

Bulletin

of the Eastern Section of the National Association of Geoscience Teachers

Volume 72, Issue 4: Winter 2022

“Ithaca Is Gorges”

**The Spring 2023 NAGT
Eastern Section Conference
May 4,5,6, 2023 in Ithaca,
New York.**

**Hosted by the Paleontological Research
Institution at The Museum of the Earth**

by Steve Lindberg

University of Pittsburgh at Johnstown

The Pleistocene glaciers have receded and left behind the spectacular gorges of the Finger Lakes Region! The Eastern section has partnered with The Museum of The Earth - Paleontological Research Institution to host our spring, 2023 meeting! After several years of absence we are planning an ambitious and exciting return to our spring in-person meeting.



The eastern section has decided to offer the registration for this full conference, which includes all field trips, workshops, presentations, museum admission and tours, refreshments, lunches, and Saturday evening awards dinner as described in the schedule for a flat rate registration fee of \$50 per person. There are no other registration fees. Every attendee pays the flat rate of \$50. See the included registration form.

OEST awardees from 2019, 2020, 2021, 2022 will attend for free.

OEST awardees for this year 2023 attend for the same flat rate of \$50 per person. (Next year, the conference is free.)

Tentative Meeting Schedule:

Thursday, May 4.

4pm-9pm.

Early-bird check in and registration at The Museum Of The Earth, (1259 Trumansburg Rd. Ithaca, NY 14850) begins at 4pm. Informal social gathering, opening welcome remarks, presentation on local geology. Light refreshments and adult beverages will be served. Tour the museum on your own and enjoy the interactive exhibits.

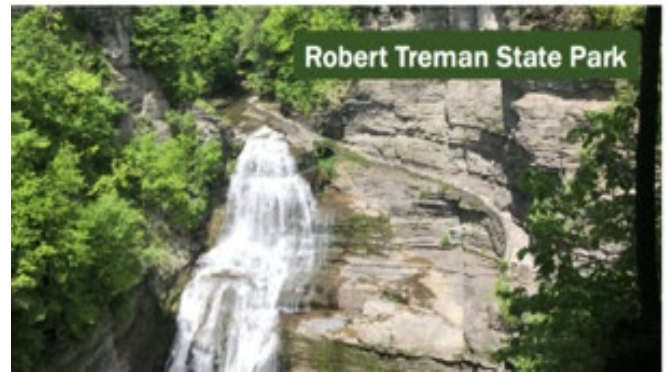
Friday, May 5.

9:00 am -12:00 noon

“Short Presentations” session meeting rooms at The Museum of The Earth. Coffee and doughnuts will be served. Prepare your posters, PowerPoint presentations, demonstrations, short lesson, etc., to fit a 30-minute allotment. Meeting room has a large screen and projector for group presentations. Museum will be open for you to tour. See presentation form included in this announcement. Lunch provided in the meeting room at 12 noon.

1:00 pm - 4 pm.

Group field trip to the glacial esker located at O.D. von Engel Preserve in Malloryville. Transportation provided. The esker at the preserve is one of the best examples of this glacial feature in the northeast. “Commonly known as Malloryville Bog, The Nature Conservancy’s O.D. von Engel Preserve has more than a mile of eskers – ancient river channels that once ran through glacial ice – winding through a pocket of forest adjacent to Fall Creek. Many distinct plant communities thrive on the preserve’s bogs, swamps, marshes, and fens. Look for songbirds and unique plants like the carnivorous pitcher plant, which traps insects to obtain nitrogen.”



Return to Museum of The Earth at approximately 4 pm. Dinner on your own.

7:00 pm - ????

Eastern Section Geo-auction in the meeting room of the Museum of The Earth with light refreshments, snacks, soft and adult beverages. Bring your items to donate for the auction! (Geo-auction proceeds are used towards funding the meeting.)


Saturday, May 6.

