

National Science Foundation Partner Meeting  
Elizabeth City State University &  
The University of New Hampshire

December 3, 2009

*University of New Hampshire Biographies*

**Julie E. Williams, Ph.D.**

Senior Vice Provost for Engagement and Academic Outreach

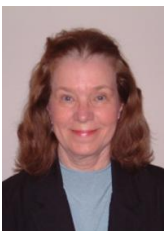


Dr. Julie E. Williams is the Senior Vice Provost for Engagement and Academic Outreach at the University of New Hampshire (UNH). She provides institutional leadership for the UNH public engagement mission and is also responsible for the development of externally funded

research and education initiatives that have societal and broader impact. She developed the University's first long term federally funded partnership with a historically black university to help broaden the participation of underrepresented students and faculty in the science, technology, mathematics and engineering disciplines. Since joining UNH in 2001, she has held key leadership roles in university-wide strategic planning, institutional accreditation, and unit level strategic planning. She is responsible for developing one of the nation's largest, most disciplinarily diverse undergraduate research conferences held annually at UNH. She also provides leadership for and catalyzes faculty programs in the Joan and James Leitzel Center for Mathematics, Science and Engineering Education. Dr. Williams was awarded a Ph.D. in clinical psychology from the University of Tennessee in 1986, was a predoctoral fellow at Yale University, completed her undergraduate education at the College of William and Mary and was awarded an American Council on Education Fellowship in 2005.

**Janet Campbell, Ph.D.**

Interim Director of the Institute for the Study of Earth, Oceans, and Space; Research Professor of Earth Sciences



Dr. Campbell has over 30 years of experience in ocean remote sensing research and development with a focus on oceanic primary productivity and biogeochemical processes. She began her career as an Aerospace Technologist with the

NASA Langley Research Center in Virginia. Between 1982 and 1993, she was a research scientist at the Bigelow Laboratory for Ocean Sciences. While at Bigelow, she created the *Gaia Crossroads Project* with funding from Apple Computer and NASA. This project taught K-12 teachers in Maine and New Hampshire to use satellite imagery as an educational resource. While at UNH, she has taught graduate courses related to her research and currently directs the research of graduate students involved in various aspects of ocean remote sensing. She is a member of NASA's Ocean Color Research Team, and has served as Program Manager for Ocean Biology and Biogeochemistry at NASA Headquarters. As director of the NOAA-funded Coastal Ocean Observation and Analysis Center (2002-2008), she has been engaged in developing methods for monitoring coastal marine ecosystems. In recent years, she was the Associate Dean for Research in the College of Engineering and Physical Sciences, and more recently, Deputy Vice President for Research at UNH. She holds a Ph.D. in Statistics from Virginia Polytechnic Institute and State University, a Masters degree in mathematics from Vanderbilt University, and a Bachelors degree from Mary Baldwin College.

**Karen Graham, Ph.D.**

Director, Joan & James Leitzel Center for Mathematics, Science and Engineering Education and Professor, Department of Mathematics



Dr. Graham was appointed the first director of the Joan and James Leitzel Center for Mathematics, Science, and Engineering Education in January 2003. Dr. Graham is a Professor of Mathematics and served as Interim Chair of the Department of Mathematics and Statistics at the University of New Hampshire (UNH) from July 2002-June 2003. She also serves as the director of the department's Master of Science (MST) program for teachers of mathematics. Dr. Graham is an experienced teacher and mathematics education researcher. Her research interests include the teaching and learning of calculus

and mathematics teacher development. She has directed numerous federal and state-funded projects, including the current NSF-funded GEO-Teach and PAID ADVANCE initiatives. Under her leadership, the Joan and James Leitzel Center has established a successful record of funding (nearly \$7 million dollars of support over the course of six years) and serves as a model of engaged scholarship across the university. Dr. Graham has served on several national, regional, and state committees and has presented numerous lectures and workshops on her work at the state, regional and national level. In 1998 she was the recipient of New Hampshire Teachers of Mathematics' Richard H. Balomenos Mathematics Education Service Award for her service to the mathematics education community in New Hampshire and in 2008 received the UNH Alumni Association Award for Excellence in Public Service. Dr. Graham received her Master of Arts in Education from State University of New York at Albany and her Doctor of Philosophy in Mathematics Education in 1986 as well as her Master of Science in Mathematics in 1983 from University of New Hampshire.

### **Stephen Hale, Ph.D.**

Research Associate, Joan and James Leitzel Center for Mathematics, Science, and Engineering Education



Dr. Hale has over nine years experience in science education and outreach activities at the University of New Hampshire. He led programs in Project SMART (Science and Mathematics Achievement through Research Training) to attract high school students into STEM (Science, Technology, Engineering, and Math) and taught courses for environmental science teachers on how to integrate inquiry-rich teaching and research practice into classroom instruction. He joined the Leitzel Center team in August 2005, where he broadened his already diverse research and teaching interests in climate change; vertebrate ecology; and satellite remote sensing to include transformations in science education and outreach that increase all-levels of students' interest, enthusiasm, and participation for the STEM disciplines. Dr. Hale received his B.S. degree in Marine Science/Biology from the University of Miami and an M.S. in Zoology and Physiology from Louisiana State University. In 2001, he earned his Ph.D. in Natural Resources at the University of New Hampshire, where he integrated wildlife distribution modeling with data from satellite remote sensing imagery.

