	-	4	100	4	0	-	4	100%	4	1	20%	4	80%	5	0	-	-	-	-
Geosciences	2	33%	4	66.7	6	1	17%	5	83%	6	1	20%	4	80%	5	2	40%	3	60%	5
Mathematics	0	-	8	100	8	1	14%	6	86%	7	0	-	7	100%	7	0	-	7	100%	7
Physics	1	13%	7	87.5	8	0	-	5	100%	5	1	17%	5	83%	6	1	17%	5	83%	6
Psychology	3	50%	3	50	6	3	50%	3	50%	6	2	33%	4	67%	6	0	-	-	-	-
Statistics	0	-	4	100	4	0	-	4	100%	4	0	-	4	100%	4	0	-	-	-	-
College Total	8	16%	43	84%	51	8	17%	38	83%	46	7	14%	42	86%	49	4	16%	21	84%	25

Table 8. Virginia Tech Promotion and Tenure Committees, continued

	College Committees 2003-2004					College Committees 2004-2005					College Committees 2005-2006					College Committees 2006-2007				
	F		M		All	F		M		All	F		M		All	F		M		All
	#	%	#	%	#	#	%	#	%	#	#	%	#	%	#	#	%	#	%	#
Engineering	1	4%	22	95%	23	1	4%	22	95%	23	3	12%	22	88%	25	2	8%	23	92%	25
Science	3	33%	6	66%	9	1	11%	8	88%	9	3	33%	6	67%	9	0	-	8	100%	8
Total	**4**	**12%**	28	87%	32	**2**	**6%**	30	94%	32	**4**	**13%**	28	88%	32	**2**	**6%**	31	94%	33

Source: Data provided by respective colleges

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 9. New-Hires in College of Engineering and College of Science
1997-2006

	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%**

Source: Data from bov_hiring_050307_total.

AdvanceVT Research Seed Grant Recipients 2006 – 2007

In May of 2007, *AdvanceVT* requested that the seed grant recipients for the current academic year (2006 – 2007) complete a survey to ascertain the impact of the research seed grants on recipients' research and career progression. Five of the six recipients responded. The survey may be found at the end of this report.

Of the objectives outlined by each recipient in their seed grant applications, three reported that these objectives had been somewhat achieved. The other two respondents reported largely achieving their research objectives. When asked if the grant has led to the submission of new proposals for external funding, three of the respondents responded affirmatively, claiming that one to two proposals had been submitted for funding. Each of these proposals was still under review. Two respondents reported that they had yet to submit a proposal for external funding.

Each respondent reported success in conducting experiments and collecting data with the seed grant. Three respondents reported funding a graduate student or additional personnel with the seed grant funds. Again, three of the respondents reported presenting at a professional meeting on the topic proposed in the seed grant application. Two reported that they had not yet presented on the topic.

While three of the five respondents reply in the affirmative to each question, these respondents are not the same. The chart below demonstrates that the answers vary by respondent, although the two respondents who reported largely achieving the objectives outlined in their individual seed grant applications also acknowledge an impact on their career progression by reporting requests for external funding (one or more), hiring additional staff, and presenting their research at conferences and meetings.

Interestingly, the accomplishment of stated objectives requires a somewhat subjective response from each respondent. If the respondent has been disappointed with the overall results of their research, then they may respond negatively. An extrapolation of this data may indicate that the overall satisfaction of each respondent with the outcomes of their research may encourage the respondent to produce ancillary outputs (although the small sample size does not necessarily support this assertion).

Each respondent reported listing the seed grant on their annual Faculty Activity Report. Two respondents reported incorporating their research into their classes and/or instruction. One respondent reported, "I lecture about my supported work in both my Intro Physical Geography class and in my graduate courses." Two respondents provide details of collaborations borne from the seed grant funding, ranging from relationships built with researchers at national laboratories to collaborators at state universities.

When asked how the seed grant has influenced their research interests and career development, respondents provided the following comments:

"The seed grant has allowed me to collect preliminary data for external funding."

"It has helped to launch my research into a slightly different research area than my main focus, giving me the opportunity for more serious collaborations."

"[It] allowed me to enter a[n] emerging new field of paleoenvironmental research. I was able to carry out a pilot study with a graduate student who is presently finishing his MS degree looking at data collected during the AdvanceVT supported research and together we have given three conference presentations that have focused attention on my research program here at VT."

"[The] grant has provided me with an excellent opportunity to step into an area of research interest for me and develop some contacts. Due to complications related to the clinical part of my position I have not made as much progress as I had hoped with the grant, but will in the next 6 months."

