

# GEO NEWS

Newsletter of the Association of Environmental & Engineering Geologists, Carolinas Chapter  
2009, 2011, 2013, and 2016 AEG Chapter of the Year

WINTER 2016



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## SAVE THE DATE

January 19, 2017  
Winter Meeting  
Draught Charlotte

April 22, 2017  
Spring Field Trip  
Haw River

**GEONEWS WINTER 2016**  
**Issue Date: December 21, 2016**  
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**GeoNews** is a publication of the Carolinas Chapter of AEG. There are four issues per year, with deadlines and issue publication dates listed below. We publish news of the profession, announcements, student member news, technical articles, and job openings.

**Deadlines for submittal to AEG Carolinas GeoNews**

*(can be flexible depending on events)*

Spring – deadline March 1, issue date March 21  
 Summer – deadline June 1, issue date June 21  
 Fall – deadline September 1, issue date Sept 21  
 Winter – deadline December 1, issue date December 21

**Deadlines for submittal for the National AEG News:**

March issue – January 15  
 June issue – April 15  
 September issue – July 15  
 December issue – October 15

**AEG Carolinas Chapter**  
**Current Officers and Contacts**

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**AEG Carolinas Chapter Website** [www.aegcarolinas.org](http://www.aegcarolinas.org)

**AEG National Website** [www.aegweb.org](http://www.aegweb.org)

**GeoNews Editor** Jennifer B. Thomas, P.G.  
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**MESSAGE FROM THE CHAIR***By Madeline German, P.G., Carolinas Chapter Chair*

Greetings Carolinas Chapter!

Our Jahns Lecture Tour with Jerry DeGraff was a great success. He presented his way through a packed schedule, speaking at 9 schools and one section meeting. He also attended a brewery social on Friday, October 28<sup>th</sup> at Clouds Brewing in downtown Raleigh, where half a dozen members enjoyed personalized conversation and advice. Jerry spoke at our Fall Chapter meeting held at Natty Greene's in downtown Greensboro on Wednesday, October 26, 2016. He presented "Fire, Earth & Rain: Emergency Response for Wildfire-Induced Landslide Hazards." The meeting was well attended by over 50 professionals and students.

At the Greensboro meeting we held a 50/50 raffle for the Carolinas Scholarship fund and though the generous donation of the winnings, we were able to raise \$80 dollars for the scholarship. The scholarship application date is steadily approaching; please encourage all the undergraduate geology majors in the Carolinas to apply for the Carolinas Scholarship, as well as visit the AEG Foundation webpage to learn about all the available scholarship opportunities.

Coming up on January 19<sup>th</sup> at Draught in Charlotte, NC; we are excited to host new AEG President Dale Andrews. We are looking forward to updates from National on the organization as a whole as well as Dale's talk on the chemical modification of soils. Soil stabilization is utilized for a wide range of engineering tasks especially in road construction and airfield pavement. Dale will touch on various stabilization methods as well as provide guidance on when chemical modification makes sense technically and financially and how to select the right chemical for your job. Please visit the AEG Carolinas website to reserve your space.

Also, mark your calendar for April 22, 2017 is the first Field Trip of the year. It will be a geological hike along the Haw River in Chatham County, NC. This field trip will involve a hike along two separate stretches of the Haw River on either side of HWY 64 within the Lower Haw River State Natural Area. The hike will present results of detailed geologic mapping by the NC Geological Survey in Chatham County and interpretations of various outcrops and landforms along the river. This portion of the Haw River is located within the Hyco Formation of the Carolina terrane. We will hike a portion of the river northwest of the HWY 64 bridge in the morning. Along this section we will visit outcrops of metamorphosed dacites, andesites and basalts of the Hyco Formation. After lunch, the hike will be on the southeast side of the river (south of HWY 64); where we will visit outcrops of dacites and volcano-sedimentary rocks. Lunch will be at Carolina Brewery in Pittsboro, and there is a rumor a brewery tour is also included. Additional information and

the registration forms are provided on page 9-13. You can also visit the AEG Carolinas website for more info and to reserve your spot. I am looking forward to seeing you all there.