### **George Hurtt, Ph.D.**

Director, Complex Systems Research Center and Associate Professor, Department of Natural Resources and the Environment



Dr. Hurtt is the founding Director of Research & Discover, a NASA-UNH Joint Educational Initiative, Director of the Complex Systems Research Center, EOS's main center focused on Earth System Science, and Chair of the Natural Resources and Earth System Science Ph.D. Program, UNH's largest doctoral program. He is interested in the theory and application of community and ecosystem ecology. His primary approach is to combine mathematics and data to develop models for understanding and predicting the structure and dynamics of ecological systems. Dr. Hurtt also teaches at both the undergraduate and graduate level. He was the founding Chair of the UNH Interdisciplinary Science and Engineering Symposium, founding Chair of the UNH Interdisciplinary Environmental Science Seminar Series, and now leads the university's Sustainability Science Lecture Series. Dr. Hurtt earned a B.A. in Biology from Middlebury College in 1990. His advanced degrees are in Ecology and Evolutionary Biology. In 1992, he received a M.S. from the University of Connecticut. In 1994, he received a M.A., and in 1997 a Ph.D., from Princeton University. He was a Postdoctoral Fellow at Princeton prior to joining the faculty at the University of New Hampshire in 1998. Dr. Hurtt is Co-Chair of the university's Engagement Advisory Board, and recently co-led the university's successful Carnegie Community Engagement Classification Application.

### **Joel E. Johnson, Ph.D.**

Assistant Professor, Department of Earth Sciences



Dr. Johnson's research interests lie within the field of marine geology and have evolved from a background in terrestrial geology (B.S. University of Minnesota-Duluth), structural geology and tectonics (M.S. University of Illinois), and marine geology/oceanography (Ph.D. Oregon State University). Dr. Johnson completed his Ph.D. at OSU in 2004, where he worked on the deformation, fluid venting, and slope failure history of a gas hydrate province on the Cascadia margin. He was also involved in reconstructing the Holocene record of past Cascadia subduction zone earthquakes using submarine canyon turbidite records and sailed a

shipboard sedimentologist on ODP Leg 204 (Drilling Gas Hydrates). Following his work at OSU, he spent a year as a post-doctoral fellow at the Monterey Bay Aquarium Research Institute in Moss Landing California, where he studied records of Late Holocene turbidity currents in Monterey canyon. Since his arrival at UNH in 2005, Dr. Johnson has been involved in major coring expeditions in gas hydrate bearing sediments in the Indian and Arctic Oceans; addressing both the geological host environment and stability of gas hydrate and the geological and paleoclimatological evolution of these regions. During the last 3 years, Dr. Johnson has also been actively involved as a co-PI in UNH's TESSE (Transforming Earth System Science Education) program. TESSE is a NSF-sponsored, multi-institutional program aimed at pre-service and in-service Earth Systems Science teacher education and enrichment through research. At UNH, Dr. Johnson teaches graduate and undergraduate courses in oceanography, sedimentology, and tectonics and conducts research with several undergraduate and graduate students.

#### **Brad Kinsey, Ph.D.**

Associate Professor, Department of Mechanical Engineering and Materials Science



Dr. Kinsey's research is in the area of bulk deformation processing of metals on multiple size scales, from nano-molding of Bulk Metallic Glass materials to assessing failure limits of sheet metals for automotive applications. He has also conducted research in engineering education to assess and improve the spatial ability of students, which has been correlated with retention and achievement in engineering fields, and the impact of FIRST (For the Inspiration and Recognition of Science and Technology) competitions, which are international middle school and high school robotics contests. The results of his research have been presented in over fifty scientific publications. He received his Bachelor's degree from the University of Michigan in 1992 and his Master's and Doctoral degrees from Northwestern University in 1998 and 2001 respectively, all in Mechanical Engineering. His awards include a CAREER Award from the National Science Foundation in 2007, the UNH Assistant Professor of the Year Award in 2006-07, the Chair's Award for Best Paper from the American Society for Engineering Education, Engineering Design Graphics Division in 2007, and the Ralph R. Teetor Award from the Society of Automotive Engineers in 2006.

#### **Barrett Rock, Ph.D.**

Professor, Department of Natural Resources and the Environment, and Founding Director, Forest Watch, Complex Systems Research Center



Dr. Rock is Director of Forest Watch, a K-12 outreach program (now in its 15th year) focused on engaging New England precollege students in authentic hands-on study of ground-level ozone impacts on white pine, a bio-indicator species. Over the past twenty years, his research efforts have focused on identifying and characterizing forest response to air pollution. This work has centered on forest responses in both the northeastern United States and central Europe (primarily in the Czech Republic), and the K12 outreach programs called Forest Watch, Project SMART, and Jak se maji, Smrky? (How are you, spruces?) have evolved to reflect Dr. Rock's research methods. Forest Watch and Project SMART have focused on engaging pre-college students in the process of assessing forest health in New England, while Jak se maji, Smrky? has become a similar effort in the Czech Republic. Because the processes of physical climate change are directly connected to chemical climate change processes (air pollution such as ground-level ozone), a fourth outreach effort of Dr. Rock has been the New England Regional Assessment (NERA) of the potential regional impacts of climate change, aimed at the general public. Dr. Rock's final outreach effort, entitled Measuring Vegetation Health (MVH), is aimed at the informal education audience, and is offered in collaboration with the Boston Museum of Science, the New England Science Center Collaborative, and the Lawrence Hall of Science at UC Berkeley. The MVH effort builds on all of the other outreach efforts. Dr. Rock received his M.S. and Ph.D. from the University of Maryland in Biology.

