National Association of Geoscience Teachers

NAGT Distinguished Lecturer Series: Fall 2004 and Spring 2005

Host an NAGT Distinguished Speaker for a workshop on innovative teaching techniques, curricula reform, and cutting-edge Geoscience education research

Ed Geary:

University Corporation for Atmospheric Research, Science Education Program Manager

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Revolutionizing Earth and Space Science Education in the 21st Century: Roles of Individuals and Organizations

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Integrating Content, Technology, Pedagogy, and Assessment to enhance Inquiry-based Learning

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Ed Geary is passionate about revolutionizing Earth and space science education in grades K-16 and co-editor of "Blueprint for Change" report. He is currently supporting Digital Library and GLOBE program activities at UCAR. Ed is past President of NAGT, a former professor of Geology and Education and past Director of Education and Outreach at the GSA. He has given numerous talks and workshops related to geoscience education reform, professional development, classroom use of technology, scientist-teacher-student partnerships, and development of digital library collections.

Karen G. Havholm:

Department of Geology, University of Wisconsin - Eau Claire

"Time to Learn": Facilitating K-12 Teacher Professional Development

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Elementary/Middle School Education Majors: What Earth Science do they need to know?

"Why Can't They Learn What I Teach?"

Faculty Student Collaborative Research: Benefits and Pitfalls

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Karen Havholm has taught both at the college and pre-college level, having taught high school science and elementary school in Iran. She currently teaches an Earth Science course for elementary education majors, and has considerable experience working with pre-college teachers in professional development activities using a variety of workshop models. She continues her research in eolian sedimentology, always involving undergraduate collaborators in her projects.

Michelle Hall:

Science Education Solutions, Inc. Los Alamos, New Mexico

EarthScope: An unprecedented opportunity for teaching about Earth

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Building Effective University - School partnerships

Visualizing Earth: What works for students?

Michelle Hall is an assistant professor of Geosciences with a research emphasis on geoscience education. She is active in teacher preparation and professional development and has developed curriculum for the high school and introductory college level student that uses GIS to investigate Earth processes. She is also one of the leaders of the education and outreach effort associated with the EarthScope project.

Sharon Locke:

USM Research Institutes, University of Southern Maine

Universal Design in Education: Principles and Implications for the Future of Geoscience Education

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Supporting Students with Disabilities in the Geosciences

Fostering and Sustaining Interest in Science through Regional Alliances

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Sharon Locke has co-directed three national programs that support increased participation of students with disabilities in science, including the NSF-funded Eastern Regional Alliance for Science, Technology, Engineering, and Mathematics (EAST). She led development of the Earth System Science Ideabook, a resource for applying universal design principles to earth science teaching and learning, and has lectured internationally on the accessibility of the geosciences.

Paul Morin

Department of Geology and Geophysics, University of Minnesota

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The GeoWall, Using Stereo Projection in the Non-major Geoscience Classroom.

Innovative uses of Geoscience Visualization in a Museum Setting.

Paul Morin has been instrumental in bringing Scientific Visualization to the Earth Science classroom with his work at the Department of Geology and Geophysics and the National Center for Earth-surface Dynamics. His work has led to the development of the GeoWall (www.geowall.org), an inexpensive low-end virtual reality system now used at over 70
undergraduate institutions around the world. Morin is also contributing to the Science Museum of Minnesota's Big Back Yard, a 1.2 acre, outdoor biogeomorphology exhibit. He has contributed to over 10 earth science textbooks, numerous PBS science programs and the Encyclopedia Britannica.

