



National Association of Geoscience Teachers  
**Southeastern Section Newsletter**  
Winter-Spring 2016

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**WWW . . .**

NAGT

[www.nagt.org](http://www.nagt.org)

SE-NAGT

[geogiarocks.us/nagt](http://geogiarocks.us/nagt)

(note new address)

Geological Society of America

[www.geosociety.org](http://www.geosociety.org)

US Geological Survey

[www.usgs.gov](http://www.usgs.gov)

Earth Science Week

[www.agiweb.org](http://www.agiweb.org)

[www.earthscienceworld.org](http://www.earthscienceworld.org)

[www.earthsciweek.org](http://www.earthsciweek.org)

**Summer-Fall 2016**

**Newsletter Deadline:**

**August 15, 2016.** Please send

news items to Bill at

[bill@geogiarocks.us](mailto:bill@geogiarocks.us)

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## President's message

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by Christy Visaggi, SENAGT president

Happy 2016! It's a great year for geoscience education – as it is always. Over the last year, we've seen new discoveries to highlight in our classrooms, such as the captivating images of the dwarf planet Pluto and what appear to be 80 million year old blood vessels from a duck-billed dinosaur. In addition, we've been reminded about the relevance of geoscience in our lives such as through the Nepal earthquake or in examining the role of climate in the conflict in Syria. Adoption of the *Next Generation Science Standards* continues to be a subject of debate in many states, and the *Every Student Succeeds Act* was signed into law replacing earlier initiatives stemming from *No Child Left Behind*. Here in the southeastern U.S., we're feeling the rainy effects of an El Niño winter, keeping an eye on sea level rise, and contemplating the road ahead for educating our students given human-environmental interactions. Previously, I've noted my interests in place-based learning as a way to link course material to nearby places of meaning for enhanced motivation and success in the classroom. To that end, I'm delighted to share with you information regarding upcoming SE-NAGT events and opportunities that focus on issues particularly relevant to geoscience education in our region. Keep reading!

### SEGSA 2016 and SENAGT Annual Meeting

This year the Southeastern Geological Society of America meeting is in Columbia, SC, on March 31-April 1 (<http://www.geosociety.org/sections/se/2016mtg/>). Join us for the annual SENAGT lunch and business meeting on Friday April 1, 2016 from noon to 1:15pm, at the Liberty Taproom (in the "Beer Garden"), 828 Gervais St., next-door to the Hampton Inn. Open menu; prices average \$10-15. <http://www.vista.libertytaproom.com/home>. RSVP to [btormey@email.wcu.edu](mailto:btormey@email.wcu.edu) by Monday, March 28, so we can have an idea of how many attendees to expect.

Following last spring's successful *Teaching Evolution in the Southeast* session and related fieldtrip on *Evolution and the Evidence around Dayton, Tennessee*, SENAGT has planned a few special events for the upcoming conference, if you can join us!

Treasurer, Pamela Gore, and Newsletter Editor, Bill Witherspoon, are co-chairing a session on *Issues in Environmental and Climate Education* on Friday, April 1. The next day is a post-meeting fieldtrip entitled *Deep Time in the Congaree: an Educator Field Workshop*. To encourage K-12 participation in these events, SE-NAGT has offered awards for educators to attend the meeting following on the success of that approach from last year. To offer the opportunity for even more teachers to participate, additional funds are being provided by both the South Carolina Geographic Alliance and Georgia Geographic Alliance as sponsored by National Geographic. A Friday afternoon session further includes a focus on evolution and geoscience education more broadly, so you can look forward to continuing the conversations started last year on these important issues! There are a number of other oral and poster sessions at SEGSA that may be of particular interest to our members, given the focus on regional landscapes and/or citizen science efforts as herein listed.

- Evolving Perspectives on Piedmont Geology: Terrane Studies, Structural Analyses, New Mapping, and Complementary Studies
- Synergistic Paleontology: The FOSSIL Project and Amateur Contributions to the Field
- Geology of the Southeastern Atlantic Continental Margin: A Poster Session with Cores, Rock Samples and Coffee
- Gold Exploration in South Carolina
- Fossil Vertebrates of the Southeastern United States
- Quaternary Geology along the Southeast U.S. Coast: Contrasting Recent Change with Long-Term Evolution
- Geohazards along the East Coast of the U.S.
- Extreme rainfall effects in South Carolina, October 2015

## **NAGT Awards**

Get in your OEST (Outstanding Earth Science Teacher) nominations! The deadline for our section is May 1. The success of awarding OESTs in our region has been recognized nationally within NAGT, so let's continue to keep up the good work with another year of showing support for our K-12 teachers across many states! Please note that the structure for online submissions has been modified to encourage more detailed nominations. You can access the revised form here:

<http://nagt.org/nagt/awards/oest-nom.html>. Don't forget also that NAGT gives a number of other awards to recognize TAs, service to geoscience education, contributions in writing, etc. So go ahead and nominate a deserving colleague!