9:00am - 4:00 pm

Full day field trip to explore the geology of Taughannock Falls State Park and Robert H. Treman State Park. Taughannock Falls carves a 400-foot gorge through layers of sandstone, shale and limestone that were once the bed of an ancient sea. With a 215-foot plunge, this waterfall stands three stories taller than Niagara Falls. Robert H. Treman State Park is an area of wild beauty, with the rugged gorge called Enfield Glen as its scenic highlight. Winding trails follow the gorge past 12 waterfalls, including the 115-foot Lucifer Falls. Other stops may be

included as time permits. Field trip departs from Museum of The Earth. Transportation provided.

6:30pm

Saturday evening eastern section awards and recognition dinner at the Museum of The Earth. Recognition of the eastern section state OEST winners along with other eastern section awardees. Buffet dinner with several selections that will include a vegetarian entree. Guest speaker to be determined. 

BOOK REVIEW


***Fossil Woman*, by Sharon Lyon**

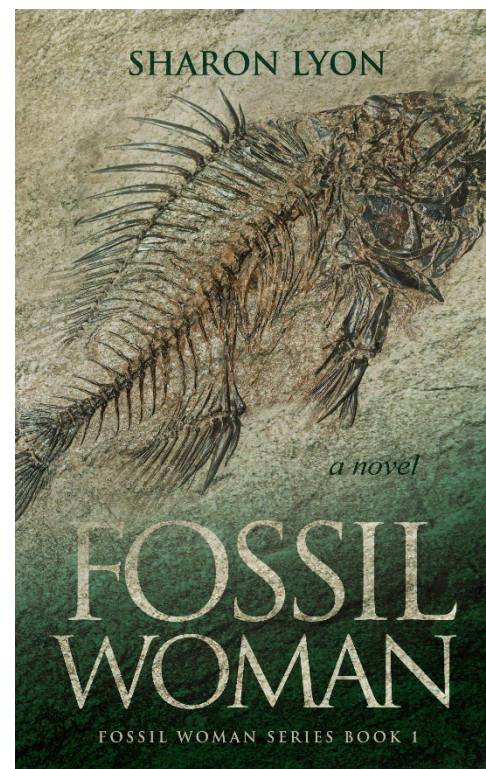
by Karen M. Layou

Reynolds Community College

In her debut novel, *Fossil Woman*, Sharon Lyon weaves multiple timelines into a wonderfully familiar experience of the fledging career of a female paleontologist, Henrietta Ballantine. While shifting through Henrietta's childhood studying in the halls of the Smithsonian Museum of Natural History under her father's tutelage, her undergraduate experiences at the College of William and Mary in the late 1950s, and fieldwork in world-renowned Olduvai Gorge, we follow Henrietta's becoming; she establishes her female presence in a scientific community that was traditionally a man's world. Lyon's clipped sentences and short chapters allowed for a quick, fun read. Clearly referencing her own educational experiences, Lyon captures intricate details of geology undergraduate coursework - I had to chuckle at Henrietta's boredom with stereonets (same, girl, same!). As a current resident of Williamsburg, and former

visiting paleontology professor at William and Mary, I also thoroughly enjoyed the references to campus lecture halls and the historic Wren Building, Colonial Williamsburg (CW to those in the know), local fossils

and stratigraphy, and the tendency for our Coastal Plain soils to miserably puddle in wet weather. I am pretty sure I have collected the same mollusks and shark teeth as Henrietta at outcrops along the James River here in southeastern Virginia. Speaking of geologic particulars, Lyon is definitely a geoscientist who has seen a lot of rocks – her descriptions of Henrietta's travels across North America and Africa, noting iconic landscapes, key geologic formations, and important index fossils is lovely, and made me reminisce on my own field camp excursions as an undergraduate. Multiple times while reading this book, I was reminded of the German word *fernweh*, which essentially means a longing for and connection to far-off places you may have never been. I also related to Henrietta's geologic experiences creating a sense of belonging and relationship to both her human past and personal future, which is distinctly explored via a Pleistocene timeline running through the novel. The cover notes *Fossil Woman* is Book 1 of a series, and I am hopeful we will follow where Henrietta's career goes next. 



