

VOLUME 8, NUMBER 3

## TRANSFORMATIONS

**APRIL 2011** 

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RESEARCH ON 4 WOMEN IN STEM FIELDS

AdvanceVT
Peggy Layne—Director
Robyn Duncan—Assistant
Molly Hall—GA

134 Burruss Hall Mail Code 0180 Blacksburg, VA 24061

Phone: 540.231.7682 www.advance.vt.edu advancevt@vt.edu

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#### **UPCOMING EVENTS: SPRING 2011**

#### **Graduate Student Lunch Seminar**

**Higher Education 101** 

Monday, April 4, 2011 12:00 pm—1:30 pm Graduate Life Center, Room F

Join **Dr. Ellen Plummer**, Assistant Provost, to learn more about how colleges and universities operate, including different types of educational institutions, university governance, and challenges currently facing higher education in the U.S.

Leadership Lunch Seminar

Cynda Ann Johnson, M.D., M.B.A.

Wednesday, April 6, 2011 12:00 pm—1:30 pm Inn at Virginia Tech, Latham Ballroom B

Join us for a discussion with **Dr. Cynda Ann Johnson**, President and Founding Dean of the
Virginia Tech Carilion School of Medicine. Dr.
Johnson will update attendees on new developments and future directions for the school, as well as field questions from the audience.

Registration for upcoming lunches is available at www.advance.vt.edu.

## 2011 MENTORING MICRO-GRANT RECIPIENTS ANNOUNCED

With support from *AdvanceVT* and the Office of the Provost, 10 pre-tenure faculty members were recently awarded \$1500 Mentoring Micro-Grants to implement a mentoring project of their own design. Examples of projects funded by Mentoring Micro-Grants include modest honoraria to bring a recognized scholar or teacher to Virginia Tech for a departmental or interdisciplinary event; travel expenses to co-present with a mentoring partner at a conference and/or meet new or existing mentoring partners; and coaching services to



improve writing, productivity, or time management skills. 2011 grant recipients represent a wide variety of disciplines from six different academic colleges. Please join us in congratulating the following 2011 Mentoring Micro-Grant recipients: Eva Collakova, Plant Pathology, Physiology, and Weed Science; Mariana Falconier, Human Development; Suqin Ge, Economics; Elise Chandon Ince, Marketing; Holly Matusovich, Engineering Education; Helene Renard, Interior Design; Alan Weinstein, Music; Bonita Williams, Virginia Cooperative Extension; Woodrow Winchester, Industrial and Systems Engineering; and Laura Zanotti, Political Science.

#### TRANSFORMATIONS

# 2009-2010 COACHE SURVEY RESULTS TENURE PRACTICES AND EXPECTATIONS

During the fall 2009 semester, 211 of 307 eligible pre-tenure faculty members at Virginia Tech completed the 2009-2010 Collaborative on Academic Careers in Higher Education (COACHE) Tenure-Track Faculty Job Satisfaction Survey. The COACHE survey is administered to junior faculty members at colleges and universities across the nation and provides university administrators with information that is designed to improve faculty recruitment and retention efforts.

Virginia Tech's 2009-2010 COACHE survey results not only include the perceptions of Virginia Tech faculty members, but how Virginia Tech ranks in comparison to five pre-selected peer institutions that also participated in the 2009-2010 COACHE administration. Virginia Tech chose the following universities to serve as peer institutions: lowa State University, North Carolina State University, University of Illinois at Urbana-Champaign, University of Missouri at Columbia, and Washington State University. A total of 103 universities participated in the survey during the 2009-2010 academic year.

Virginia Tech's COACHE survey results have been shared with the university community at a variety of forums during the 2010-2011 academic year, including a series of articles in the *AdvanceVT* TRANSFORMATIONS newsletter. The final topic in this series is tenure practices and expectations.

In terms of tenure expectations, the COACHE survey asked pre-tenure faculty members to share their perceptions of both the *clarity* and *reasonableness* of tenure expectations related to their work as scholars, teachers, advisors, departmental colleagues, campus citizens, and members of the community. Overall, 76% of participants responded that the clarity of expectations for their work as a scholar were either "fairly clear" or "very clear," while 68% responded that the reasonableness of expectations as a scholar were either "fairly reasonable" or "very reasonable." This data indicates that many pretenure faculty respondents found what is expected of them as a scholar at Virginia Tech to be relatively clear and reasonable. However, the overall means for other work domains were substantially lower.

Areas in which Virginia Tech scored fifth or sixth among its peers and in the bottom quartile of all universities were the clarity of tenure expectations related to faculty members' roles as teachers, departmental colleagues, campus citizens, and members of the community, and the reasonableness of tenure expectations related to serving as departmental colleagues and campus citizens. Specifics regarding Virginia Tech's rankings in terms of the clarity of tenure expectations are provided in the table below.