As AEG National progresses through the items relayed in the Needs Assessment, they are establishing small focus groups to concentrate on issues that will be disbanded once their task is completed. There are currently four areas of focus:

- 1) Increase environmental presence within AEG,
- 2) Appeal to Increase Student Members,
- 3) Disaster planning/response committee, and
- 4) Form new student chapters and reactivate old chapters.

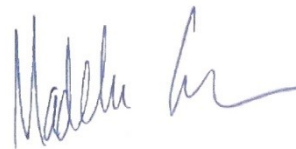
Within these focus areas the individual task groups will be created and disbanded as needed. This is a very small time commitment that will have a significant impact on the future and applicability of AEG as an organization. Remember this is your organization; this is your opportunity to shape how AEG grows and progresses into the future. I encourage you to contact me or Nate Saraceno (nrsaraceno@gmail.com) if you are interested in participating in any of these groups.

Similarly, if you are interested in becoming more involved with the AEG leadership, we are in need of several people to help fill supporting chapter roles. Professionals, regulators, teachers and students are all encouraged to contact me to discuss potential volunteer opportunities.

If you are not already, please follow AEG on Facebook, Twitter and Linked In.

As always, your board and I look forward to hearing from each of you regarding your suggestions and/or concerns related to our Chapter. We are here to serve the needs of our membership, so your feedback is vital and welcome.

Best,



Maddie German, PG  
madeline@smithgardnerinc.com  
AEG Carolinas Chapter Chair

**AEG Carolinas Section Treasurer's Quarterly Report  
July 1 through September 30, 2016**

**BALANCE As Of July 1, 2016**

Checking Account	\$4,847.64
Savings Account	\$14,698.53
	<b><u>\$19,546.17</u></b>

**INCOME****Meetings**

Spring Meeting	\$450.00
May Meeting	\$235.00
August Field Trip/Meeting	\$2,955.78

**Savings Transfer**

Transfer	\$2,000.00
----------	------------

**Interest**

Savings Account	\$1.82
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**SUBTOTAL - INCOME****\$5,642.60****EXPENSES****Banking Fees**

PayPal fees	\$30.44
Intuit and Online fees	\$5.77

**Meeting Expenses**

Bus for August field trip	\$1,055.00
Restaurants for August field trip/meeting	\$826.57
Reimbursements	\$188.35

**Additional Expenses**

Geoscience Education Room Donation	\$1,000.00
Sponsorship for AEG annual meeting	\$1,350.00
AEG Donor Reception	\$250.00
AEG Earth Science Kits	\$2,245.00
Savings Transfer	\$2,000.00
OESE/OEST Awards	\$500.00

**SUBTOTAL - EXPENSES****\$9,451.13****BALANCE As Of September 30, 2016**

Checking Account	\$3,037.29
Savings Account	\$12,700.35
<b>TOTAL</b>	<b><u>\$15,737.64</u></b>



## Dale Andrews, National AEG President to Speak at Winter Meeting



### Bio:

Dale Andrews earned his Master's Degree in Engineering Geology from Kent State, Ohio and is a registered Geologist in the state of Pennsylvania. Dale began his technical career as a geotechnical consultant and project manager within the transportation group of Gannett Fleming, a dynamic infrastructure solution and construction management service focused firm. After nearly a decade with Gannett Fleming, Dale accepted an offer to work for Carmeuse Lime & Stone. Carmeuse is a global leader in the production of lime and limestone, producing up to 7 million tons of lime, 12 million tons of high quality chemical grade limestone, and 15 million tons of quality aggregates per year in North America alone. Dale is currently Carmeuse's lead technical advisor and R&D manager for all of their construction and stabilization/solidification opportunities as well as their entire milled products' portfolio. Collectively, Dale has nearly twenty years of experience in chemical stabilization of soil, solidification of waste, construction aggregate and filler applications, dredged material remediation, slope instability mitigation, foundation design, erosion control, landfill management and construction testing.