## **Earth Educator Rendezvous**

The 2<sup>nd</sup> annual Earth Educators' Rendezvous is scheduled for July 18-22 at the University of Wisconsin in Madison. This is a wonderful opportunity to attend an entire conference focused on earth science education with events scheduled for students, K-12 educators, university instructors, and more. Whether you're looking for new classroom approaches, guidance for the job market, or ideas to start research in education, you can find it all at the EER! Visit the SERC website for more information and important upcoming deadlines: [http://serc.carleton.edu/earth\\_rendezvous/2016/index.html](http://serc.carleton.edu/earth_rendezvous/2016/index.html).

## **Call for Survey Help on Careers in Earth Sciences!**

Dr. Frank Forcino, Assistant Professor at Western Carolina University, is interested in surveying 7<sup>th</sup> to 12<sup>th</sup> grade students' knowledge of possible careers in the sciences, especially in Earth Sciences. He seeks participation from Secondary Education Science Teachers, particularly in urban schools with a larger proportion of students from underrepresented ethnic, racial, and cultural backgrounds. In addition, he would like to give a presentation about career opportunities in Earth Sciences. Teachers interested in helping with this project should email Dr. Forcino directly at [Fforcino@email.wcu.edu](mailto:Fforcino@email.wcu.edu).

## **NSF Research Experience for Undergraduates in Community Geography & GIS**

One final advertisement as part of my letter to you all is the search for outstanding students for the NSF REU program that I'm co-directing with Dr. Timothy Hawthorne at the University of Central Florida on ***Preparing the Next Generation of Scholars through Community GIS and Citizen Science*** for 2016-2018. The program offers fully funded summer experiences for undergraduate students to engage in research on flood and disaster management or mapping of marine debris in coastal communities of Belize. Please encourage your best students to apply and learn more at [citizensciencegis.org](http://citizensciencegis.org).

Thanks for reading and I hope to see many of you at SEGSA at the end of March. In the meantime, don't forget to [join our Facebook group](#). See separate article below.

Please feel free as always to email me if you wish to get more involved in SENAGT or if you have ideas for events or resources or other feedback for us. We want to better serve you, so let us know how we can help!

Sincerely,

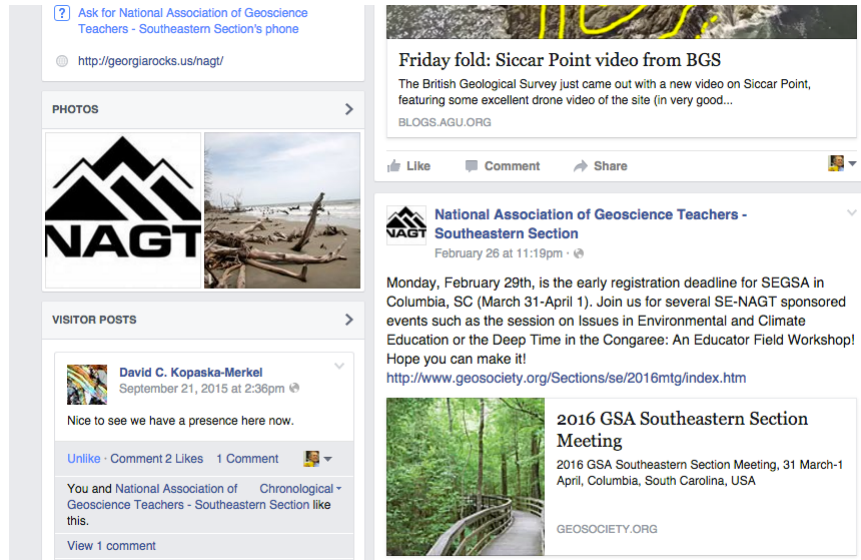
*Christy C. Visaggi*

# Facebook Milestone

by Bill Witherspoon, ed.

Congratulations and thanks to our President Visaggi for bringing our section into social media. The [Facebook page](#) promised six months ago in her first President's letter went online days later, on September 14.

I just visited, added my "Like" to the 40 who preceded me, and **took just a minute to invite my Southeast educator and geoscience FB friends to Like it as well.** I challenge you to do the same, and instantly extend the reach of our little group!



The link spelled out: <https://www.facebook.com/National-Association-of-Geoscience-Teachers-Southeastern-Section-400556276800591/>.