'Unearth your future' course helps students prepare for careers



Earth Science Faculty,

Are you looking for an easy way to integrate geoscience career information into your classes in the spring semester? Search no further!

“Unearth Your Future: How You Can Shape the Geoscience Profession for the Needs of the 21st Century,” is a free, online course geared towards undergraduate students that shares new

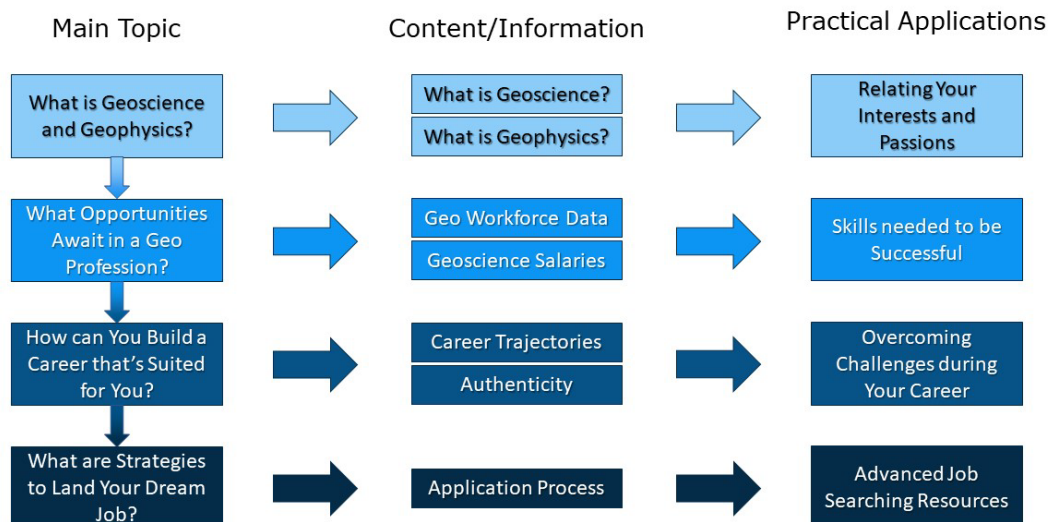
perspectives on geoscience and geophysics careers, workforce information, and contains key strategies for conducting a successful job search.

This asynchronous module, that can be up to five-hours in length, is designed for faculty and instructors to augment their existing curriculum with geoscience careers information. Importantly, this resource was developed using Diversity, Equity, and Inclusion (DEI) by design. It will provide the opportunity to introduce DEI into courses in a way that seamlessly intertwines geoscience content with concepts like mitigating microaggressions, addressing imposter syndrome, and applying active bystander intervention techniques. Enroll yourself and your students for free!

This resource is brought to you by **Heather Houlton** and **Danielle Sumy**, funded by the National Science Foundation’s SAGE Facilities operated by the Incorporated Research Institutions for Seismology (IRIS), and is hosted on the American Geosciences Institute’s Geoscience Online Learning Initiative (GOLI) platform.



Course Roadmap



FROM THE ARCHIVES

Winter, 2022

The 1996 eastern section meeting was held the weekend of May 24-26 in Stanton, Delaware. The field trips included a *Speleology Supplement* describing caves and sinkholes of York County, Pennsylvania. The supplemental

field trip guide was authored by Jay R. Reich, Fellow of the National Speleological Society. Here is the field trip guide to the Werning Pit, located in York County, Pennsylvania.

