

# NAGT, GSA AND GUR EDUCATION DIVISION AWARDS FOR 2014



**SHEA AWARD:  
DAVID MONTGOMERY**

The Shea Award is presented for exceptional contributions in the form of writing and/or editing of Earth science materials that are of interest to the public and teachers.

David Montgomery is a professor of geology at the University of Washington and supervisor of UW's Geomorphology Research Group. His research spans topics from Martian crust, earthquake- and typhoon-generated landslides to megafloods and soil erosion.

David's research articles appear in a wide range of familiar scientific and peer-reviewed journals. In his books, he addresses topics of societal and global Earth science importance in ways that are approachable for lay readers. The award-winning *King of Fish: The Thousand-Year Run of Salmon* eloquently addresses the evolutionary history and present decline of salmon worldwide. In *Dirt: The Erosion of Civilizations*, he tackles a topic that Earth scientists are well aware of but of which the public has little grasp. His most recent book, *The Rocks Don't Lie: A Geologist Investigates Noah's Flood*, addresses the conflicts between science and flood mythology.



**BIGGS AWARD:  
CALLAN BENTLEY**

The GSA's Biggs Award for Excellence in Earth Science Teaching recognizes innovative and effective teaching among faculty at all institutions engaged in undergraduate education who have been teaching full-time for 10 years or fewer.

After only six years as a full-time professor at Northern Virginia Community College (NOVA), Callan Bentley received the Chancellor's Award for Teaching Excellence, the state's highest honor for community college faculty. Few faculty, at any level, inspire and engage as many people in the Earth sciences as he has by integrating field work with cutting-edge techniques. This year he joined with Joshua Vilalobos, El Paso Community College (EPCC), in a course which brought NOVA students to West Texas and EPCC students to Virginia for collaborative work. His pioneering macro GigaPan photography has created a "virtual Virginia" for online geology. He was the founding editor of *Foundations*, the NAGT Geo2YC Division e-newsletter and his Mountain Beltway blog, part of the "AGU Blogosphere," reaches thousands. His public outreach in the past eight years has included more than 85 public-interest geology talks, tours, and hikes.



**MINER AWARD:  
STEPHEN MATTOX**

The Neal Miner Award, presented by NAGT since 1953, honors exceptional contributions to the stimulation of interest in the Earth sciences.

Steve Mattox, professor of geology at Grand Valley State University, Allendale, Michigan, has made a deep and lasting impact on the Earth science education community as a teacher, a mentor, and an advocate for pre-service science teachers as well as through his work with in-service teachers. He has served the broader community through professional development workshops and conference participation, and his leadership in developing an exemplary dual-credit program that awards college geology credit to Michigan high school students has expanded Earth science learning opportunities for them and stimulated their interest in geoscience careers.

A former student notes, "Lifelong learning and empowering students to take charge of their own learning ... lie at the heart of both Steve's being and teaching." His patience, availability, and belief in students help to create a learning environment in which they are challenged to exceed expectations.



**CHRISTMAN AWARD:  
HEATHER MACDONALD**

The Robert Christman Distinguished Service Award recognizes individuals who have "...provided long, distinguished service to the Association at the national and/or section level."

Heather Macdonald did not stop working for NAGT when her term as president ended in 1996. Since then she has established the Early Career Geoscience Faculty Workshop, which is recognized across the STEM disciplines as a model program, and the Preparing for an Academic Career Workshop for graduate students and post-docs. She also has served for the past 12 years as the lead PI for the On the Cutting Edge Professional Development Program. As co-chair of the NAGT Professional Development Program planning committee, she is deeply involved in helping these ventures become part of NAGT's ongoing programming. Recognizing the importance of two-year college faculty and their isolation as critical issues for geoscience education, she has also promoted their involvement in the larger geoscience education community through workshops and other programs.



## GEO-CUR AWARD: MARY MACLAUGHLIN

The Undergraduate Research Mentor Award of the Council on Undergraduate Research recognizes an individual who serves as a role model for productive and transformative student-faculty mentoring relationships and for maintaining a sustained and innovative approach to undergraduate research.