### Presentation Title: "Chemical Modification of Soils"

Soil drying, modification and stabilization incorporate different methods for altering the properties of soil to enhance its physical properties and engineering perfor-

mance. Soil stabilization is utilized for a range of engineering tasks, the most well-known application being in the road construction and airfield pavements, where the primary goals are to dry the soil, improve the soil engineering properties and to lessen the development cost by making best utilization of locally accessible materials. In addition to improving strength, stabilization can provide erosion control, pH adjustment, and permeability reduction.

This presentation will outline the many benefits of utilizing chemicals, such as lime and cement, in soil and explain how they are achieved. It will provide guidance on when chemical modification makes sense technically and financially and how to select the right chemical for a job. Additionally, it will touch on applicable laboratory testing methodologies and field practices for incorporating these chemical into the soil.

## Winter Meeting

**Place:** Draught Restaurant and Bar, 601 S. Cedar St, Charlotte, NC

**Date:** Thursday January 19, 2017

Time: 5:30 pm socializing begins, 7:00 buffet dinner, 8:00 presentation

**Cost:** ASCE and AEG members \$30, non-members \$40, public sector \$15, teachers \$10, students FREE with student ID

**Reservations:** Please make reservations with Rebecca Deal (rdeal@harthickman.com) by 5:00 on Monday January 16, 2017. Because this is a joint meeting, it is very important to RSVP to ensure accommodations for seating and food. Thanks!

We encourage you to register and pay using PayPal on the AEG Carolinas website, for a shorter line and less hassle when you check in. <http://aegcarolinas.org>



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## Georamblings

By Charles W. Welby

"It's time," the Walrus said, "to talk of many things"...about going here and there and back again. So, if one has a wrist watch with a compass built in to it, one can keep track of the geologic scenery that one passes through and makes notes of what has been observed. To enable determination of the distance traveled one can use the speed of the vehicle being ridden in or with an occasional note from the odometer. This technique helped me understand the world I was in during a trip to Morocco several years ago. I uncovered the notes a few days ago, and anticipate having fun over a cup of coffee at a local coffee shop reviewing them and thinking about the good time I had with others of the university alumni group I was with.

I have been reading a book off and on by Andrew Robinson entitled Earth Shattering Events. The book discusses how humans and earthquakes have interacted in the past, from ancient Jerico to more modern times. An earthquake in the Tokyo-Yokahama in 1923 provided information as to the vulnerability of the area to fire. It provides the answer to why the Doolittle bombing raid over

Tokyo was undertaken during World War II. The B-25 bombers flew fully loaded off US aircraft carriers and dropped incendiary bombs on Tokyo. As some may remember, the bombers landed in China.

And so, as time passes, things geologic are all around us.

Question: Why do some asphalt pavements fall apart and others do not? A variety of reasons exist, of course, but the answer to the questions is related to the materials which are used in constructing the pavement. If you know the answer, you should be able to make water float on oil in a bed of sand or a test tube.



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## ASSOCIATION OF ENVIRONMENTAL & ENGINEERING GEOLOGISTS - Carolinas Chapter

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### Geological Hike along the Haw River, Chatham County, NC

**Reservations:** You can register and prepay for the field trip by (1) mail (see last pages) or (2) under the News and Events Page of our website at <http://aegcarolinas.org/>. Everyone (including online registers) must fill out the Registration and Liability Waiver Forms to attend the field trip.

**THIS FIELD TRIP IS LIMITED TO 50 PARTICIPANTS.**

**FIELD TRIP RESERVATION DEADLINE: 5PM Friday, April 14, 2017.**

#### **Spring Field Trip**

**Saturday, April 22, 2017, 9:00am to 5:30pm**

**Meeting Location:** 9:00 am Lower Haw River State Natural Area parking lot (see instructions for parking)

**Cost:** Members, Non-members, Public-sector, Teachers \$50; Students with college ID \$25

**Field Trip Waiver:** Please sign/date and return field trip waiver to Sue Buchanan by **April 14, 2017**

**South Carolina Continuing Education Credits:** 5 credits

**Travel Accommodations:** A block of rooms will **not** be reserved by AEG for this event. A list of nearby accommodations follows. Please carpool as the parking area cannot accommodate many vehicles.

This field trip is limited to 50 participants due to limited space available at Carolina Brewery restaurant.

