

# NAGT, GSA & CUR EDUCATION DIVISION AWARDS FOR 2013



**SHEA AWARD:  
DONALD PROTHERO**

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.

Donald Prothero has a passion for communicating science to the public. He has served as a consultant for Discovery Channel, History Channel and National Geographic specials. A prolific speaker and writer, he posts a weekly blog at "Skepticblog" and has published over 30 books. His talks and blogs focus on debunking pseudoscience and defending the science of evolution and climate change. He has authored and co-authored 259 papers, including papers in *Nature*, *Paleobiology*, *Geology*, *Palaeogeography*, *Journal of Paleontology*, *Journal of Geology*, *Science*, *Journal of Geological Education*, *Palaaios*, *Paleoceanography*, and *Geotimes* and has served as adjunct editor for *Paleobiology* and on the editorial boards of *Skeptic* magazine and for *Geology*. In addition, he has served as a consulting editor for the McGraw-Hill Yearbook of Science and Technology.



**MINER AWARD:  
MICHAEL CUMMINGS**

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

Michael Cummings, chair of the Department of Geology at Portland State University (PSU) in Oregon, has introduced the Earth sciences to thousands in his home state. His impact is based on a staggering number of small group and individual interactions on and off campus. The driving force behind the PSU Geology Honors program, he is the sole undergraduate advisor for the Geology Department and the Integrated Science program and has advised an army of graduate students. He also promotes the Earth sciences through extraordinary support for rural K-12 school districts across the state, giving them the same individual attention that he does with his PSU advisees, visiting with each science and math teacher to assess curricular goals and barriers and brainstorming to identify solutions. His mantra is "face time is critical." He is well known for this work, and his visits are much anticipated and appreciated.



**CHRISTMAN AWARD:  
SCOTT LINNEMAN**

The Robert Christman Distinguished Service Award is presented to an individual who has "...provided long, distinguished service to the Association at the national and/or section level."

Scott Linneman of Western Washington University has certainly done that. An NAGT member since 1989, he has served as an Executive Committee councilor-at-large and as president, working to raise the visibility of the association, improve communication between the executive committee and the various sections and support the many volunteers that make an organization like NAGT successful and effective. He played a key role in forming cross-cutting relations with other geoscience educational organizations such as SERC and Cutting Edge. He has served as chair of the Stout Award Committee since 2012 and has acted as NAGT's representative to the NGSS Earth Science working group. At the section level, Scott is the Treasurer of the Pacific Northwest Section, an office he has held since 2012. He also worked with others in the revitalization of this section.



**BIGGS AWARD:  
JOHN VAN HOESEN**

The Biggs Award for Excellence in Earth Science Teaching, the GSA's Geoscience Education Division's Named Award, 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.

This year's recipient, John Van Hoesen of Green Mountain College in Poultney, Vermont, is director of GMC's Community Mapping Lab, which provides equipment and facilities for students to execute mapping projects for faculty, graduate students, or members of the local community. In 2011 he received a Fulbright Award to investigate the origins of manganese used in burial masks by the ancient Chinchorro people in what is now Chile. His work has explored the behavior and migration patterns of the Chinchorro, who developed mummification techniques 3,000 years before the Egyptians.

Van Hoesen holds a Ph.D. in geoscience from University of Nevada, Las Vegas. He currently serves as associate editor for the *Journal of Geoscience Education*.



**CUR AWARD:  
MARY SAVINA**

The Geosciences Division of the Council on Undergraduate Research recognizes with its Undergraduate Research Mentor Award 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 Savina, the Charles L. Denison Professor of Geology at Carleton College in Northfield, Minnesota, has been involved in research

and mentoring undergraduate students for thirty-five years. Effective at reaching underrepresented students, she also incorporated service learning into projects long before the current trends. She has, said one nominator, discovered a formula for a "powerful pedagogy," one in which students have ownership of ideas, mastery of content, and are often informers for civic decision makers. As another nominee stated, she has "a passion for undergraduate teaching and commitment

to providing students with authentic and meaningful research experiences."

Savina's guidance does not end on graduation day. This kind of service is critical to the success of the next generation. "Mary continued to be one of the people I most trusted when I needed to make important professional decisions," said a former student. "Where (and if) to go to graduate school, how to cope in an academic job, and how to be an effective teacher in different settings."

## THE 2013 DOROTHY LALONDE STOUT PROFESSIONAL DEVELOPMENT GRANTS

**DOROTHY LALONDE STOUT PROFESSIONAL DEVELOPMENT GRANTS** are presented by NAGT in memory of Dottie Stout, a gifted geoscience educator who taught at Cypress College, El Camino College, Long Beach City College, and California State University, Fullerton, and served as the first female president of NAGT. The grants honor her outstanding work and dedication to Earth science education.