Mary MacLaughlin, professor of geological engineering at Montana Tech, University of Montana, has mentored 37 undergraduates in six different disciplines in rock mechanics research. A successful grant-writer, she has established a \$1M laboratory. She mentors her students through complicated experiments, detailed measurements, and the presentation and publication of research outcomes. Half of her students have been female, a remarkable accomplishment in the field of geological engineering. As chair of Montana Tech's Undergraduate Research Program, she has shepherded the program through difficult funding circumstances while instituting new programs for freshmen and sophomore students and advanced students. She also mentors faculty on developing their own successful undergraduate research programs.



## JOEL AQUINO West Hall High School, Oakwood, Georgia

Joel Aquino teaches the cross-disciplines of geology and physics/physical science in a K-12 high school (West Hall High School), introductory college (University of North Georgia), and a graduate-level education program (Piedmont College). In order to better serve this broad spectrum of students and future science educators, he will use his Stout grant to attend the 2014 Geological Society of America conference in Vancouver, British Columbia. This will assist him in achieving his goals of remaining up-to-date on current Earth science pedagogy and Earth science research.



## ELLA BOWLING Mason County Middle School, Maysville, Kentucky

Her Stout Grant enabled Ella Bowling to attend the History of Life-In the Fossil and Rock Record workshop sponsored by the Geoscience Adventures and the Bighorn Basin Geoscience Center in Shell, Wyoming, in July. She currently teaches a wide array of Earth science concepts including the rock cycle, plate tectonics, and weathering and erosion. The workshop enabled her to experience this type of geology firsthand in a field study basis. This has enhanced her content knowledge, improved her skill set, and greatly expanded what she is currently doing regarding Earth science education in her 7th grade classroom.



## ANDREW BUDDINGTON Spokane Community College, Spokane, Washington

Andrew Buddington's grant will facilitate an undergraduate student research project on newly recognized (and geologically important) Precambrian rocks of the Inland Northwest region. The area of study (Cougar Gulch) was recently age dated by researchers from Washington State University. The geologic ages produced were completely unexpected and represent some of the oldest known rocks in the Pacific Northwest (1.86 to 2.64 billion years old). This grant will provide funding for sample preparations and analysis needed to complete an important phase of the project.



## JOURNAL OF GEOSCIENCE EDUCATION AWARDS

The *JGE* Outstanding Paper Award promotes and celebrates outstanding scholarly contributions made to the *Journal of Geoscience Education*. Such papers are characterized by one or more of the following: innovative enhancement of student learning, advancement of the discipline of geoscience education, or broad societal impact of vital and significant high quality geoscience education.

**Outstanding Paper:**  
Anthony D. Feig, "The Allochthon of Misfit Toys," *Journal of Geoscience Education*, 61, no. 3 (August 2013): 306-317.

The *JGE* Outstanding Reviewer Award promotes and celebrates outstanding peer-review contributions by reviewers of the *Journal of Geoscience Education*. It recognizes those reviewers who provided reviews of exceptional quality, completed reviews more quickly than average, and/or completed more reviews than average.

**Outstanding Reviewer:**  
Cinzia Cervato

For more information about Stout Grants, see

<http://nagt.org/nagt/awards/stout.html>.

The deadline for receiving applications is April 15.



# THE OUTSTANDING EARTH SCIENCE TEACHER AWARDS FOR 2014

**OUTSTANDING EARTH SCIENCE TEACHER (OEST) AWARDS** are given for “exceptional contributions to the stimulation of interest in the Earth sciences at the pre-college level.” Any teacher or K-12 educator who covers a significant amount of Earth science content with his or her students is eligible. Ten national finalists are selected, one from each NAGT regional section. Some sections also recognize state winners. The OEST Awards program is designed to identify excellence in teaching, recognize and reward excellence in teaching, stimulate higher levels of teaching performance, establish NAGT as a strong support organization for pre-college education, and, via active statewide and sectional programs, build a solid state, regional, and national liaison with administrators of pre-college Earth science education. More information about these exceptional educators is available at the NAGT website (<http://nagt.org/nagt/awards/oest/2014.html>).