Steve Lindberg

Eastern Section Archivist

University of Pittsburgh at Johnstown



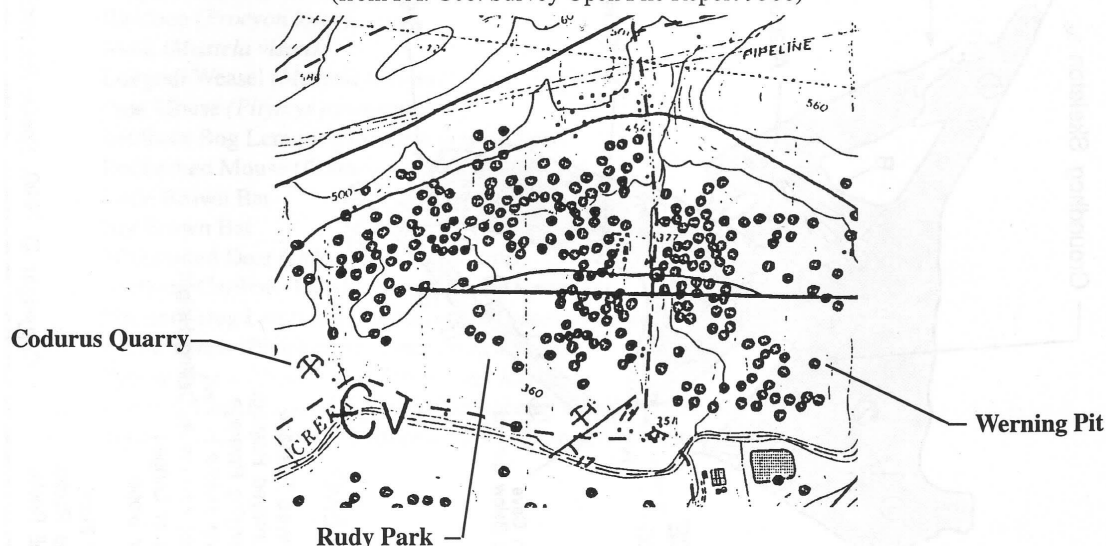
Werning Pit **York County, PA**

Werning Pit is located approximately 1.4 km east of John Rudy County Park. The entrance to the cave was discovered by Roy and Terry Garland in November of 1990. The entrance is a typical collapse sinkhole, through mostly soil, to a depth of 3.7 m. At the base of the entrance pit a small clay-floored room, 1.3 m to 1.8 m high gives access to short passages leading northwest, northeast and southeast. Just south of the entrance room a chimney-like opening in the ceiling of the passage reaches nearly to the surface. The total length of the cave is 46 m and the total depth of the cave is 8 m. (See map on reverse side.)

Collapse sinkholes are characterized by nearly vertical sides with little or no sloping depression at the surface. These sinkholes usually form suddenly from a collapse of a cave ceiling. Most often the collapsed material conceals any cave passages at the bottom of the sinkhole, however, if the cave opening is large enough and the amount of collapsed material is small, entry to a cave may be possible.

Werning Pit is not remarkable as a cave, but it serves to illustrate that sudden collapses can and do occur in karst regions. Between John Rudy County Park and Werning Pit is a large tract of land that is being developed as a residential subdivision. The potential homeowners are unaware (and the developers are unconcerned) about the dangers of sinkholes. Unfortunately, sinkholes can lead to structural damage to homes and breaks in sanitary sewer lines (leading to massive ground water pollution). Municipalities in karst areas need to enact strict ordinances to ensure that proper geotechnical engineering techniques are applied to construction in these areas.

Sinkhole Map of John Rudy County Park and Area
(from PA. Geo. Survey Open File Report 9506)



References:

Kochanov, William E., 1995, *Sinkholes and Karst-Related Features of York County, Pennsylvania*, Open File Report 9506, Pennsylvania Topographic and Geologic Survey, Department of Conservation and Natural Resources.

Reich, J. R., 1991, *Werning Pit Field Trip Report*, York Grotto Newsletter, Vol. 27, No. 1, York Grotto of the National Speleological Society.