Carol O'Donnell

The George Washington University, Graduate School of Education and Human Development
Department of Teacher Preparation and Special Education

Collaborations among Earth and Space Scientists and Educators: Developing Curriculum Materials and Graduate Courses for Teachers

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Examining the Effects of Research-based Instructional Materials on Learning and Teaching: Assessing Curricula that Support NCLB

Assessing What Students Know about Seasons

Carol O'Donnell is the Senior Research Associate and Project Director of The George Washington University's (GWU) Scaling up Curriculum for Achievement, Learning, and Equity Project (SCALE-uP). Prior to her work at GWU, Carol served as the Earth and Space Science Curriculum Developer for the National Science Resources Center (NSRC), an organization jointly operated by the Smithsonian Institution and National Academies. A former teacher, she developed and authored six curriculum units for the Science and Technology for Children (STC) and Science and Technology Concepts for Middle Schools (STC/MS) curriculum projects. Her book, *Catastrophic Events,* received the Mark Trail NOAA/NWS Award in 2003. Carol has given numerous talks and workshops nationally related to science education reform, and serves as one of the leaders for the STC/MS Contextualized Professional Development Earth and Space Graduate Courses for teachers.

Eric Riggs

Department of Geological Sciences,
Center for Research in Mathematics and Science Education (CRMSE)
San Diego State University

Toward an Understanding of Field Mapping Expertise: Student Navigation as a Measure of Problem Solving Skill

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Geoscience Education in Native America: Working with Indigenous Communities' Knowledge and "Sense of Place"

Assessing the Educational Benefits of Field-based Teaching for Pre-service Teachers and Other Non-majors: Research Results, Applications, and Best Practices

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Eric Riggs is an assistant professor of geoscience education and geology and leads the Geoscience Education Research Group at San Diego State University. The Riggs GeoEd Group studies many related aspects of field-based teaching and learning in the geosciences, focusing on issues of geoscience knowledge construction, spatial cognition related to geoscience expertise, and cross-cultural education. Riggs is the co-founder of the Indigenous Earth Sciences Project, a research and outreach effort which works to make geoscience education accessible and useful to Native Americans in Southern California and across North America

Jill K. Singer:

Professor of Earth Sciences and Director, Undergraduate Research Office, SUNY, College at Buffalo

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Interdisciplinary Undergraduate Research Opportunities: Taking Advantage of an Urban Setting

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The Follies of Lotus Bay and Other Tales: An Earth Scientist's Role in Environmental Policy

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Two Years in NSF's DUE (Division of Undergraduate Education): Perspectives on Programs and Opportunities for Geoscientists

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Jill Singer is a professor of Earth Sciences at Buffalo State College (State University of New York system (SUNY)). From 2001-2003, she took a two-year leave of absence as a Program Director in the Division of Undergraduate Education at NSF. She served as President of the Council of Undergraduate Research from 2003-2004 and for the past three years has been a co-organizer for CUR's multi-day workshop on "Institutionalizing Undergraduate Research". At Buffalo State College, Jill teaches sedimentology, oceanography, and a variety of environmental courses. She is the Director of the college's Office of Undergraduate Research and for the past six years has coordinated the annual college-wide student research and creativity celebration and the undergraduate research summer fellowship program. In 2000 and 2001, she directed the Buffalo State's NCUR/Lancy program. This interdisciplinary research program involved 24 undergraduates and four faculty mentors during two summers of research focusing on environmental changes in Buffalo during the past century.

Marilyn J. Suiter

Geoscience Educator, Arlington, VA

Implementing STEM Education for ALL Students

Earth Science Education: Challenges and Opportunities

Marilyn Suiter is a geologist and educator with more than twenty years of experience. She is currently a program director in the Education and Human Resources Directorate (EHR) at the National Science Foundation (NSF). Her responsibilities are in (geo) science education and diversity issues as they are implemented in K-12, undergraduate, and graduate education. Marilyn's highly varied career has included positions as Director of Human Resources and Career Development at the American Geological Institute, Exploration Geologist for Cities Service Oil & Gas, geologist for the U.S. Geological Survey, pre-college science teacher in grades 5-12 in the Philadelphia Public Schools, and adjunct faculty member in geoscience at American University. In addition to her wide-ranging interests and experience in geoscience education issues and demography of the geoscience community, she retains a special interest in activities for underrepresented populations. These include assessment of the status of participation of women, ethnic minorities and persons with disabilities in Geoscience Education and other STEM professions, and programs/activities to increase and enhance their participation, such as scholarships, internships, and seminars. (Suiter cannot represent the NSF in these visits, and declines honoraria.)