#### **Field Trip Summary**

This field trip will involve a hike along two separate stretches of the Haw River on either side of HWY 64 within the Lower Haw River State Natural Area. The Lower Haw River State Natural Area is administered by the NC State Parks and includes 1,100 acres of land along both sides of the Haw River in Chatham County extending from the Town of Bynum to Jordan Lake.

The hike will present results of detailed geologic mapping by the NC Geological Survey in Chatham County and interpretations of various outcrops and landforms along the river. This portion of the Haw River is located within the Hyco Formation of the Carolina terrane. Generally, the Hyco Formation includes metamorphosed volcanic, volcanoclastic-sedimentary and intrusive rocks associated with a volcanic island arc active ca. 612 – 630 ma.

We will hike a portion of the river northwest of the HWY 64 bridge in the morning. Along this section we will visit outcrops of metamorphosed dacites, andesites, and basalts of the Hyco Formation. After lunch, the hike will be on the southeast side of the river (south of HWY 64); where we will visit outcrops of dacites and volcano-sedimentary rocks.



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**Field Trip Logistics**

Participants will park at the [Lower Haw River State Natural area gravel parking lot](#) on the west side of the Haw. The lot is accessed from the eastbound lane of HWY 64 off of Foxfire Trace. River Access Road which leads to the parking lot is a left turn immediately off of Foxfire Trace. Please carpool as the parking area at the Haw River cannot accommodate many vehicles. **Excess cars can park at the [Lowe's Home Improvement Store at 121 Lowes Drive](#), located a few minutes west of the Haw River parking lot off Hwy 64 in Pittsboro.** Field trip starts shortly after 9 am, so please coordinate carpooling and car parking logistics before 9 am meeting time.

After a brief introduction to the field trip, we will walk under the HWY 64 bridge to the northwest along the river. The trail includes areas of roots, loose and slippery rock and may require the crossing of small streams. **Hiking boots are recommended.** Downed trees may require stooping or climbing at times. The morning section should take approximately 2 to 3 hours to complete with an estimated return to the parking lot at lunch time.

**From 12:00pm to 3:00pm, lunch will be at Carolina Brewery in Pittsboro (120 Lowes Drive #100).** A limited lunch menu has been selected which includes tea, water, and soft drinks. Alcoholic beverages are not included. A 30 minute brewery tour at Carolina Brewery will start about 2:00pm. We strongly encourage that participants who choose to drink alcohol, limit alcoholic beverages to **one drink** as driving is required back to the Haw River and more hiking continues after lunch. After lunch, the group will walk over the HWY 64 bridge and begin another approximate 2-hour hike on the southeast section of the river.

Nearby hotels in Apex, NC (about 20 miles from the Haw River parking lot): Comfort Inn (1411 E Williams Street, 919-387-4600); Candlewood Suites (1005 Marco Drive, 919-387-8595); Holiday Inn Express (1006 Marco Drive, 919-387-3636).

**Field Trip Leader**

**Phil Bradley** is the Senior Geologist for the North Carolina Geological Survey for the Piedmont. He has 20 years of experience in project management and technical oversight in geological sciences including groundwater and soil investigations, geoscience education, and geologic mapping. His main duties involve geologic mapping in the Piedmont of North Carolina.

Published Geologic Map of area:

[https://ncdenr.s3.amazonaws.com/s3fs-public/Energy%20Mineral%20and%20Land%20Resources/Geological%20Survey/GEOLOGIC\\_Geopdfs/NCGS\\_OFR\\_2012-02\\_NW\\_Merry\\_Oaks.pdf](https://ncdenr.s3.amazonaws.com/s3fs-public/Energy%20Mineral%20and%20Land%20Resources/Geological%20Survey/GEOLOGIC_Geopdfs/NCGS_OFR_2012-02_NW_Merry_Oaks.pdf)