**LAURA BRANCH**  
Ernest Righetti  
High School  
Santa Maria, California

Laura Branch will purchase an interactive acrylic groundwater model. Laura believes that "eating, drinking, and living geology is the best way to learn about it." This equipment will allow students at all levels to better understand groundwater movement and contamination, something that is especially useful in an agricultural area where pesticides are used on crops, and will lead to higher-level discussions on the impact of groundwater in the local area.



**ANNETTE CALABRETTA**  
The Classical Academy  
Colorado Springs,  
Colorado

Annette Calabretta will attend the "All About Mining" course at the Colorado School of Mines. She hopes to help her students become informed citizens in the environmental policy debate, knowing that they will face questions on future gas/oil exploration and mining-related issues and that incorporating real-world applications into her curriculum greatly stimulates student participation and learning.



**NADINE EVANS**  
Community College  
of Rhode Island  
Providence,  
Rhode Island

Nadine Evans, who transfers this fall to the University of Rhode Island to double major in geology and German, will attend the 2013 Geological Society of America meeting in Denver, where she hopes to present findings from her study on conceptions students have when learning new material in geology. This grant will afford her the opportunity to share personal and professional perspectives with scientists from around the world.



**REBECCA PERLOTH**  
Santa Rosa  
Junior College  
Santa Rosa, California

Rebecca Perloth, an instructor at Santa Rosa Junior College, will attend two Chautauqua courses in the extraordinary geological setting of Alaska, after which she hopes to be able to relate the glacial features visible in her native California to active glaciers in Alaska. She also will study the history of, reaction to, and recovery from the 1964 Alaska earthquake and tsunami, which also devastated Crescent City, California, enhancing her Californian geology course.



**ROBIN ROHRBACK-SCHIAVONE**  
Northern Virginia  
Community College  
Sterling, Virginia

Student Robin Rohrbach-Schiavone will purchase a laptop to aid her work on the Mid-Atlantic Geo-Image Collection. A repository that allows for examination of geological features at a level of detail comparable to being in the field or the lab, this high-quality geoscience education tool will be freely accessible to everyone, from geoscientists unable to perform fieldwork due to physical constraints to those under significant financial constraints.

# THE OUTSTANDING EARTH SCIENCE TEACHER AWARDS FOR 2013

**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.

## CENTRAL SECTION

**MARY LESTINA**  
City High School  
Iowa City, Iowa

Mary Lestina teaches ecology, physical geology, and weather and climate trimester electives for juniors and seniors, senior level physics, and a freshman-level course, Foundations of Science III. As an active member of the Science Department, Mary has worked on curriculum review and standards alignment projects and was part of a team of teachers recognizing the need to extend the Earth science offerings through Earth Science Trimester Electives. She has

worked with science and special education teachers incorporating reading strategies, differentiated learning, and understanding by design strategies into her classroom, giving students the best experiences possible. She is an active member of the National Science Teachers' Association and the Iowa Academy of Sciences (IAS), has presented at several national and local science teacher conferences, and has served as IAS Membership Committee Chair and a member of the IAS Recognition Committee. Mary has sponsored the Science Club since 2000 and in the past has sponsored the Environmental,

Rocket, and Global Perspectives Clubs at City High School. In 2010, she was awarded the Excellence in Science Teaching Award from the Iowa Academy of Sciences.

## EASTERN SECTION [AND VIRGINIA]

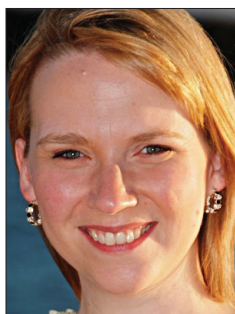
**RUSSEL H. KOHRS**  
Broadway High School  
Broadway, Virginia

Russel H. Kohrs teaches geology, astronomy, and Earth science in a rural school in the beautiful Shenandoah Valley. In his classes, he involves students in scientific research at every opportunity. In 2011, he and his students won an award

for the “Best Field Collected Data Project” through the Eyes in the Sky II student research showcase for their groundwater analysis in an area where hydraulic fracturing for natural gas was being considered. His students are also involved in searching for pulsars through the Pulsar Search Collaboratory. Most recently, he was an Research Experiences for Teachers participant at the National Radio Astronomy Observatory in Green Bank, West Virginia, where he helped re-commission the USNO 20m radio telescope for online use via the SKYNET telescope network. With this tool, his students and others

around the world can explore real astronomical questions using a research-grade radio telescope. He presented the results from this research position and data from his students using materials that he created during it at the 2013 American Astronomical Association meeting. The materials he wrote for the 20m telescope highlight his teaching philosophy, which is that students best experience science by doing it both in and out of the classroom. Russell also has interests in archaeology and bagpiping, which allow him to bring interesting cultural elements to his science teaching.