# Meeting Calendar

Most recently reported dates of past or future meetings

National Science Teachers Association and Affiliates		
Area	Latest date on web site	City
National	Mar. 31–Apr. 3, 2016	Nashville
Eastern	Dec. 2-3, 2016	Columbus, OH
Alabama	Feb. 16-17, 2016	Birmingham
Florida	Oct. 20-22, 2016	Orlando
Georgia	Feb. 1-3, 2017	Stone Mountain
Louisiana	Oct. 24-26, 2016	Baton Rouge
Mississippi	Oct. 23-25, 2016	Biloxi
North Carolina	Oct. 20-21, 2016	Greensboro
South Carolina	Nov. 2-4, 2016	Columbia
Tennessee	Mar. 31–Apr. 3, 2016	Nashville

Geological Societies		
Organization (Area)	Latest date on web site	City
GSA (National)	Sept. 25-28, 2016	Denver, CO
GSA (Southeastern)	Mar. 31- Apr. 1, 2016	Columbia, SC
GSA (South Central; incl. LA)	Mar. 21-22, 2016	Baton Rouge, LA
Georgia Geological Society	Oct. 9-11, 2015	Cartersville
Carolina Geological Society	Oct. 23-25, 2015	Columbia, SC

# FOSSIL Project Announcements

by Eleanor Gardner, FOSSIL Project Coordinator and SENAGT Secretary nominee

## 1. FOSSIL Project PaleoBlitz, March 18-20, 2016

The FOSSIL Project is happy to announce its first PaleoBlitz, scheduled for **March 18-20, 2016**, at the University of Florida's Florida Museum of Natural History!

A PaleoBlitz, similar to a BioBlitz, is an intense period of paleontological survey conducted by citizen scientists. This pilot PaleoBlitz is intended to engage amateur paleontologists in the entire fossil collection process – from first finding a fossil, to field documentation, to museum curatorial work. The organizers, FOSSIL Project postdoc Dr. Ronny Leder and UF PhD student Victor Perez, hope that this event will be beneficial to the amateur paleontological community by promoting best practices in fossil collection and curation.

We are inviting 12 individuals to participate in this weekend-long workshop. **Please fill out this [application](#) [click link] in order to be considered; applications are due by 5pm on March 11, 2016.**

The event itself will give you hands-on exposure to the museum curation process. Participants will aid in identification, preparation (cleaning), curation (database entry), and documentation (photographing) of fossils collected from the Belgrade Mine in North Carolina. Additionally, there will be a tour of the paleontology collections at the Florida Museum of Natural History and a tour of the famed Hubbell collection. Finally, there will be an optional field trip to local Gainesville creeks to collect fossils.

Travelling costs will be at your own expense; however, the FOSSIL Project will cover lodging and some food expenses. You may contact either of the event organizers, Victor Perez ([victoriperez@ufl.edu](mailto:victoriperez@ufl.edu)) or Ronny Leder ([leder.ronnymaik@flmnh.ufl.edu](mailto:leder.ronnymaik@flmnh.ufl.edu)), with any additional questions that you may have.

For more information or to submit nominations, please contact the FOSSIL Project Coordinator, Eleanor Gardner, at [fossil@flmnh.ufl.edu](mailto:fossil@flmnh.ufl.edu).

## 2. Cincinnati Mini Conference on Paleontology, June 3-5, 2016

Cincinnati Museum Center, Cincinnati, Ohio



Everyone with an interest in the world-renowned paleontology of the Cincinnati, Ohio, region is invited to attend the Cincinnati Mini Conference on Paleontology, co-sponsored by the Cincinnati Dry Dredgers, the Cincinnati Museum Center, the FOSSIL Project, and the Paleontological Society.

*Isorophus cincinnatiensis*, Official Fossil of the City of Cincinnati  
Image Credit: Jack Kallmeyer of the Cincinnati Dry Dredgers



For more information, including a prospectus and agenda, see: <http://community.myfossil.org/cincinnati-2016-mini-conference/>.

### Travel Scholarships for College/University Students and K-12 Educators

Thanks to sponsorship from the Paleontological Society, five university paleontology students and five K-12 educators will be reimbursed for up to \$500 each for their travel costs to attend this meeting! University students (undergraduate or graduate) and K-12 teachers affiliated with fossil clubs or societies are particularly encouraged to apply. Students are invited to present posters on their research endeavors. Of special interest to educators, there will be a fossils and paleontology lesson-planning session at this mini conference.

Please contact Eleanor Gardner at [fossil@flmnh.ufl.edu](mailto:fossil@flmnh.ufl.edu) for more information.