#### **Ruth Varner, Ph.D.**

Research Assistant Professor/Affiliate Assistant Professor, Complex Systems Research Center



Dr. Varner is a Research Assistant Professor in the Complex Systems Research Center in the University's Institute for the Study of Earth, Ocean and Space. Her work is focused on using varied field techniques to understand the cycling of radiatively important trace gases in terrestrial and marine ecosystems. Most recently, her work has focused using a combination of long term measurement of fluxes in conjunction with field

manipulations and isotopic methods to understand the cycling of carbon dioxide and methane in wetland ecosystems. She received a Bachelor's degree in Geology from Hartwick College in 1991, a Master's Degree in Hydrology in 1993 and a Ph.D. in Geochemical Systems in 2000 from the University of New Hampshire. Committed to broadening participation in the STEM disciplines, Dr. Varner currently serves as the Program Director for UNH's ADVANCE PAID program, as a leadership team member for the Northeast Girl's Collaborative Project, and a faculty recruiter/mentor for UNH's NEAGEP program. She compliments this work with girls as a leader and recruiter for the Girl Scouts of Maine. She is jointly appointed in the Department of Earth Sciences where she teaches both undergraduate and graduate level courses in environmental science. Dr. Varner is also a Co-PI of UNH's GEO-Teach program to Transform Earth System Science Education (TESSE) by working with pre and in-service middle and high school teachers. She also serves currently as the program coordinator for the cross-college interdisciplinary undergraduate Environmental Science program.

### **Sherry Vellucci, DLS**

Professor and Dean, University Libraries



Dr. Vellucci is Professor and Dean of Libraries at the University of New Hampshire. Currently she is leading the development of the university's Scholars Repository, collaborating on development of a university-wide database for researcher profiles, and serving on the university's Cyber-infrastructure Committee and Research Advisory Council. Prior to her appointment at UNH she served on the faculty of Rutgers University, School of Communication and Information, Department of Library & Information Science, where she taught courses in information organization, metadata, and cataloging and classification. Dr. Vellucci also held positions as Associate Professor and Director of the Division of Library and Information Science, St. John's University; Associate Professor and Director of the Library & Media Center, Westminster Choir College; and cataloger at Princeton University. Dr. Vellucci's professional and scholarly interests are in the area of information organization, metadata, authority control, cataloging and data curation and conservation. She received several awards for her research and publications, including the Music Library Association's *Research Award* for her work on bibliographic relationships in music catalogs, and the American Library Association's *Best of LRTS Award*

(*Library Resources & Technical Services*) for her article on "Metadata and Authority Control." Dr. Vellucci has taught courses and workshops in New Zealand and Vietnam, and is a trainer for the Library of Congress/Association for Library Collections, and Technical Services workshops on Metadata Standards and Applications. She serves on the Management Council of the Boston Library Consortium Board of Directors and on the Board of the New Hampshire College and University Council Library Deans and Directors. Dr. Vellucci holds a Doctorate in Library Science from Columbia University, a Master's Degree in Library and Information Science from Drexel University, and a Bachelor's Degree in Music from Rutgers University.

### **Cameron Wake, Ph.D.**

Senior Faculty Fellow, Office of the Senior Vice Provost for Engagement and Academic Outreach and Research Associate Professor, Complex Systems Research Center



Dr. Wake is the senior faculty fellow to the Senior Vice Provost, and an Associate Research Professor in the Institute for the Study of Earth, Oceans, and Space and the Department of Earth Sciences. He has served as the faculty director of the UNH Undergraduate Research Conference and works with the Senior Vice Provost to advance a number of the Office's engaged scholarship and research initiatives. He leads an active research program investigating regional climate and environmental change through the analysis of ice cores and instrumental records. Currently he is leading research programs to assess the impact of climate change in New England and to reconstruct climate change from ice cores recovered from glaciers on the Tibetan Plateau and in the Arctic. Dr. Wake also directs Carbon Solutions New England, a public-private partnership promoting collective action to achieve a clean, secure energy future while sustaining our unique cultural and natural resources. Dr. Wake also advises graduate student research and teaches several classes at UNH. He led a team that produced a Design Guide for Earth System Science Education that summarizes the lessons learned from 15 years of NASA supported education programs. He serves on the UNH Energy Task Force and serves as chief scientific advisor for Clean-Air-Cool Planet, a not-for-profit organization finding and promoting solutions to global warming.