Lestina



Kohrs



Hilkey



Rusert



Wallstrom







Benson

## **FAR WESTERN SECTION**

**HERMAN HILKEY**  
San Jacinto  
High School  
San Jacinto, California

This will be Herman's tenth year teaching Earth science following a career as a purchasing manager for large manufacturing corporations. Chair of the Science Department for the past six years, Herman has established a MESA Club (Math Engineering Science and Achievement) and his students build robots, bridges and compete at the University of California Riverside. The 16-foot solar-powered boat designed, built and raced by the school's Solar Boat Team finished in first place in the two-county region and in fifth place out of 40 high schools from all of Southern California.

Technology in the classroom makes things more fun for the teacher and memorable for students. Motivating students is primary. Herman strives to be "the" teacher. In all matters, he strives to communicate to students that, "Yes, this is the course you have been looking for, safe, interesting, challenging, and the place that you will learn something completely new today."



Farr

## **MIDCONTINENT SECTION**

**KATHY RUSERT**  
Acorn School  
Mena, Arkansas

Kathy Rusert has 37 years experience working in education, the last 27 at Acorn School. Outdoor education is important in her teaching. She has taught all grades 1-8 and served as sponsor for grades 9-12. In a college course for pre-service teachers, taught as an adjunct instructor, she encourages new teachers to use project-based learning to master science concepts. Her honors include international Project Learning Tree Teacher of the Year, Arkansas Rural Education Teacher of the Year, Walmart Teacher of the Year, Trailblazer Teacher of the Year, and Arkansas PLT Teacher of the Year. Currently she serves on the Arkansas Science Teachers Association Board of Directors, Ozark Chinquapin Foundation Board, and Project Learning Tree Steering Committee and is a member of Delta Kappa Gamma. Her classes have won the Arkansas Green Schools Challenge the past two years and Disney Planet Challenge and helped her school become the first U.S. Green Ribbon School for Arkansas.



Boykin

## **NEW ENGLAND SECTION**

**ERICA WALLSTROM**  
Rutland High School  
Rutland, Vermont

Erica Wallstrom teaches freshman Earth science, a fundamentals of science class for special-needs students, a field-based geology course, and, occasionally, chemistry. Her principal notes that "Erica is remarkable in her ability to connect to all students...She makes clear that their work is important, that they can achieve her goals, and that she will support them in getting there." Erica hooks students by developing place-based projects such as (following Tropical Storm Irene) designing dams and impoundment ponds to prevent future flood damage and investigating soils around trees producing the sap for their classes' maple syrup production. Most recently, Erica received a National Science Foundation grant to support the development and implementation of a course that exposed students to field skills and local geology. With the aid of a geosciences professor from Princeton, the course included multi-day trips throughout New England, New York, and New Jersey.



Manning

## **NORTH CENTRAL SECTION**

**ROD BENSON**  
Helena High School  
Helena, Montana

A native of Montana who enjoys hiking, trail-running, kayaking, and photography, during his 31-year career Rod Benson has taught Earth science in Joliet, Harlem, Broadview, and, since 1994, in Helena, the state's capital city. Some of his most significant contributions to Earth science education, however, may be the web resources he has created.

"Rodney's Homepage for Earth Science Teachers" ([www.for-montana.net](http://www.for-montana.net)) shares activities, videos, demonstrations, virtual field trips, and other ideas with teachers throughout the United States and the world. The section on "Montana's Earth Science Pictures" draws upon his love of exploring the mountains, valleys, rivers, and prairies of Montana and of teaching, providing more than 100 "Montana examples" of Earth science topics. Used as a "picture of the week" assignment by teachers throughout the state, it makes Earth science topics more relevant to students throughout Montana.



Poole

## **PACIFIC NORTHWEST SECTION**

**HELEN FARR**  
Millicoma School  
Coos Bay, Oregon

Fifth grade teacher Helen Farr teaches science through math, reading and writing and hands-on experiences. A schoolwide recycling project she started with Terracycle, which up-cycles hard-to-recycle trash and creates new product, provides opportunities for students to graph and find trends in the kinds of trash being brought in.