Travel scholarship applications may be submitted via this online form:

<https://docs.google.com/forms/d/1tm9s6YhKF1lqLoX8ULq8o8cPed1Qe1eaDzk3LPB7E20/viewform>

Deadline for receipt of the application is **April 6, 2016**. Recipients will be announced by April 15.



## State News in Geoscience Education

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If you would like to contribute state news to the next newsletter, please send your geoscience education information and pictures to your state representative, before August 1, using the e-mail address at the end of this newsletter.

**Alabama** (submitted by David C. Kopaska-Merkel, Geological Survey of Alabama, Co-State Representative)

### Universities

**The University of Alabama**, through the Evolution Working Group, sponsors the ALLELE lecture series. Numerous science departments and other campus organizations sponsor 6 lectures per year, about 3 per semester. <http://www.as.ua.edu/tag/allele-lecture-series/> A new organization, the Southeastern Evolutionary Perspectives Society (SEEPS), was founded at the University of Alabama in 2015. Its first conference will be held at UA on the weekend of Darwin's birthday.

<http://www.as.ua.edu/2016/01/29/evolutionary-studies-club-to-host-conference-feb-12-14/>

<http://seeps2016.weebly.com/>

Yes, we are making attempts to move in two directions:

- 1.) Teaching in elementary schools (such as in the Arcadia and Magnet schools)
- 2.) Teaching in high schools-this is a new program initiated by our students (mostly MS students) who would like to have experience in teaching students at this age group.

What we are working on currently:

#### Elementary school Level:

1. Applying for a small amount of money "Seed Funds" to the Community-Based Partnerships (<http://ccbp.ua.edu/seed-funds/>) from UA. Money will be used to create a solid curriculum for elementary school outreach.
2. Looking to continue this initiative on a long-term basis. Currently we have the idea of having a section of [geokids.org](http://www.geokids.org) (similarly to other places, see for example what they do in Menlo Park, CA <http://www.geokids.org/support/>). We are still trying to figure out how to attach us to this (what we think is) a national initiative via National Geographic.

#### High school Level:

We are currently going through background check (required for working with students from Tuscaloosa County). Once we get cleared, we can approach a certain school. We have selected Holt High School as most students there are from minorities.

### University of South Alabama

Geology undergraduate students at the University of South Alabama had a very good year as far as research and conference presentations were concerned. A record number of geology students (7) participated in USA's summer research program (UCUR) and many followed up their research with presentations at the South Central or Southeastern Section meetings of the Geological Society of America.

The Department of Earth Sciences has encouraged more of its top students to present their research to the scientific community and is providing partial reimbursement for their travel expenses. The departmental honors program has also been attracting more geology majors because it supports more comprehensive research and provides successful students with a competitive advantage when it comes to applying to graduate programs.

The USA Chapter of the Sigma Gamma Epsilon Honor Society is producing mineral kits for all public middle and high schools in the University of South Alabama's service area (7 counties). The "Alabama Minerals" kits will comprise large specimens of 15 common minerals that science teachers would be able to use when teaching Earth science content to their students. In addition to the minerals, the kits will also contain student-produced instructional videos about mineral properties, economic uses, mineral testing, etc. This series of kits will be complementary to the "Alabama Rocks" kits that contain important rocks found in Alabama. Both sets of kits will be distributed to service area schools later in 2016.

### **Geological Survey of Alabama**

The GSA provides information about the geology of Alabama to citizens, and indeed, to anyone who asks, free of charge. This includes visiting schools and other organizations, when time permits. From time to time, the GSA publishes reports primarily aimed at science education.

### **Other**

#### Speaking Evolution

*Speaking Evolution* is a website organized around video clips of scientists explaining various aspects of evolution. Many of the clips are of scientists who visited Tuscaloosa as part of the ALLELE lecture series. <http://www.speakingevolution.org/>

#### Societies

The Alabama Geological Society, a professional organization, organizes a field trip every year, and other events relative to science education from time to time.

The Alabama Paleontological Society and the Birmingham Paleontological Society exist so that amateur paleontologists may collect fossils around the state, and also attend regular lectures by paleontologists with various specialties. Both organizations assist professional paleontologists in various ways, and both donate exceptional specimens to museums.

#### Steven C. Minkin Paleozoic Footprint site

The State Lands division of the Alabama Department of Conservation and Natural Resources, recently turned over spoil piles at the site. This brings unweathered fossil specimens to the surface, including Pennsylvanian trace fossils, body fossils, and other interesting items. It is still possible to arrange a visit to the site. Scientifically important specimens must be donated to a museum in the state. All other specimens may be kept by the collectors.

A new book about the site, *Footprints in Stone*, will be published by the University of Alabama Press later this year.

