

*Increasing the representation and advancement of women in academic science and engineering careers*

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For more information and upcoming events, visit us on the web:

[www.advance.vt.edu](http://www.advance.vt.edu)

## Upcoming Events Spring 2005

### **Connections: Spring Reception for Women Colleagues**

Tuesday, March 22<sup>nd</sup>, 2005, 5:00 pm-7:00 pm, Owens Banquet Room  
Join faculty, staff, and graduate students to meet new colleagues and network across colleges, departments, and institutes. Sponsored by The Graduate School, The Organization of Women Faculty, The Office of International Research, Education and Development, The Women's Center, and *AdvanceVT*.



### **Distinguished Scholars Series: Dr. Elaine Oran**

Wednesday, April 6<sup>th</sup>, 2005, 4:00 pm, 1045 Pamplin  
*"Matchsticks, Scramjets, and Black Holes: Numerical Simulation Faces Reality"*

Dr. Oran is a Senior Scientist at the US Naval Research Lab, and a pioneer in computer technology that has unified engineering, scientific, and mathematic disciplines into a methodology for solving complex reactive flow problems.

### **Graduate Women's Conference: A Light at the End of the Pipeline?**

April 29-30, 2005, Donaldson Brown Hotel and Conference Center  
Discuss academic careers, personal and professional issues, women of color, women in science and engineering. Sponsored by *AdvanceVT* and The Women's Center

### **Graduate Student Lunch**

April 21, 2005, noon, Donaldson Brown Hotel and Conference Center  
Drs. Mary Kasarda and Madeline Schreiber  
*"Applying for an Academic Position"*  
What should you be thinking about now to prepare for next year's job search? Get pointers from two Virginia Tech faculty members.

### *AdvanceVT Awards Committee*

The *AdvanceVT* Awards Committee needs your help! Please send any information to Mary Kasarda ([maryk@vt.edu](mailto:maryk@vt.edu)) on awards that you would like to be nominated for (don't be shy!), awards that you would like to nominate someone else for, or just awards you are aware of! We are starting a database including a calendar of nomination dates so that if we miss an opportunity this year, we will have it on the calendar for next year.

# AdvanceVT Leadership Development Program 2005 Cohort

Eight women from across the university who demonstrate an interest in and potential to assume leadership roles have been selected to participate in a series of workshops designed by *AdvanceVT* to build leadership skills.

*“Recent discussions concerning women's participation in science and engineering (S&E) lead AAAS to re-affirm publicly its long-standing commitment to increasing the participation of women in S&E education and careers. AAAS applauds the significant contributions of a large number of women to the advancement of science and to its service to society. Moreover, we wish to make clear that while historically, gender has predicted participation in S&E careers, there is no evidence—nor has there ever been—that it predicts aptitude in science.”*

- American Association for the Advancement of Science, Board of Directors, February 5, 2005



**Dr. Ann Stevens**

Associate Professor  
Department of Biology

*Dr. Stevens' research interests are focused on environmental sensing and gene expression in bacteria. Much of the work in her laboratory involves studies of the process of bacterial cell-cell communication known as quorum sensing.*

**Dr. Elizabeth A. Grabau**

Associate Professor  
Department of Plant Pathology, Physiology and Weed Science

*Dr. Grabau's research area is plant biotechnology, with particular emphasis in crop improvement. Current projects include modifying plants for improved nutrient availability and enhanced disease resistance and their impact on human and animal nutrition as well as protecting natural resources and the environment.*



**Dr. Valerie Grey Hardcastle**

Professor  
Chair, Department of Science and Technology in Society  
*Dr. Hardcastle is the Director of the Graduate Program in Science and Technology Studies. She has authored five books and numerous articles. Her research focuses on the theoretical and empirical interfaces between neuroscience, psychiatry, and psychology.*