General information about Lower Haw River State Natural Area

<http://hawriver.org/wp-content/uploads/2016/10/LHRSNA-brochure-1.pdf>



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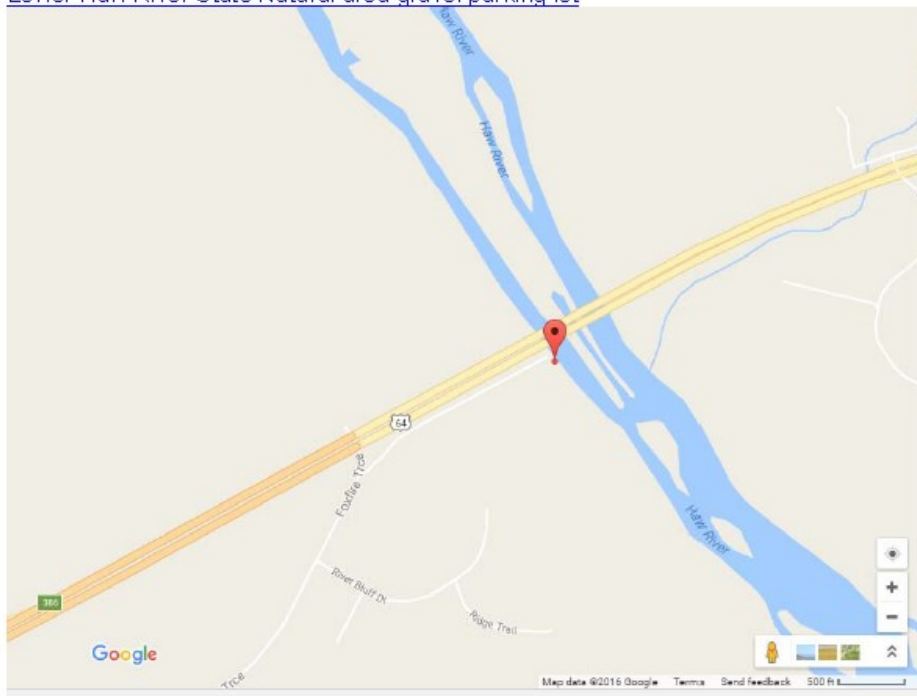
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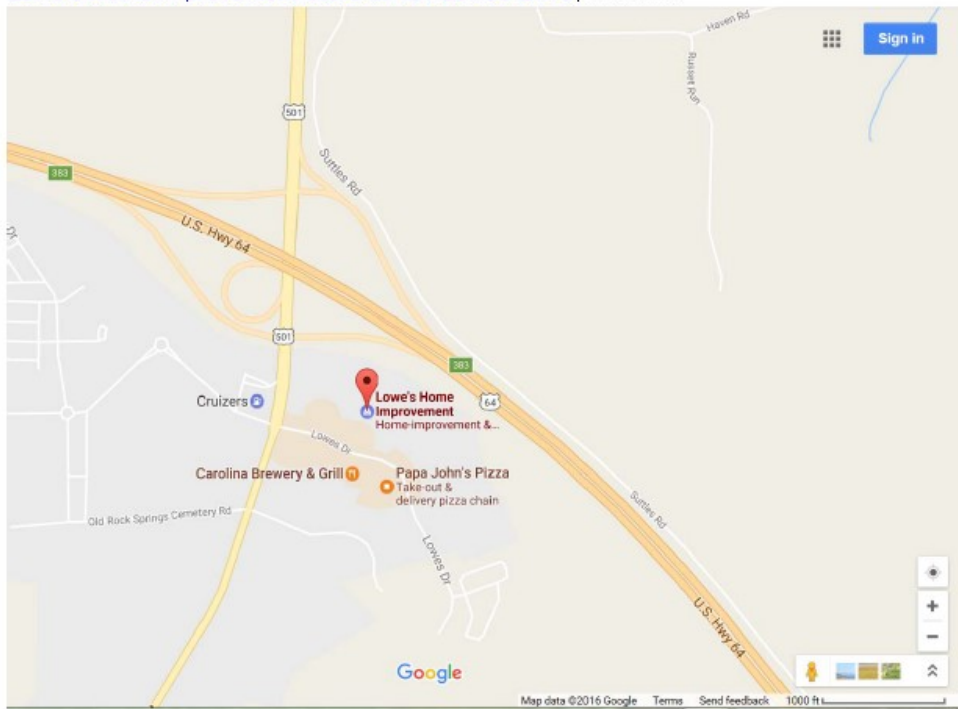
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**Haw River Parking:** Space is limited in the parking area. **Please carpool if possible.**  
[Lower Haw River State Natural area gravel parking lot](#)