## CENTRAL SECTION

**ELLA BOWLING**  
Mason County  
Middle School,  
Maysville, Kentucky

Ella Bowling has been a science educator in Kentucky's public schools since 2004. She has won many awards for her work, including the 2012 KY Middle School Science Teacher of the Year, 2013 Butler-Cooley National Excellence in Teaching Award, 2013 PASCO STEM Educator Award from the NSTA, 2013 University of Kentucky Teachers That Make a Difference Award, 2014 National Association of Biology Teachers

Environment/Ecology Teaching Award, and the 2014 Kentucky Education Association/NEA Excellence in Teaching Award.

Ella has written numerous successful grants to further the teaching of Earth science in her school including grants from Centiva Corporation and the National Education Association Foundation. In addition to duties as a classroom teacher, Ella sponsors the school science club leading trips to the Great Smoky Mountains, Carter Caves, and Sea World/Disney World in Orlando, as well as adventures in canoeing on the Licking River,

fossil hunting in expansive road cuts in the region that are rich in Ordovician fossils, and geocaching in local nature preserves. Her passion for bow-hunting turned into a skill to be utilized at school where she coaches the high school and middle school archery teams.

## EASTERN SECTION

**VICTORIA GORMAN**  
Memorial  
Middle School,  
Medford, New Jersey

Ask Vicky Gorman to describe herself in five words or less, and she will say, “I am a teacher!” At

Memorial Middle School, Medford, New Jersey, where she has taught for seven years, she teaches 7th grade science and Memorial's Citizen Science Education Program (CSEP). CSEP, the 2012 brainchild of Vicky and two of her students, has five facets, the most important of which is for middle school students to teach community members about various aspects of science. Previous education posts include teaching acting, serving as a nationally certified riding instructor, and designing a “Train the Trainers” course for a U.S. Army brigade.

Vicky is an alumnus of the NSTA New Science Teacher Academy and the NJSTA's Maitland Simmons Scholarship Program. In 2013, she was named the American Meteorological Society's Distinguished K12 Educator. In addition, she is a NOAA Climate Steward candidate and a NASA GPM Master Teacher. She is GLOBE certified and in March was the program's featured educator. This past summer, she spent two weeks participating in the AMS's Project Atmosphere, held at the National Weather Service Training Center in Kansas City.

Bowling



Gorman



Chang



Lehman



Hylton





Witt

## FAR WESTERN SECTION

NO AWARD IN 2014

## MIDCONTINENT SECTION

NO AWARD IN 2014

## NEW ENGLAND SECTION

**RITA CHANG**  
Wellesley  
High School,  
Wellesley,  
Massachusetts

Before becoming an Earth science teacher in 2002, Rita Chang was the executive director of Harvard Medical's Center for Health and the Global Environment, where she helped bring attention to the science of global change. Wanting to bring the same caliber of interdisciplinary thinking and problem solving to Wellesley and other high schools, she developed "Classroom Encounters with Global Change Scientists," a six-part DVD series featuring scientists interacting with her students. The units, which incorporated student art and music, included chapter stops on different topics (e.g., the Keeling Curve, using ice cores, the carbon cycle) so teachers could insert them into a lesson or lab to illustrate



Bramlett

particular concepts.

Rita's passion, leadership, vision, and commitment to thinking outside the box and across disciplines have won her recognition as an innovator, including inclusion in two books, *Educating for Global Competence: Preparing Our Youth to Engage the World* and *Minority Women Entrepreneurs: How Outsider Status Can Lead to Better Business Practices*.