Reine, Lofoten Islands, northwestern Norway, at about lat/long 67.928489/13.086298...

While the fiords in southern Norway mostly fill long, fairly straight glacial valleys, the Lofotens can be thought of as higher up in the glacial erosion landforms, more like at the cirques and horns level. So the island can look like a range of nunataks, rising quickly out of the sea to pointed peaks. An amazing landscape/seascape on our wonderful planet.

photo and caption by Martin Schmidt, Jr.

New Pennsylvania science standards

In the summer of 2022, Pennsylvania adopted new K-12 science standards, a process that had been ongoing since the fall of 2019. The new standards occur in three sets: Integrated Science, Environment & Ecology, and Technology and Engineering for grades K-5, Science and Environment & Ecology for grades 6-12, and Technology & Engineering for grades 6-12.

The new Pennsylvania standards are nearly identical to the indicators and expectations from the Next Generation Science Standards (NGSS), specifically the Disciplinary Core Ideas (DCIs). The Science and Engineering Practices (SEPs), and the big ideas known as the Cross Cutting Concepts (CCCs) were also transferred to Pennsylvania's standards, although Pennsylvania did add an 8th CCC of Sustainability as theme for lesson design and

delivery. The new standards are expected to be fully implemented by all districts and grade bands by the fall of 2025. The standards can be read on the [Pennsylvania Department of Education web page here](#).

Professional development for implementing of the new standards is already occurring and is expected to be ongoing throughout the next three years. From the perspective of the Eastern Section of NAGT, the treatment of the earth sciences as a full one-third of these new standards, with connections to both the Environment and Ecology, and the Technology and Engineering standards, is very much a positive, give the necessity for the understanding of geoscience as it applies to many issues society must confront, such as climate change, and mineral and energy resources, to name a few.

Anyone with questions regarding the new standards and their implementation can reach out to **Christopher Roemmele** at croemmele@wcupa.edu.





Crater floor of Kilauea Iki on the big island of Hawaii.
View of the main vent Pu'u Pua'i, formed during the 1959 eruption.
Photo by Steve Lindberg. March, 2022

“OUTCROPS”