[Lowe's Home Improvement Store at 121 Lowes Drive, Pittsboro](#)



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Association of Environmental & Engineering Geologists – AEG

**AEG Carolinas Chapter  
REGISTRATION AND LIABILITY WAIVER FORMS**

**Field Trip, Chatham County, NC  
April 22, 2017**

**Instructions:** Each participant will need to complete the registration form and waiver form to attend this AEG event. Payment must be made to complete your registration and reserve your spot on the field trip. After completion of the forms, send forms and payment (check) to:

Sue Buchanan (sbuchanan@schabel-eng.com),  
Schabel Engineering, 11A Oak Branch Drive, Greensboro, NC 27407

Name of Participant: \_\_\_\_\_

Company or University: \_\_\_\_\_

Address (Street, City, State, Zip): \_\_\_\_\_

Phone (office, home, or cell): \_\_\_\_\_ Email: \_\_\_\_\_

The Field Trip will include lunch at Carolina Brewery, 120 Lowes Drive #100, Pittsboro (limited lunch menu).

**Each participant must complete the table below for this AEG Carolinas Chapter event.**

Event	Member	Non-Member	Public-Sector	Teacher	Student
Field Trip (Saturday, April 22, 2017)	\$50	\$50	\$50	\$50	\$25
<b>Total Payment Amount:</b>					

**Payment Options:**

**1) CHECK:**

☐ Check box if paid via check, payable to *AEG Carolinas Chapter*. Send check to Sue Buchanan.

**2) PAYPAL:**

☐ Check box if paid via PayPal on the AEG Carolinas Chapter website (<http://aegcarolinas.org/>) under the News & Events Page.

List participant(s) for which this payment is for: \_\_\_\_\_

\_\_\_\_\_



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## ASSOCIATION OF ENVIRONMENTAL &amp; ENGINEERING GEOLOGISTS



## LIABILITY WAIVER FOR FIELD TRIP PARTICIPANTS

The undersigned having been fully advised as to the nature and possible dangers and hazards of the field trip, hereby acknowledges and agrees this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, that:

1. (please print) \_\_\_\_\_ (herein referred to as "Participant") intends to participate in one or more field trips sponsored by the Association of Environmental & Engineering Geologists (herein referred to as "AEG").

The field trip for which this waiver is being made is to be held on Saturday, April 22, 2017, in Chatham County, North Carolina.

2. Participant agrees and understands that during such field trip(s), he/she will be under the direction and control of the trip leader approved by the AEG, and specifically agrees to comply with all reasonable directions and instructions by the trip director during the course thereof.

3. Participant understands and acknowledges that there are risks of injury to person and/or property that are associated with field trips, including without limitation risks related to travel hazards, terrain, weather, eating and sleeping arrangements, and other circumstances. Participant hereby voluntarily assumes all risks connected with or arising out of his/her participation in field trip activities, and waives any claim against AEG, its officers, directors, employees, agents and members for any injury, harm, damage or other liability arising out of field trip activities.

4. Participant understands and acknowledges that the AEG assumes no liability for personal injuries or property damages to participants or to third persons arising out of field trip activities. Participant agrees to hold AEG harmless from any liability for harm arising out of the acts or omissions of AEG or Participant during any such field trip, and indemnify AEG against any and all awards or judgments against AEG in favor of third parties for losses and damages (including attorney's fees and any costs involved because of said claims), on account of injury, death or property damage, or inconvenience or loss of money due to delay that may arise, by reason of Participant's participation in field trip activities.

5. I understand that my use of alcohol or drugs would impair my judgment and coordination, and I hereby waive, and will hold the AEG harmless from, any and all claims of bodily injury or other harm arising from my use of either. I will indemnify AEG against awards or judgments in favor of third parties for losses or damages (including attorney's fees and costs), of whatever nature, arising out of my use of alcohol or drugs while participating in field trip activities.