When asked about how the program can be improved, they provided the following feedback:

"It is a great program and has significantly helped advance my research and exposure."

"This program is a extremely helpful and important to untenured female scientists. It is well managed though I had trouble getting access to the money in the beginning and thus had less than one year to spend the funds. Also, I think all colleges represented should have representation on the proposal review panel (perhaps they already do, but not sure)."

Respondent	Accomplished objectives outlined in the seed grant application?	How closely is research related to primary research interest?	New proposal for external funding?	Funding of graduate student or new personnel?	Presentations using research conducted under seed grant?	Journal articles, book chapters, etc.?	Incorporated research into class and instruction?	Collaborations launched as a result of the seed grant?
1	Somewhat	Very closely	Yes (1 proposal)	No	No	N/A	N/A	N/A
2	Somewhat	Somewhat related	No	Yes	Yes	Yes	Yes	Yes
3	Largely	Closely	Yes (2 proposals)	Yes	Yes	N/A	N/A	N/A
4	Largely	Very closely	Yes (1 proposal)	Yes	Yes	N/A	Yes	Yes
5	Somewhat	Very closely	No	N/A	No	N/A	N/A	N/A

The planned 6 month fellowship in Academic Affairs in the College of Veterinary Medicine was completed between July 2006-January 2007. Three faculty members from peer institutions provide relief from clinical responsibilities during this interval. I physically relocated my office to the college Office of Academic Affairs so that I could be an active participant in the daily workings of this office. In addition to my specific project, review of the 4th year curriculum, I also actively participated in revision of the student handbook, design and implementation of standards for student professionalism, and organized student awards ceremonies for both fall and spring awards presentations. I also chaired the college standards committee. This is a newly formed committee that reviews issues related to professional or academic standards within our college and provides recommendations to the Associate Dean of Academic Affairs. During the 6 months that this committee has been formed, we have reviewed material submitted from 7 students that were either dismissed or in danger of dismissal from the college for academic reasons. In this capacity, I also assisted Dr. Turnwald, associate dean for academic affairs, in two separate legal proceedings regarding students that had been dismissed from the college.

The specific project planned during my fellowship was a comprehensive review of the 4th year clinical curriculum. This was accomplished by (1) indirect assessment of student perceptions of core clerkships through survey, (2) direct assessment of student success in each clerkship via validation of the clerkship grading system by a psychometrician and statistical assessment of the consistency of grades across clerkships and the repeatability of clerkship grades by individual students within clerkships, (3) assist clerkship leaders in filling out clerkship reviews by providing case numbers and student numbers in each rotation, and (4) provide materials to Curriculum Board for their independent assessment of clerkships. All of these goals were accomplished. Preliminary data was presented at a meeting at St. Georges University, Grenada, West Indies in February to members of the academic affairs offices from colleges of veterinary medicine in the US and UK. The curriculum board will be meeting in the next few months to review this material and publications should be forthcoming in the next year.

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

AdvanceVT Leadership Fellowship Report
Dr. Kathleen Jones, Associate Professor, History

My *AdvanceVT* fellowship was constructed to address issues of faculty recruitment and retention in the College of Liberal Arts and Human Sciences. In consultation with Associate Dean Valerie Hardcastle, I decided to limit the scope of the project to focus on mentoring. To that end I have been exploring best practices and mentoring needs in the college – the product of this investigation will be a handbook for department chairs.

During fall semester, with the aid of a graduate assistant, I identified current research on mentoring, with particular emphasis on mentoring in an academic setting. Using this material as background for the project, I then interviewed individuals from two departments known for successful mentoring programs – Virginia Fowler in the Department of English and Fred Piercy from Human Development.

The principal part of the semester project, however, was a series of focus group meetings with faculty. Based on the research and discussions with department personnel, I created a checklist of questions about the extent and quality of mentoring as seen from the bottom up. These questions were sent to all untenured faculty members in the college along with an invitation to meet and discuss their perceptions of mentoring and their unmet needs. I also contacted a group of recently tenured faculty members, with a similar set of questions, and met with them separately. An additional meeting was held with faculty members from Northern Virginia.

The final undertaking of the semester was participation in a university-wide peer mentoring workshop sponsored by the Organization of Women Faculty and *AdvanceVT*. At this workshop for untenured women faculty I presented results of my research and served as a table facilitator for a group of women the College of Business and from the Department of Human Development.

The second part of the fellowship is to occur during the summer, when I will draft a report about best and worst practices for department chairs. Funding from the fellowship will be used to reproduce and distribute the report.