Acknowledgments : Fred Andrus, Natasha Dimova, Andy Goodliffe, Doug Haywick.

### **Florida** (State Representative: Kim Cheek)

If you live in Florida, please remember to send Kim your news before August 1 for the next newsletter.

### **Georgia** (submitted by Katy Smith, Georgia Southern University, Co-State Representative)

#### **Georgia STEM Scholarship of Teaching and Learning Conference**

*Georgia Southern University, Statesboro, GA, March 3-4, 2016*

With sponsorship from the University System of Georgia (USG) Board of Regents, Georgia Southern University will host a conference for educators, students, industry professionals, and research institutions with interests in the Scholarship of STEM Teaching and Learning. Participants are invited from all USG colleges and universities, private higher education institutions within the state, industry, research institutions, and local area K-12 schools. The conference will begin with a poster session and reception Thursday, March 3, at the Statesboro Holiday Inn. It will continue all day on Friday, March 4, at the Nessmith-Lane Conference Center on Georgia Southern's campus.

The conference complements the University System of Georgia's STEM Initiative whose goals include: promoting K-12 student preparation for and interest in majoring in STEM fields in college; increasing the success of STEM majors in college; and producing more and better science and mathematics teachers for K-12 schools, which in turn will lead to increased preparation of students in science and mathematics.

Conference details can be found at: <http://stem.georgiasouthern.edu/2016stemconference/>

### **Science Friday Nights: Meteorites: Where they come from, what they are made of and why they are important to science**

*Tellus Museum, Cartersville, GA, March 11, 2016, 7 pm*

Pisgah Astronomical Research Institute curator of minerals and meteorites John Sinclair will discuss the science of meteorites in a public lecture. Admission is free for Tellus Museum members and regular admission for non-members.

### **Lunch and Learn: Gemstones from meteorites**

*Tellus Museum, Cartersville, GA, March 23, 2016, 12:15 pm*

Learn about pegmatites and the largest gems on Earth in this lunchtime lecture. Admission is free for Tellus Museum members and regular admission for non-members.

More information about Tellus Museum events can be found at: <http://tellusmuseum.org/events/>

### **Louisiana** (State Representative: Wendy Demers)

If you live in Louisiana, please remember to send Wendy your news before August 1 for the next newsletter.

### **Mississippi** (Submitted by Adam Skarke and Renee Clary, Mississippi State University, state representatives)

#### **Mississippi State University**

**Earth Day:** The Dunn-Seiler Museum, in partnership with Gaining Ground Sustainability Institute of Mississippi, is sponsoring a competition to promote awareness about the environmental damage caused by plastic water bottles that are not reused or recycled. Mississippi's K-12 students are invited to design a creative use for plastic water bottles that would otherwise be thrown away. **Entries are due April 15<sup>th</sup>, 2016.** The contest description can be found on the Dunn-Seiler Museum website at <http://www.geosciences.msstate.edu/dunn-seiler-museum/>. The 2015 Earth Day event focused on promoting awareness of waste generated by Styrofoam. The Grand Prize winner of the 2015 event was Kali Grace Cotton of Yazoo County Middle School for her "StyroFarm."







*1<sup>st</sup> and 2<sup>nd</sup> place elementary winners below their winning art entries at the Dunn-Seiler Museum. From left: Jordyn Ferguson and Woods Gramling, both of Sudduth Elementary, Starkville, MS.*

**Darwin Week:** February 6-12. Daily events recognized the life and work of Charles Darwin. Scheduled events offered programming relevant to diverse audiences, highlighting some exciting new advances in science that have built upon Darwin's ideas and addressing such topics as the evolution of diseases and the importance of preserving biodiversity. Darwin Week was cosponsored by the Department of Biological Sciences and the Department of Geosciences at Mississippi State University. A full list of Darwin Week 2016 events can be found at this link:

[http://www.geosciences.msstate.edu/sites/www.geosciences.msstate.edu/files/Darwin\\_Week\\_2016.jpg](http://www.geosciences.msstate.edu/sites/www.geosciences.msstate.edu/files/Darwin_Week_2016.jpg)

**Fossil Art and Story Contest:** The Dunn-Seiler Museum sponsored a Fossil Art and Story contest to promote awareness of National Fossil Day, during Earth Science Week. The competition focused on the Cenozoic prehistoric life of Mississippi. Hundreds of entries were received from across the state. The winning entries are currently on display in the Dunn-Seiler Museum.



**Fossil Extravaganza:** The Dunn-Seiler Museum also held an open house for National Fossil Day on October 14. Guests toured the museum, and searched for fossils in our "fossil dig."