Mike Taber

University of Northern Colorado,
Department of Earth Sciences

Building Geoscience Content Knowledge and Inquiry Vocabularies using WorldWatcher data visualization tool.

Using Data Visualization tools in Problem-based Instruction

Data User Ability: How students make use of data in data-based decisions

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Application of the Learning for Use Instructional Model in Undergraduate Education

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Mike Taber is an assistant professor of Earth Science at the University of Northern Colorado. Mike has extensive experience in science education, having served as a classroom teacher for six years and involved in numerous curriculum projects. Mike is an advocate of using data in teaching inquiry. Mike has presented numerous science education papers at AGU and GSA. In addition, Mike is the Director for the Colorado Alliance for Science, an organization dedicated to the shaping of science education through informed policy. Mike is a co-PI for the Digital Library for Earth System.

Application to request a Distinguished Speaker, or for funding costs to cover a Speaker's Travel Expenses

Name of Contact Person: _____ Phone: _____
Mailing address: _____ FAX: _____
_____ email: _____
_____
_____

Speaker choice(s): List in order of preference
1) _____
2) _____
3) _____
4) _____

Expected audiences (check all that apply)
_____ Faculty teaching primarily undergraduate classes
_____ Faculty teaching both u' graduate & graduate classes
_____ Graduate students interested in academic careers
_____ Undergraduate students interested in K-12 education
_____ K-12 teachers

Has your department been previously funded for an NAGT Distinguished Speaker visit? If so, who and when?
_____

Please describe what your Department/Institution would hope to achieve by the visit
_____
_____
_____
_____
_____

If this application is funded NAGT will pay travel expenses and honorarium for the Distinguished Speaker.

By applying for funding the Department/Institution agrees to the following:
1) Before the visit, the Department will fill out a brief questionnaire describing the curriculum and styles of teaching currently used, and what the Department hopes to achieve by the visit.
2) Before the visit, the Department will make arrangements to invite neighboring schools to the Speaker's visit
3) The Department will cover the speaker's local food, accommodation and travel costs, the costs to photocopy workshop materials, and the cost of a substitute, if the Speaker is a high school teacher.
4) Following the visit, the Department will submit an evaluation of the visit
5) The Department will submit a report to the Speaker Coordinator six months after the visit to report on changes stimulated by the Speaker's visit.

Signature of Department Chair: _____ Date: _____

Return the Application Form or submit equivalent information to:
Ian MacGregor: P.O. Box 901, Gualala, CA 95445; email: macgregori@si.edu; Phone: 707-785-2188

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Instructions:
To schedule a visit (Funded or Standard) please provide the above information to
Ian MacGregor**:** Address: P.O. Box 901, Gualala, CA, 95445; email: macgregori@si.edu; Phone: 707-785-2188

Funded Visits: Funding to cover the cost of a Distinguished Speaker's travel to and from a host institution is available on a competitive basis. Deadlines for applications for the 2004-2005 cycle will be August 1, 2004. Responses to the competition will be communicated within two weeks. If the application is funded, we will work with you to schedule a Speaker's visit. Your department will be expected to pay for a Speaker's local expenses, costs for duplicating a reasonable volume of workshop materials, and the cost of hiring a substitute, if the teacher is a pre-college teacher. Note, should you miss the deadline, and funds are still available NAGT will try to honor travel fund requests.

Standard Visits: If you do not wish to apply for funding to cover a Distinguished Speaker's travel, do not fill out the application. Instead, contact Ian MacGregor to schedule a visit. A host department is expected to pay for a Speaker's travel and local expenses, expenses for duplicating a reasonable volume of workshop materials, and the cost of hiring a substitute, if the Speaker is a pre-college teacher.