## AREAS OF CONCERN REGARDING CLARITY OF TENURE EXPECTATIONS

Is what's expected of you in order to earn tenure CLEAR to you regarding your performance as a:

	% Clear*	% Unclear*	Peer Rank	National %tile
Teacher	62	18	5	13
Colleague in the department	31	34	6	5
Campus citizen	21	45	6	2
Member of the community	27	44	5	25

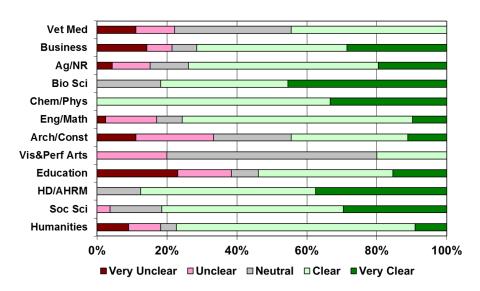
<sup>\*</sup>Percentage does not equal 100% due to respondents who selected neither clear nor unclear

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# 2009-2010 COACHE SURVEY RESULTS - CONTINUED TENURE PRACTICES AND EXPECTATIONS

In terms of tenure practices, 72% of survey participants responded that both the criteria for tenure and the tenure process at Virginia Tech were either "fairly clear" or "very clear." These figures indicate that many pre-tenure faculty respondents perceived the tenure process at Virginia Tech to be transparent. However, the chart below demonstrates that there were substantial differences in the perceived clarity of the tenure process among academic disciplines.

## DISCIPLINARY DIFFERENCES IN TENURE CLARITY



Although the majority of pre-tenure faculty respondents (71%) agreed that tenure decisions at Virginia Tech are primarily based on performance rather than factors such as relationships or demographics, approximately 35% of respondents reported receiving mixed messages from senior colleagues about the requirements for tenure.

## TRANSPARENCY OF THE TENURE PROCESS

	% Agree*	% Disagree*	Peer Rank	National %tile
I have received consistent messages from senior colleagues about the requirements for tenure.	55	35	6 <sup>th</sup>	43%
In my opinion, tenure decisions here are made primarily on performance-based criteria (e.g., research/creative work, teaching, and/or service) rather than on non-performance based criteria (policies, relationships, and/or demographics).	71	14	4 <sup>th</sup>	62%

<sup>\*</sup>Percentage does not equal 100% due to respondents who selected neither agree nor disagree

Each of the figures in this article highlights opportunities for improvement and suggests future areas of emphasis for *AdvanceVT*, the Office of the Provost, and individual academic departments. More information about the COACHE survey can be found at www.advance.vt.edu.

# WHY SO FEW? WOMEN IN SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS

Published in 2010 by AAUW, *Why So Few? Women in Science, Technology, Engineering, and Mathematics* presents eight major research findings that demonstrate ways in which social and environmental factors contribute to the underrepresentation of girls and women in STEM fields. The report offers valuable information for each stage of the STEM "pipeline" from K-12 education, to university education, to the workplace.



Research findings include the following:

- Spatial skills can improve dramatically within a short time period. Girls who receive spatialvisualization training are more likely to persist in engineering than female counterparts who do not receive training.
- Pre-tenure female STEM faculty report that they are less satisfied with how well they "fit" in their academic department than male colleagues. This, and other key differences in job satisfaction, lead more women than men to leave academe early in their careers.
- Unconscious bias against women in STEM fields is prevalent in contemporary society, discouraging women from pursuing and persisting in math and science fields.

In addition, the report offers a wealth of practical recommendations for changing perceptions and biases that negatively impact the number of women in science and engineering disciplines (recommendations that address the university environment are provided below).

To download a copy of Why So Few?, visit www.aauw.org/learn/research/whysofew.cfm.

# Recommendations for Fostering Supportive University Environments (pp. 92-95) To attract and retain more female students in science and engineering:

- Actively recruit women into STEM majors.
- Send an inclusive message about who makes a good science or engineering student.
- Emphasize real-life applications in early STEM courses.
- Teach professors about stereotype threat and the benefits of a growth mindset (i.e., intellectual skills are not innate, but can be improved through training and hard work).
- Make performance standards and expectations clear in STEM courses.
- Take proactive steps to support women in STEM majors.
- Enforce Title IX in science, technology, engineering, and math.

#### To attract and retain female faculty:

- Conduct departmental reviews to assess the climate for female faculty.
- Ensure mentoring for all faculty.
- Support faculty work-life balance.

AdvanceVT is an initiative created with support from the National Science Foundation to increase the representation and advancement of women in academic science and engineering careers by changing institutional culture and practices. Virginia Tech is now in the process of incorporating aspects of AdvanceVT across the institution to benefit all faculty members.

Elements of AdvanceVT include:

Recruitment and Retention

Networking and Mentoring

Building a Supportive Community

Preparing the Future
Professoriate

AdvanceVT publishes university statistics annually and newsletters bimonthly. To view previous newsletters and university statistics, please visit

www.advance.vt.edu