### Mississippi Museum of Natural Science

- **Fossil Road Show:** See the museum's fossil collection and collector displays, and meet institutional exhibitors. Enjoy hands-on activities, a simulated fossil dig and an intro to scientific illustration. Bring a fossil for the staff to identify.
  - **When:** March 5, 2016 - Saturday – 10:00 a.m. to 3:00 p.m.
  - **Where:** Mississippi Museum of Natural Science: Jackson, MS
  - **Information:** <http://www.mdwfp.com/see-visit/events/13th-annual-fossil-road-show.aspx>
- **Teacher Workshops:** Museum staff provide training in internationally recognized environmental education programs for teachers. These programs can be conducted for teachers of all subjects and grade levels either in your school or at the Museum. More information can be found here: <http://www.mdwfp.com/learn-teach/for-teachers.aspx>

## **North Carolina** (submitted by Randy Bechtel, N.C. Geological Survey, State Representative)

### **Feb 21, 2016 was the 100th Anniversary of the Largest Earthquake Centered in North Carolina**

“Sunday, February 21, 2016 is the 100th anniversary of the Skyland earthquake, which strongly shook western North Carolina and was felt in South Carolina, Tennessee, Georgia, Virginia, Alabama, Kentucky and West Virginia, an area exceeding 200,000 square miles. The farthest location to report feeling the quake was Norfolk, Virginia, 365 miles away. This is the largest earthquake to have occurred in the state during historic times.”

- <http://deq.nc.gov/about/divisions/energy-mineral-land-resources/north-carolina-geological-survey/geoscience-education/1916-quake>

For more information about earthquakes related to North Carolina [go here](#)

And for earthquake activities in the classroom [go here](#)

### **New website for the Department of Environmental Quality including the NC Geological Survey**

Explore it and let us know what you think and what else we need

NCGS main page <http://deq.nc.gov/about/divisions/energy-mineral-land-resources/north-carolina-geological-survey>

Scroll down to the Geoscience Education <http://deq.nc.gov/about/divisions/energy-mineral-land-resources/north-carolina-geological-survey/geoscience-education>

### **Nominate an Outstanding Earth Science Teacher and Educator (OEST and OESE)! **Deadline is March 31, 2016!!****

The **Nomination Form** is at the bottom of this link <http://deq.nc.gov/about/divisions/energy-mineral-land-resources/north-carolina-geological-survey/geoscience-education/outstanding-educators-awards>

The Nomination Form and any supporting material need to be received by Randy Bechtel by **March 31, 2016**

### **NC Science Teachers Association Professional Development Institute – Start planning Now!**

Is early this year **October 20-21, 2016**

Back in **Greensboro at the Koury Convention Center.**

And the **Rock Giveaway** is back!!!

## **Puerto Rico** (State Representative position open)

## **South Carolina** (submitted by Gwen Daly, Winthrop University, State Representative)

Greetings from soggy South Carolina. There are many resources becoming available on the catastrophic flooding caused by a freakish, “1,000 year storm” in South Carolina in October of 2015. Many of these are from the USGS, who monitored the flood through stream gauges and teams of geologists and other workers who made measurements before, during and after the flood (<https://www.usgs.gov/newsroom/article.asp?ID=4366>). The South Carolina State Climatology Department also has several reports on the flooding, including a report on the cause of the flooding as well as chronologies of the flood itself ([http://www.dnr.sc.gov/climate/sco/Publications/page\\_storm\\_reports.php](http://www.dnr.sc.gov/climate/sco/Publications/page_storm_reports.php)). They have also published a great multi-media interactive report on the event, synthesizing the available data about rainfall, stream flow and flood damage ([http://www.dnr.sc.gov/news/2016/feb/feb11\\_floodjournal.html](http://www.dnr.sc.gov/news/2016/feb/feb11_floodjournal.html)).

## Forty Acre Rock

The Rainbow Ranch expansion of the Forty Acre Rock Heritage Preserve (Lancaster County) has been finalized. Forty Acre Rock is an easily accessible, spectacular flat-top outcrop of a granitic pluton that is home to a fascinating ecosystem ([http://www.dnr.sc.gov/news/yr2015/nov5/nov5\\_rainbow.html](http://www.dnr.sc.gov/news/yr2015/nov5/nov5_rainbow.html)). The new land was part of a land swap with the Haile Gold Mine, who also gave over nine million dollars to help preserve several sites, including Fort Acre Rock. The expansion is also part of the effort to save the endangered Carolina heelsplitter mussel (<http://www.dnr.sc.gov/fish/species/shellfish/carolinaheelsplitter-restocking.html>).