Winter, 2022 Edition

by Steve Lindberg

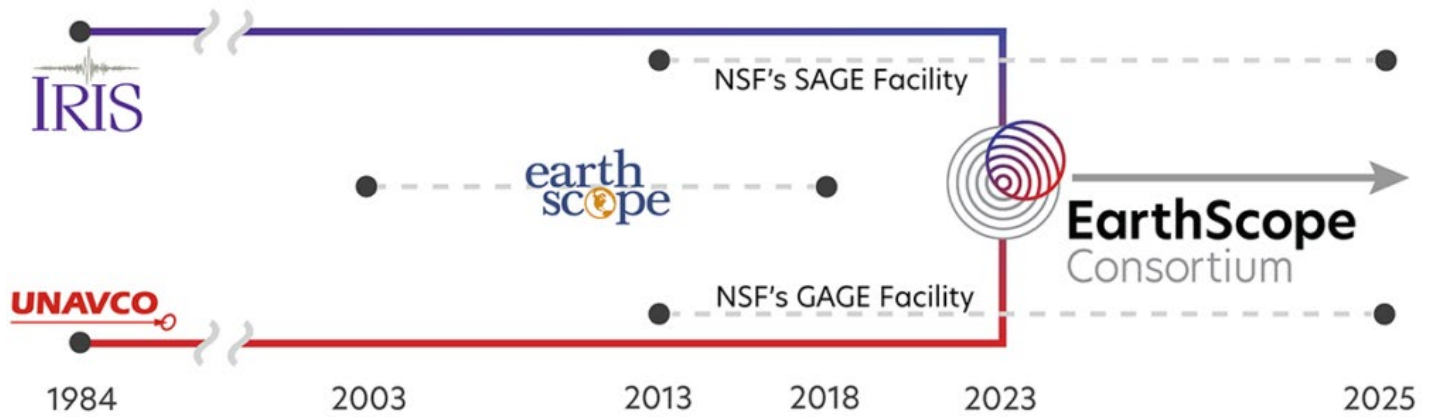
University of Pittsburgh at Johnstown

Kīlauea Iki, “*Little Kilauea*”, on the big island of Hawaii is adjacent to the main caldera of Kilauea within Volcanoes National Park, Hawaii. Kīlauea Iki’s most recent eruption began on November 14, 1959 and lasted until December 20, 1959. The eruption produced some of the most spectacular lava fountains ever observed on Hawaii and

provided valuable data to the nature of the magma reservoir beneath Kilauea. Lava and tephra from the main vent formed a cinder cone called Pu‘u Pua‘i “*gushing hill*”, seen here in the photo. During the eruption lava fountains reached heights of approximately 1,900 feet; eventually filling the crater with an estimated 40 million cubic yards of lava.

A hiking trail beginning at the Kīlauea Iki overlook parking lot takes you on an approximately 4 mile journey along the crater rim through rain forest, then descending several hundred feet to cross the solidified lava lake crater floor passing the Pu‘u Pua‘i eruption vent. The 2022 Pitt-Johnstown Geology Club spring field trip to Hawaii included this day hike through the Kīlauea Iki crater.





IRIS and UNAVCO to merge in 2023

by **Danielle Sumy**

Incorporated Research Institutions for Seismology

The Incorporated Research Institutions for Seismology (IRIS) and UNAVCO, who operate the National Science Foundation's Seismological and Geodetic Facilities for the Advancement of Geoscience (known as SAGE and GAGE, respectively) are joining forces in a merger to the EarthScope Consortium. Between 2003 and 2018, IRIS and UNAVCO collaborated as part of the [EarthScope community project](https://www.earthscope.org/), an NSF-funded program that deployed thousands of geophysical instruments to study the structure and evolution of the North American continent. In the same spirit, the EarthScope Consortium aims to provide cutting-edge geophysical instrumentation and data, along with resources for education and workforce development of the next generation of scientists. The merger is formalized as of January 1, 2023. More information can be found at www.earthscope.org.



benthic infaunal organism to fill in its own home is if the sedimentation surface was accumulating vertically, and the burrower was faced with a choice of keeping up with the seafloor or being buried. I find the concentric concavities to be visually pleasing in addition to scientifically interesting!



FIELD PHOTO

by **Callan Bentley**

Piedmont Virginia Community College

This photo shows a neat internal “fabric” in a burrow I observed in November in coastal Costa Rica. These are Miocene sediments of the Punta Judas Formation. They crop out near Esterillos Oeste, in Puntarenas Province. The burrow appears to have been “back-filled” with sand and bivalve shells. One circumstance that might encourage a



Registration Form

National Association of Geoscience Teachers Eastern Section Conference and Field Trips. May 4,5,6, 2023 at The Museum of the Earth, Ithaca, New York

Each attendee must submit a registration form. Lodging accommodations are the responsibility of the registrant. There are numerous hotels in Ithaca and surrounding area. There are also several campgrounds including Pine Creek Campground

<https://pinecreekcampground.com>

Pre-registration for the conference deadline date is **April 15, 2023. Registration questions?**
Please contact Steve at slindber@pitt.edu.

Please fill in the form below and indicate your registration preferences.

Please register early!

*Make a check for the total registration fee payable to **Steve Lindberg** and send it along with this form to:*

Steve Lindberg, 615 Indiana Street, Johnstown, PA. 15905

Name and affiliation (OEST ?) _____

Email and phone number _____

Mailing Address _____

****OESTA Award Winners from spring 2019, 2020 and 2021, 2022 meeting attend Free! Please indicate this on your registration information. Email Steve Lindberg if you have any questions.**

FULL CONFERENCE REGISTRATION INCLUDES ALL THREE DAYS; FIELD TRIPS, LUNCHES AND REFRESHMENTS AS DESCRIBED IN MEETING AGENDA AND SATURDAY EVENING DINNER: Price is \$50 per person. There are no other special rates.