Participant's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

6. I hereby state that **I am at least twenty-one (21) years old**, am competent to sign this document, and am legally permitted to consume alcoholic beverages.

Participant's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

6. I hereby state that **I am not at least twenty-one (21) years old**, am competent to sign this document, and am not legally permitted to consume alcoholic beverages.

Participant's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Mail waiver form to:** Sue Buchanan, Schnabel Engineering, 11A Oak Branch Drive, Greensboro, NC 27407  
**Or email form to:** Sue Buchanan, sbuchanan@schnabel-eng.com



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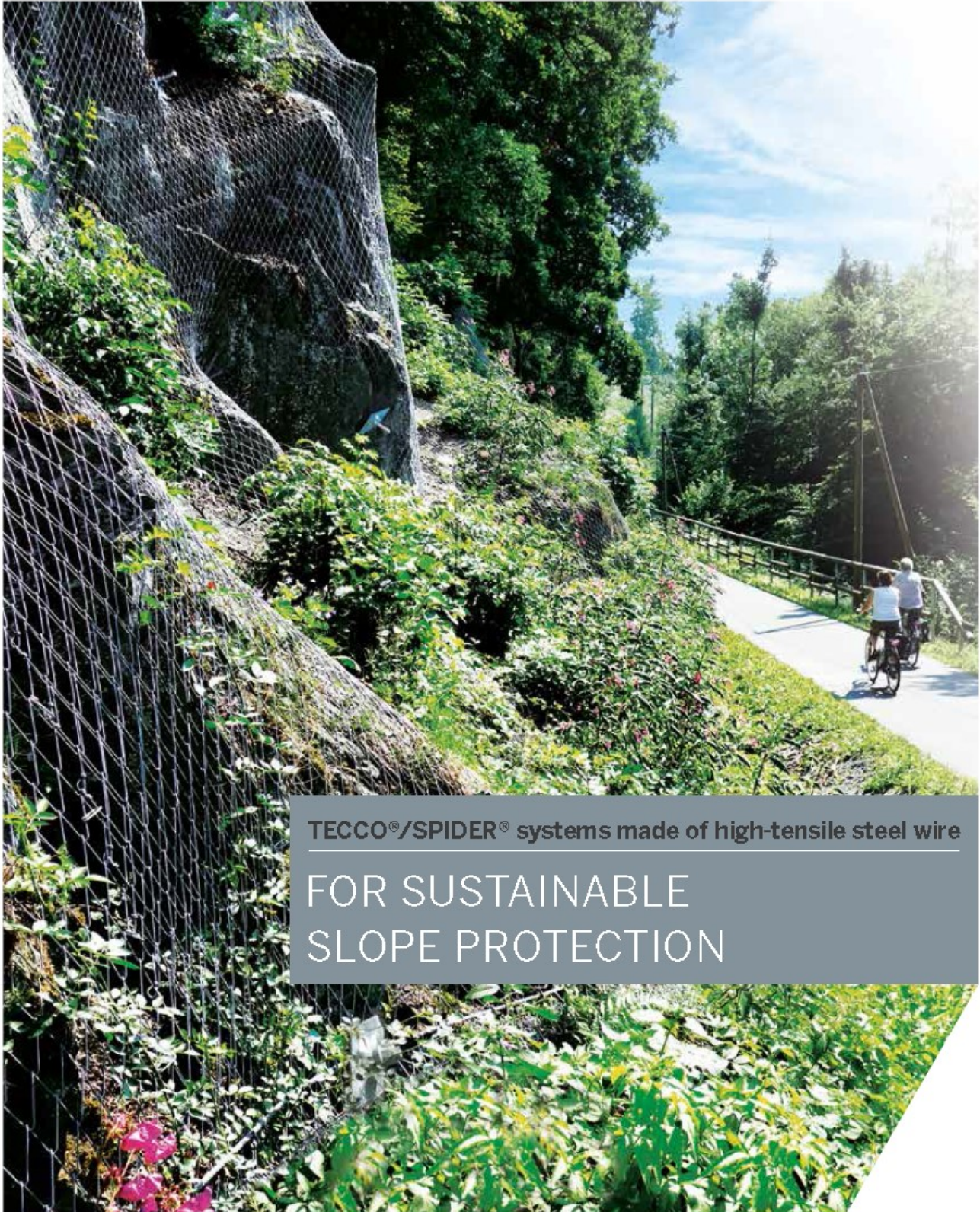