## Publications

The Haile Gold Mine has released an interactive map showing the past, present and future environmental conditions at the mine site (<http://www.hailegoldmineeis.com/our-environment/interactive-map/default.aspx>). It includes their plan for transforming the site back into a natural landscape of grasslands and lakes.

The large reserves of methane hydrate in deep water off South Carolina's coast on the Blake Plateau have recently been cited as a possible source of future global climate change as local ocean bottom temperatures rise and the gas escapes (<http://onlinelibrary.wiley.com/doi/10.1002/2014GB005011/abstract>). In 2014, this "fire ice" was studied as a possible source of natural gas production (<http://www.postandcourier.com/article/20140105/PC16/140109725>). NOAA now has lesson plans inspired by their 2003 cruise to the Blake Plateau for their "Investigating the Charleston Bump" project (<http://oceanexplorer.noaa.gov/explorations/03bump/background/education/education.html>).

Outstanding fossils continue to be extracted from the South Carolina coastal plain. Recent publications include cartilaginous fish assemblages from the Eocene Fishburne Formation (<http://www.nrcresearchpress.com/doi/abs/10.1139/cjes-2015-0061#.VsnL1FMrlcl>) and a shark coprolite containing baby turtle bones from the Cretaceous Coachman Formation (<http://palaios.sepmonline.org/content/30/9/707.short>). Other recently published articles and reports on the geology of South Carolina include an examination of the subsurface geology and its effect on groundwater discharge to surface waters at the Barite Hill/ Nevada Goldfields Superfund site (<https://pubs.er.usgs.gov/publication/sir20155084>) and an evaluation of shoreline changes on Seabrook Island (<http://eeg.geoscienceworld.org/content/21/3/165.short>).

## Envirothon May 13

The South Carolina Envirothon will be held in May at the Clemson University Sandhill Research and Education Center (<http://www.dnr.sc.gov/education/Envirothon/competition.html>). This year's subject is invasive species. Five-member teams of 9<sup>th</sup> through 12<sup>th</sup> grade students must be registered by April 8<sup>th</sup>. South Carolina's Sea Grant Consortium is offering an array of teacher professional development training sessions later this spring and summer (<http://www.scseagrant.org/content/?cid=495>). The University of South Carolina at Beaufort will host the spring meeting of the Southeastern Estuarine Research Society in early March (<http://www.seers.org/next-meeting/>). Winthrop University will host the annual meeting of the South Carolina Academy of Science in April (<http://scasannualmeeting.com/>). Clemson will host the 2016 South Carolina Water Resources Conference in October 2016 ([http://www.clemson.edu/public/sc\\_water\\_resources/index.html](http://www.clemson.edu/public/sc_water_resources/index.html)).

## In Memoriam

Finally, it is my sad duty to report the death of my colleague and friend, Irene Boland, Professor of Geology at Winthrop University (<http://www.legacy.com/obituaries/heraldonline/obituary.aspx?page=lifestory&pid=177184664>). Irene lived in the Carolinas for most of her life and discovered geology relatively late in her career when she read about plate tectonics. She did her graduate work at the University of South Carolina and spent the rest of her life teaching at Winthrop. She served as president of the Carolina Geologic Society and loved attending the CGS annual meetings. During her time at Winthrop, she taught Earth science to thousands of future K-12 teachers as well as thousands of other undergraduates with other life goals.

You could find her almost anywhere in the field in the Carolinas, whether leading undergraduates in her Carolinas geology course or mapping for the National Park Service. She loved teaching so much that she refused to retire. At 70 years old, she was still walking undergraduates into the ground on hikes to see the wonders of Carolina geology, to the point where one class suggested they should get a physical education credit in addition to the science credit they were earning in her course. She also worked on the military geology of the Revolutionary War (<http://www.southerncampaign.org/2016/01/08/dr-irene-boland/>) and co-authored papers and an upcoming book with Bert Dunkerly about the battle of Eutaw Springs. She is and will be missed.

**Tennessee** (submitted by Michael A. Gibson, University of Tennessee at Martin, and Ann E. Holmes, University of Tennessee at Chattanooga, State Representatives)

**University of Tennessee – Chattanooga.** UTC Geology professors Jonathan Mies and Ann Holmes are teaming up with a geology professor Miriam Barquero-Molina, University of Missouri - Columbia, for a team-taught, distance-learning seminar during the spring semester on the geology of the Pyrenees, northern Spain, with an associated 17-day field trip in July-August. Missouri has graduate and undergraduate students enrolled, while UTC has only undergraduates who have not had structure, so lecturing by all 3 instructors to these 2 populations via the video-conference program Zoom has been challenging but engaging. UTC learning-technology specialist Aaron Shoemaker states that UTC Geology is the first program on campus to utilize the digitally smart classroom in Fletcher Hall for distance teaching and learning.