Helen also is part of a community project, called The Washed Ashore Project, which creates giant sculptures of marine animals out of plastics collected from Oregon beaches. Her students were able to help process the debris and create pieces to be used on four of the giant sculptures. Some were able to take part in a film being made about the project and created a short movie about how plastics get washed down storm drains and into our oceans. This has become another avenue to inspire students to take part in their community and educate people about the amount of plastic debris in our oceans.

## **SOUTHEASTERN SECTION**

**OLIVIA BOYKIN**  
Woodland Heights  
Elementary School,  
Spartanburg,  
South Carolina

Enter Olivia Boykin's third-grade classroom and you will see experiments in progress, groups playing games, students singing—all activities connected to teaching and reviewing science skills and concepts. Olivia's greatest strength is her ability to individualize instruction for a wide range of student abilities and backgrounds. She takes songs written by herself and others and makes up motions to go along with the words so that students remember not just the words to the song but also how they relate to science concepts. She has introduced games and crafts using objects ranging from mismatched puzzle pieces and playing cards to soda bottle twist tops. As a result, her students develop a great sense of appreciation of the Earth and the need for better environmental stewardship.

Olivia has also served in various leadership roles in her school and PTO and has organized "Family Science Workshops" for the community.

## **SOUTHWEST SECTION**

**CHERYL L. B.  
MANNING**  
Evergreen High School  
Evergreen, Colorado

Cheryl Manning discovered her love of teaching during graduate school when she instructed laboratories for several courses and volunteered as a math/science tutor for underprivileged students at local high schools. She taught middle school science in Utah for six years and in 2000 received the Utah Earth Science Teacher of the Year Award. She has spent the last eleven years teaching in Evergreen, becoming GLOBE-certified, participating in programs like CIRESEarthworks and URI's ARMADA Program.

For Cheryl, teaching is about building relationships in which students feel comfortable tackling challenging material, asking hard questions, and developing skills. Her students have the opportunity to choose their own learning paths using new technologies with problem-based learning strategies. Through workshops and committees, she works with scientists and science educators around the world to learn about current science and education practices.

## **TEXAS SECTION**

**GARY POOLE**  
The Girls' School  
Austin, Texas

Gary Poole, now in his fifth year of teaching middle school earth science, physics, and pre-algebra mathematics at the Girls' School of Austin, began teaching as a late-life career change. He believes that middle school age students are naturally curious and respond well to place-based, hands-on field work which involves community issues, data collection, and interpretation. As part of his surface hydrology curriculum he has teams of students assess the health of neighborhood watersheds, performing chemical and bacteriological tests on the water, investigating the types of benthic macroinvertebrates present in the stream, and analyzing the types of land use in the area. He then has them reflect on how their personal and family activities may affect their local stream. His karst hydrology curriculum involves a field trip into a wild cave that is a recharge feature of a regionally significant limestone aquifer. One of the positive takeaways from this activity is that science can be an adventure.

## **STATE WINNERS**

### **ALABAMA**

**ALISON STARR**  
Auburn High School  
Auburn, Alabama

Before coming to Auburn, where she has taught Earth science, physical science and biology, Alison Starr taught 7th and 8th grade science. Science Department Chair for the 2013-14 school year, she was also recently named by the Geological Survey of Alabama as Alabama's Outstanding Earth Science Teacher. Other activities include serving as Varsity Cheer Coach, Junior Class Sponsor, and the Girlz Rock program.

### **ALASKA**

**JONATHAN SMITH**  
Juneau-Douglas  
High School  
Juneau, Alaska

A science teacher in Alaska for over 20 years, Jonathan Smith taught in the Alaskan Native village of Holy Cross on the Yukon River before moving to Juneau, which is surrounded by the Juneau Ice field which covers some 3,900 square kilometers of the Alaskan Coastal range. He was named Juneau's teacher of the year in 2005 and was a state finalist at the state level the same year. He

has been awarded the Sigma XI certificate of excellence for the promotion of scientific research. Above all, he is known for growing and helping to run the Southeast Alaska Regional Science fair. This fair is an Intel affiliate that regularly sees over 160 participants.

### **ARIZONA**

**JEREMY WILLIAMS**  
Desert Vista  
High School  
Phoenix, Arizona

Jeremy Williams received the Tempe Diablos Teacher of the Year award in 2008. His teaching is centered around exciting students about science and providing them with skills that will help them be successful in the 21st century. Innovative and effective teaching practices include using collaboration, incorporating authentic research experiences, computer applications and current technologies, and infusing material gleaned during travels to Kodiak Island, Alaska, where he was born, and other places.