## NORTH CENTRAL SECTION

NO AWARD IN 2014

## PACIFIC NORTHWEST SECTION

**DALE LEHMAN**  
Tahoma High School,  
Maple Valley,  
Washington

Dale Lehman has long had a passion for the landscape of the Channeled Scabland, a barren, relatively soil-free landscape in eastern Washington, scoured clean by a flood unleashed when a large glacial lake drained. After graduating from Eastern Washington University, Dale worked there as an assistant in the Department of Physical Geography, where he taught classes, worked in the



Kellerby

cartography lab, and researched floodwater depths in the Spokane region, a project which led to him producing a display on the regional extent of the Missoula Floods for the Spokane Science Center.

Since 1985, Dale has been teaching at Tahoma High School, where his courses have included Earth Science, Honors Earth Science, and Earth and Space Sciences 101, taught through the University of Washington in the High School program. He has led 26 groups of students on field studies of the Columbia River Basalt Group and since 2006 has been working on ways to integrate high performance computing and computational modeling into his geosciences courses.

## SOUTHEASTERN SECTION AND SOUTH CAROLINA

**LISHA HYLTON**  
Pelion Elementary  
School, Pelion,  
South Carolina

Lisha Hylton has taught 3rd grade at Pelion Elementary School in Pelion, South Carolina, for sixteen years. She has found a variety of ways to use her passion for environmental science as a framework for



Governor

developing lessons that address academic standards for all subject areas. At the request of district administrators, she created the "Integration Station," which provided examples of interdisciplinary lessons for other teachers. As part of that, Lisha wrote a book about a fictitious hurricane, "Erica Jane," and had her students act out the story as part of a readers' theater activity. Afterwards, her students learned to track real hurricanes on a NOAA Hurricane Tracking Grid.

Lisha has made special efforts to improve her own knowledge of environmental science, too, through graduate studies and by participating in the "Rising Tide" project at the University of South Carolina, for which she created lesson plans, labs and a Powerpoint presentation that won first place in the South Carolina Department of Natural Resources competition. She also has been a national winner of the NOAA-sponsored "Teacher at Sea" program.

## SOUTHWEST SECTION

NO AWARD IN 2014



Rienks

## TEXAS SECTION

**LAWRENCE WITT**  
Hopper Middle  
School,  
Cypress, Texas

Lawrence Witt began his career at Shotwell Middle School in Aldine, Texas, where he served as department chair and was active in the process of it becoming an International Baccalaureate campus. He then began to work in Cypress, Texas, where he helped to open a new middle school campus, George Hopper Middle School. There he has served as science content curriculum instructional specialist and department chair.

He believes that in order to fully appreciate students you must interact with them outside of the classroom. To accomplish this, he has coached the Academic Decathlon, Science Olympiad, Science Bowl, Mars Rover, and Code Clubs. In 2007 he received the Wal-Mart Distribution Center Teacher of the Year award, and he has been nominated three consecutive years by his peers for the Spotlight Teacher Award for Hopper Middle School. He has earned an MBA and is currently working on a degree in educational administration.



## STATE WINNERS

### ALABAMA

**WENDY BRAMLETT**  
Tuscaloosa Magnet  
Middle School,  
Tuscaloosa, Alabama

Wendy has taught science for 20 years, eight years in a high school setting and 12 years in middle school. Recognized in 2012 as ASTA Outstanding Middle School Teacher of the Year, she has chaired the Science Department and is the robotics coach at her school. Her goal is to spark curiosity and wonder by showing students how science affects all aspects of their lives.

### ALASKA

**DARREN KELLERBY**  
Highland Tech  
Charter School,  
Anchorage, Alaska

Darren moved to Anchorage to teach 6th-9th grade science at Highland Tech Charter School in 2009. In line with its project-based model, he involves students in solving local and world issues through inquiry and experimentation. Problems that have been addressed include erosion control along the Kuskokwim River and stabilizing houses on melting permafrost. After school, he can be found coaching the

Lego robotics team, organizing the annual variety show, or coaching Native Youth Olympics.