**Dr. Janis P. Terpenney**

Associate Professor  
Department of Engineering Education

*Dr. Terpenney's research goal is to revolutionize how engineered products and systems are conceptualized and configured. Dr. Terpenney is one of the founding co-directors of the NSF Center for e-Design, a multi-university National Science Foundation industry-university cooperative research center.*



# AdvanceVT Leadership Development Program 2005 Cohort (continued)

Comments from Leadership Development Program applicants:

*“Institution transformation will occur at Virginia Tech as more women and underrepresented minorities enter visible leadership positions on and off campus.”*

*“My interests in participating in this program include a short-term personal goal of gaining additional experience in the skills required for effective leadership ... as well as a broader goal of being able to impact the lives of other women scientists, either as a role model or by creating an environment that is more supportive of women’s careers and advancement into leadership positions.”*



**Dr. Mary Kasarda**

Associate Professor  
Department of Mechanical Engineering  
*Dr. Kasarda specializes in magnetic bearing, rotor dynamic, and health monitoring research topics. She has six years of professional engineering experience and her background is in various aspects of turbomachinery engineering.*

**Dr. Virginia Ann Buechner-Maxwell**

Associate Professor  
College of Veterinary Medicine  
*Dr. Buechner-Maxwell is the Section Chief of Large Animal Surgery and Medicine. Her clinical interests and expertise include equine neonatal medicine, respiratory disease and clinical nutrition. She continues to explore the pathogenesis of allergic airway disease in her research utilizing an equine model of human asthma called Equine Recurrent Airway Obstruction.*



**Dr. Amy Bell**

Associate Professor  
Department of Electrical and Computer Engineering  
*Dr. Bell is Director of the Digital Signal Processing and Communications Lab. Bell conducts research in wavelet image compression, embedded systems, signal and image processing for systems biology applications, and engineering education.*

**Dr. Mary Leigh Wolfe**

Associate Professor  
Department of Biological Systems Engineering  
*Dr. Wolfe teaches and conducts research in the areas of nonpoint source pollution control, hydrologic modeling, agricultural waste management, and watershed management.*



## 2005 Research Seed Grant Recipients

*AdvanceVT* seed grants for junior faculty members assist them in preparing and submitting proposals for external research funding.

*"Harvard University President Lawrence Summers' recent statement that innate differences between the sexes might explain women's poor representation in science and engineering has generated strong public debate. Summers' "call for more research" ... suggests that there is no overwhelming body of serious scholarship that informs this topic. Yet there is substantial research that provides clear and compelling evidence that women, like men, flourish in science, just as in other occupational pursuits, when they are given the opportunity and a supportive environment."*

*- American Sociological Association Council, February 28, 2005*



**Dr. Madeline Schreiber**

Assistant Professor  
Department of Geosciences

*Dr. Schreiber's research utilizes surface sensitive imaging and characterization techniques, including transmission electron microscopy, X-ray adsorption near-edge structure spectroscopy, and extended X-ray absorption fine structure spectroscopy, to probe complex interactions at arsenic-solution-mineral interfaces.*

**Dr. Tess Wynn**

Assistant Professor  
Department of Biological Systems Engineering  
*Dr. Wynn's research addresses development of sensors for continuous sediment monitoring in streams to support field research on watershed, water quality, and stream management.*



**Dr. Giti Khodaparast**

Assistant Professor  
Department of Physics  
*Dr. Khodaparast proposes to study unexplored spin dependent properties of magnetic and nonmagnetic narrow gap semiconductors, with an emphasis on dynamical aspects using magneto-optical techniques.*

**Dr. Leigh McCue**

Assistant Professor  
Department of Aerospace and Ocean Engineering  
*Dr. McCue's research is intended to develop multi-dimensional Melnikov functions to accurately study capsizes of ships in multiple degrees of freedom.*



**Dr. Maura Borrego**

Assistant Professor  
Department of Engineering Education  
*Dr. Borrego will research culture change in engineering education with a focus on increasing participation of women and minorities. Her research will identify agents of change that are most effective in promoting acceptance.*