### **GEORGIA**

**NANCY ADGATE**  
Rising Starr  
Middle School  
Fayetteville, Georgia

Nancy Adgate has been a presenter at

Starr



Smith



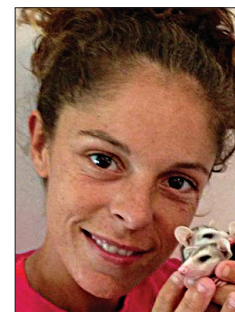
Williams



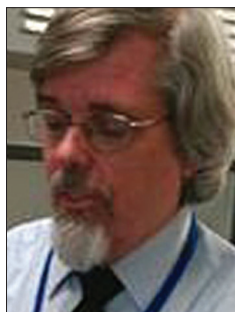
Adgate



Hoosier







**Carson**

the National Science Teachers Association conferences for the past five years, as well as at Georgia Science Teachers conferences. She served as the science department chair at Dutchtown Middle School in 2004-09 prior to transitioning to Dutchtown High School to help establish an Earth science program there. In 2008 she was part of the International Science Fair Host Committee when Atlanta hosted the Intel Science and Engineering Fair.

## **LOUISIANA**

**LACEY HOOSIER**  
Buckeye High School  
Deville, Louisiana

Lacey Hoosier teaches AP environmental science, AP biology, Dual Enrollment anatomy and physiology through Louisiana Tech, and AP physics. Her accomplishments include Teacher of the Year honors at Tioga Senior High School,



**Wing**

being an Outstanding Biology Teacher Award finalist, and serving as Science Department chair at Tioga Senior High School and now at Buckeye High School. She also educates youth about Mother Earth through her Green Team (Conservation and Education) Club as well as through her Science Club and Quiz Bowl team.

## **NEW JERSEY**

**STEVEN CARSON**  
John Witherspoon  
Middle School  
Princeton, New Jersey

Steven Carson became a public school teacher through New Jersey's alternate route program after spending eight years teaching at the college level and ten years as a researcher at NOAA's Geophysical Fluid Dynamics Laboratory, where he modeled ocean chemistry. Steve's teaching philosophy centers on developing engaging, hands-on



**Mills**

activities using simple, readily available materials plus Internet resources. Steve has also served as co-advisor to the Environmental Club and two engineering clubs.

## **NEW YORK**

**MICHAEL WING**  
Hommocks  
Middle School  
Larchmont,  
New York

Michael Wing has been teaching 8th grade earth science in Mamaroneck, New York, since 2002. A pioneer in the integration of education technologies in classroom instruction, he develops interactive, self-guided lessons using one-to-one iPads that enable students to engage in science through discovery experiences. A Youtube channel he created of 100 review podcasts that address the entire New York State Earth science curriculum has



**Wagner**

received more than 333,000 views. He is also the coordinator of an after-school program that provides students at-risk of failing with a safe and focused environment in which to complete academic assignments.

## **NORTH CAROLINA**

**MARY CATHERINE MILLS**  
Southern Guilford  
High School  
Greensboro,  
North Carolina

Mary Catherine Mills teaches Earth/environmental science, AP environmental science, and biology. Because science is an ever-changing field that can be seen by students as very complex and often too intricate to learn, she tries to develop a positive atmosphere in the classroom and a mentoring relationship with all her students. In such a competitive society, it is very important, she feels, for students to not only receive a solid

education, but to work with someone who is aware of and sensitive to their individual needs. Additionally, teaching provides her with an opportunity to continually grow and learn herself.

## **TEXAS**

**KATIE WAGNER**  
The Kincaid School  
Houston, TX

Katie was only one chapter ahead of her students when she was hired to teach Earth science—and discovered she loved the subject. In addition to an energy grant for a wind turbine for her campus, she has received a grant for a WeatherBug weather station and one to participate in a service project in the Galapagos. This year she is tinkering with the "Flipped Classroom" concept and encouraging students to work on inventions in addition to experiments for Family Science Night. She is also planning a school garden.

**MORE INFORMATION ABOUT THESE EXCEPTIONAL EDUCATORS** is available at the NAGT website (<http://nagt.org/nagt/programs/oest/2013.html>).

**ABOUT THE OEST AWARDS** — NAGT gives each section OEST awardee a plaque and a two-year membership in the association, which includes a subscription to the *Journal of Geoscience Education* and *In the Trenches*. In addition, the GSA provides a monetary award and a three-year Teachers Associate Membership (including membership in the Geoscience Education Division), and the National Earth Science Teachers Association provides a one-year membership, which includes a subscription to the *Earth Scientist*. Nominations for OEST Awards may be submitted at any time during the year; however some sections need this information as early as March in order to consider the applicant for the current calendar year. An online nomination form is available at the NAGT website (<http://nagt.org/nagt/programs/oest-nom.html>).