### GEORGIA

**DONNA GOVERNOR**  
North Forsyth  
High School,  
Cumming, Georgia

Donna's teaching experience spans 30 years in grades K to 12, including 10 years teaching Earth systems in middle school prior to moving in 2012 to the high school, where she is teaching Earth systems and environmental science. The 2007 Presidential Awardee for Excellence in Science Teaching from Georgia, she is the president of the Georgia Science Teachers Association and the District V Director for the National Science Teachers Association. Her students regularly lead Family Science Night events with dozens of student-led activities that draw hundreds of participants each year.

### ILLINOIS

**KENI RIENKS**  
Woodstock North  
High School,  
Woodstock, Illinois

Prior to coming to Woodstock five years ago to teach environmental and Earth science, Keni worked as a park ranger and

as an international flight attendant. Recognized with a fellowship for the New Science Teacher Academy, sponsored by the National Science Teachers Association, she has also been a faculty advisor to George Mason University's summer program, the Washington Youth Summit on the Environment. In her classes, she instills an understanding of the mechanisms, processes, and fragility of the planet. As the co-advisor of the Green Garden Club, she also utilizes her school's sustainable, organic garden as both a place of science and personal connection.

### INDIANA

**MARTHA HOYT GOINGS**  
Huntington North  
High School,  
Huntington, Indiana

A 13-year teacher at Huntington North High School, Martha teaches geology, astronomy, AP environmental science, and meteorology as dual credit courses in collaboration with Indiana University Purdue University at Fort Wayne (IPFW). In the summer of 2012, she studied dinosaur trackways, associated organisms, and sedimentology in an IPFW/National Geographic-sponsored research project in the

Paluxy River outside Glen Rose, Texas. She is continuing this project by generating curriculum for US and international students.

### NEW JERSEY

**JAMES MILLER**  
Montville Township  
High School,  
Montville, New Jersey

James spent a year as a field geologist with a mineral exploration company and five years as an environmental geologist before switching to teaching in 2000. He taught general science at the 5th and 6th grade level for three years, then moved to the high school level, where he teaches Earth science and environmental science. In lessons that use real data, open-ended inquiry, and problem-based learning, he finds ways to accommodate students' wide range of abilities through cooperative grouping and differentiated instruction. Examples of his inquiry-based, data-driven lessons include construction of solar-powered race cars, a geologic history of New Jersey inquiry project, a town-wide soil quality mapping project, and long-term forest and surface water quality monitoring projects.

### NEW YORK

**MARK PERCY**  
Williamsville Central  
Schools,  
East Amherst,  
New York

Mark had worked as a chemistry teacher for nine years when involvement in a stage crew took him into the planetarium of Williamsville Central Schools. Started as an astronomy lab in 1969, it has grown into a high-tech multimedia learning resource for students of all ages, and he has been its director for 13 years. There he works to develop stimulating lessons and innovative demonstrations for the 20,000 people, pre-K through adult, who visit the facility annually. New technology has transformed the facility in recent years into a 3-D universe simulator and lessons now include archaeoastronomy, planetary geology, and language and art connections.

### NORTH CAROLINA

**MARK TOWNLEY**  
Holly Springs High  
School, Holly Springs,  
North Carolina

Much of Mark's 16-year career has been spent developing curriculum and creating community partnerships that bring personal and relevant experiential learning

Goings



Miller



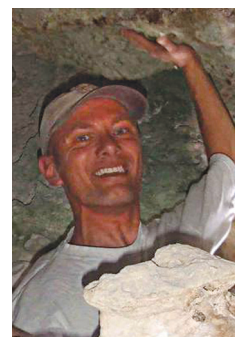
Percy



Townley



Genzman





**Orr**

to his students. He has created lesson plans through the Earth-View program, North Carolina Department of the Environment and Natural Resources, the North Carolina Division of Air Quality, and the Kenan Fellows program. He was a Teacher Ambassador at the Institute for Emerging Issues Forum on training and retaining world-class teachers and was the teacher representative and panelist speaker at the North Carolina Science Summit on bringing STEM industry to North Carolina.