Register early, make your hotel reservations. Send registration form and presentation form by April 15, 2023 with full \$50 payment per person, check payable to Steve Lindberg. You will receive a confirmation of your registration.

Hope to see you in Ithaca for the Eastern Section Conference !

Steve Lindberg

NAGT Eastern Section Archivist

Conference Chairperson

PRESENTATION PROPOSAL FORM

NAGT-Eastern Section 2023 Annual Meeting

Submission Deadline: April 15, 2023

Presentations will be scheduled for 30 minute sessions. Double sessions will be accommodated only as space and time permits. As many presentations as possible will be accommodated.

Return completed form to: Steve Lindberg, 615 Indiana Street, Johnstown, PA. 15905. You may also submit proposals electronically at slindber@pitt.edu

Poster displays are also welcome and should use this same proposal form.

Name and
affiliation: _____

Email: _____

Address: _____

Phone: _____

Presentation Title: _____

Description (max. 100 words):

Presentation equipment needed: (room has projector and large screen)

Nominate your peers!

(Nominate yourself!)

by **Christopher Roemmele**
West Chester University

Greetings to all educators of geology and earth science. I am Christopher Roemmele, your new Awards Chair for NAGTES. I teach at West Chester University in West Chester, Pennsylvania, and taught high school/middle school earth science for 15 years in New Jersey. I know how hard we all work as teachers and getting a proverbial pat on the back and thank you is nicely motivating. Perhaps you work with or know someone whom you feel deserves this recognition. In that case, I strongly urge you to nominate this person for one of our Eastern Section awards, or one of the National NAGT awards. The Eastern Section meeting is a wonderful time to heap praise upon those individuals who have excelled in the work and promoted geoscience education.

Information about all our Eastern Section awards can be found on our section website. Please note the deadline is being/has been changed to February 1! So start thinking and get those forms filled out now! Completed nomination forms should be sent to me at croemmele@wcupa.edu. However, you must place your nomination via the online forms found on the National NAGT web site at <http://nagt.org/nagt/programs/oest.html>

Here is a list of our awards. Perhaps there is one with your (or a colleague's) name on it!



OUTSTANDING EARTH SCIENCE TEACHER

The OEST Awards program was adopted by NAGT in 1971. Its purpose to honor pre-college teachers of earth science, their excellence and commitment to teaching and teaching earth science

DIGMAN AWARD FOR EXCELLENCE IN GEOSCIENCE EDUCATION

The Digman Award is designed to recognize an individual who works to bring geoscience to the general public. We look for individuals who are not teachers, but work in a capacity that educates the general public in areas of the geosciences. Museum directors, curators and assistants, state survey employees, mine and quarry public relations people would all qualify for this award. The nomination information for this award is also on our section website.

JAMES O'CONNOR MEMORIAL FIELD CAMP SCHOLARSHIP

The James O'Connor scholarship is given to a college geology or earth science major who is attending a geologic field camp course (typically over the summer) as part of their college degree program. The \$500 scholarship assists the student in covering the expenses of their field camp. Nominate a student currently enrolled in your geology program. Nomination information appears on the section website.

DISTINGUISHED SERVICE AWARD FOR THE EASTERN SECTION

The Distinguished Service Award is given to a member of the Eastern Section (still actively teaching or retired) who has, over the years, contributed to the growth and activities of the Eastern Section. This person should have a history of continued service to the Eastern Section. Nomination information appears on our website.

JOHN MOSS AWARD FOR OUTSTANDING COLLEGE TEACHING

The John Moss award is reserved for instructors and professors who, at the college level, model and promote outstanding teaching in the geosciences. Nomination information appears on section website.