#### **National Science Teachers Association (2016).**

The National Science Teachers Association and Tennessee Science Teachers Association are preparing for a larger version of the annual science teachers meeting when it will play host to the National Science Teachers Association National Conference (NSTA) set for March 31–April 3, 2016. NSTA anticipates over 300 exhibitors, hundreds of sessions, and thousands of educators from all over the world will come to Tennessee. If you would like to be a part of the conference either as session organizer or field trip participant, please visit the NSTA website: <http://www.nsta.org/conferences/>.

[ed. note: If you are NOT at SEGSA but will be at NSTA in Nashville April 1-2, a Share-A-Thon presentation is a great way to informally share activities and resources with highly motivated K-12 teachers from all over the world. The following is quoted from February's National Earth Science Teachers Association *E-News*.]

“Present at one of our NESTA Share-a-Thons in Nashville, TN! by Carla McAuliffe

NESTA will be offering a number of workshops and presentations at the National Science Teachers Association National Conference next spring in Nashville, TN. I hope to meet you at some of these events. In particular, our Share-A-Thons provide you with the opportunity to reach out to a large audience of K-12 educators. Our four Share-a-Thons are as follows:

- April 1, 2016: Earth System Science Share-a-Thon, 9:30 - 10:30 AM.
- April 1, 2016: Geology Share-a-Thon, 2:00 - 3:00 PM.
- April 2, 2016: Astronomy Share-a-Thon, 9:30 - 10:30 AM
- April 2, 2016: Atmosphere and Ocean Share-a-Thon, 2:00 - 3:00 PM

Register [here](#) to sign up for a Share-a-Thon: If you have any questions, please email [Carla McAuliffe](#).”

#### **SE GSA 2018 - Knoxville.**

The Southeastern Section of GSA will be hosted by UT Knoxville in 2018. The chair for the meeting is paleontologist Dr. Colin Sumrall (Department of Earth and Planetary Sciences, 1412 Circle Drive, Knoxville, TN 37996-1410; Phone: (865) 974-0400; Email: [csumrall@utk.edu](mailto:csumrall@utk.edu)), who wants to encourage everyone to be considering possible field trips, theme sessions, workshops, and other special events in anticipation of this event. Centrally located within the southeast section, geologically and geographically, Knoxville GSA meetings have traditionally had large turnout and varied sessions.

## **2016 NW TN STEM Hub Earth & Planetary Science Field Camp at Coon Creek Science Center.**

Dr. Lionel Crews, Associate Professor of Physics and Dr. Michael Gibson, Professor of Geology at UT Martin are offering training opportunities for middle and high school teachers in STEM related fields March 12-13 at the Coon Creek Science Center in McNairy County, Tennessee. This is one of ten programs in STEM fields being offered by a cooperative NW TN STEM Hub partnership between The University of Tennessee at Martin and Dyersburg State Community College, funded by a grant from Battelle Education (<http://thetsin.org/news/2015/ut-martin-awarded-northwest-tn-stem-hub/>). Most of the ten science workshops are held at UTM or at Reelfoot Lake on a single a Saturday, and include a \$100 stipend, free lunch, and training materials.

A special extended weekend field workshop has been organized in cooperation with the Coon Creek Science Center. This two-day field trip will introduce the participant to NASA's Earth Systems approach to STEM education and will target the following topics: Earth's place in the solar system, asteroid impact events, global climate change (including sea level change), and organic evolution. Activities include comparing fossil deposits from different time periods, exploring connections between these fossils and climate change, building models of the solar system, simulating an asteroid impact, and using a telescope to observe solar system objects. Participants meet at the Coon Creek Science Center. Field trips to local sites will be provided. This special workshop includes a \$150 stipend, field trip transportation from Coon Creek and UTM, meals, lodging, and training materials. To be eligible, you must teach K-12 in one of the Northwest Tennessee STEM Hub target counties of Benton, Carroll, Crockett, Decatur, Dyer, Gibson, Henry, Lake, Lauderdale, Obion, Tipton, Weakley counties, with preference given to middle and high school teachers.

For more information on the program contact Dr. Michael A. Gibson ([mjgibson@utm.edu](mailto:mjgibson@utm.edu)). To register, send an email to Dr. Curtis Kunkel at [ckunkel@utm.edu](mailto:ckunkel@utm.edu) with your contact information, including your email address and phone number, and your school's contact information.

An online Outstanding Earth Science Teacher (OEST) nomination form is now available at <http://nagt.org/nagt/programs/oest-nom.html>.

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