## OHIO

**PAUL GENZMAN**  
Put-in-Bay  
High School  
Put-in-Bay, Ohio

Paul, who has taught for 16 of his 20 years in the Western Basin of Lake Erie, has for years taken students caving as part of an "Earth Processes" lesson. This year



**Baer**

students were able to combine LiDAR data and global positioning with local historical articles to find many more caves. After collecting data inside the caves using basic measurement skills and trigonometry, they entered it into a CAD program to design 3-D maps of these caves. In the process, students discovered glass and porcelain artifacts dating to the middle of the 19th century.

## OREGON

**LAURA ORR**  
Ukiah High School  
Ukiah, Oregon

Laura has been teaching science to all the middle and high school students in Ukiah for 11 years now. She is also actively involved in programs and groups working to innovate and create science curriculum, activities, and student-driven research. She has worked with several NASA missions, is



**Taylor**

a member of several regional and national cohorts for heliophysics science education, a NASA/IPAC Teacher Archive Research Program educator, and regional board member of the Oregon Science Teacher Association, and she partners with area scientists for research in and out of the classroom.

## PENNSYLVANIA

**MICHAEL BAER**  
Elizabeth Forward  
School District  
Elizabeth,  
Pennsylvania

Mike has been teaching Earth and space science for 15 years. His school has a one-to-one program in which all students have their own iPads for use in and out of school. He has found interesting ways to make use of that technology as well as the technology of the school's SMALLAB (Situating Multimedia Arts Learning Lab),



**Spear**

where students are able to turn learning into a game. Mike also involves students in vermiculture and vegetable garden seed starting and keeps a spinach garden in the classroom for the students to try. Interaction beyond the classroom includes serving as a soccer coach and chess club sponsor.

## SOUTH CAROLINA

[See Southeastern  
Section]

## WASHINGTON

**RANDY TAYLOR**  
Highlands Middle  
School, Kennewick,  
Washington

Using inquiry-based, hands-on learning techniques is one of the best ways to reinforce a student's accumulation of knowledge. That's the lesson that Randy has learned in 34 years teaching and coaching in the public school system, Nominated as teacher/

coach of the year at Lyle High School, he has also served as California Association of Safety Education District Board director and Washington Traffic Safety Education Association regional director and taken part in Laboratory Science Teacher Professional Development through Pacific Northwest National Laboratories.

## WISCONSIN

**BETH SPEAR**  
Central High School,  
Salem, Wisconsin

Before becoming a teacher, Beth worked as an environmental consultant. Believing that it's vital to keep her own knowledge current so that her lessons remain relevant, she has participated in Research Experience for Teachers at University of Wisconsin Milwaukee, NOAA's Teacher at Sea program, Global Environmental Teaching South Africa, a National Radio Astronomy Observatory Pulsar Workshop in West Virginia, studies at Arecibo Radio Telescope and the Synchrotron Radiation Center, and a San Diego Zoo Conservation Research Workshop. The result has been interesting, inquiry-based activities for her students.

## OUTSTANDING TEACHING ASSISTANTS AWARDS FOR 2014

NAGT also recognizes outstanding teaching assistants in geoscience education with up to 30 awards annually. Undergraduate and graduate teaching assistants are eligible for the award. Winners receive a one year membership in NAGT, which includes an online subscription to the *Journal of Geoscience Education* and *In The Trenches*. The undergraduate awards are the gift of Thomas Hendrix, Grand Valley State University. Tom was the recipient of the 1994 Neil Miner award and he also has served as president of NAGT and as editor of the *Journal of Geoscience Education*. The graduate student awards are funded by NAGT.

Christine Hiner, University of California-Fullerton  
Daisuke Kobayashi, University of Idaho  
Jeffrey Lockridge, Arizona State University  
Leah Moelling, University of Kansas  
Nnamdi Mojekwu, University of Illinois-Chicago  
Sandra Pool, University of Zurich  
Zach Schierl, Western Washington University