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## EDUCATION

### Education News

*By Randy Bechtel, North Carolina Geological Survey*

**North Carolina Science Teachers Association Professional Development Institute, Oct. 20-21, 2016 at Koury Convention Center, Greensboro, NC.**

North Carolina Outstanding Earth Science Teacher and Educator Award Winners

**AEG sponsored Geoscience and Earth Science Education Room: “Rocking Your Classroom”**

**Thank you**

\*\*\*\*\*

### **2016 North Carolina Science Teachers Association Professional Development Institute (NCSTA-PDI)**

North Carolina Outstanding Earth Science Teacher and Educator (OEST and OESE) Award Winners

The awards were presented during the NCSTA-PDI award ceremony by Randy Bechtel, N.C. Geological Survey (NCGS), who coordinates the state’s OEST and OESE program. Each state level award includes a plaque, a gift certificate from the NCGS Store, and a monetary award. The Carolinas Section of AEG is the only sponsor that supports both of these awards!



2016 N.C. Outstanding  
Earth Science Teacher AND  
NAGT Southeastern Section Winner  
Ms. Lindsay Knippenberg  
Mooresville Senior High School,  
Iredell County



2016 N.C. Outstanding  
Earth Science Educator  
Mr. Roger Shew  
UNC-Wilmington,  
New Hanover County

## EDUCATION



*Lindsay and Roger at the NC Science Teachers Award Ceremony*

### **AEG sponsored Geoscience and Earth Science Education Room: “Rocking Your Classroom” and exhibit booth:**

The Carolinas Section of AEG again sponsored the geosciences education room (GER) entitled “Rocking Your Classroom.” The GER hosted ten one-hour long, K-12 geoscience and earth science presentations during the two-day conference. Randy Bechtel coordinated the GER including soliciting and organizing presenters (most of whom are OEST or OESE winners). When possible he chose the presentations to synergize with the biannual Rock Giveaway that provided teachers with a kit of rock samples from across North Carolina.

All but one of the ten presentations were led or co-led by an OEST or OESE award winner including both of the

2016 winners. There were a total of 271 participants who attended the ten presentations. This was an impressive achievement with the PDI seeing lighter than usual attendance because of Hurricane Mathew and very tight school budgets.

How did the GER get started? The idea originally came about in 2013, that year PDI had numerous geoscience and earth science presentations that were scheduled at the same time. Several teachers commented that they had to choose to attend only one of the presentations when there were several that were pertinent to their needs. Randy spoke to an NCSTA Board member and he suggested trying to fund a dedicated room in which there would only be earth science based presentations thus avoiding programming conflicts for teachers and providing more availability of earth science education.

The Carolinas Section of AEG graciously stepped up to sponsor this room and in 2014 the first GER entitled “Rocking Your Classroom” was organized with this year, 2016, being the second time.

The AEG booth saw a steady flow of teachers this year. There were not many chances for me to stop by the exhibit booth, but when I did the kits were flowing out of the booth into teacher’s hands. The teachers are always gracious and surprised when they find out they get the kits for free! This is a great way to be involved with teachers and I know it is appreciated.

### **Thank You**

I wanted to send a personal thank you to the Carolinas Section of AEG for the continued support of geoscience education. I know all of you have little precious time to devote to outside activities but every member I have met at the NCSTA-PDI always has a great big smile on their face and great enthusiasm for interacting with the teachers. In my opinion, that passion is just as important as material support and positively promotes the geosciences as a profession.

Sincerely, Randy Bechtel.

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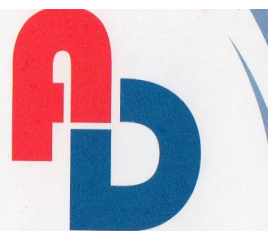
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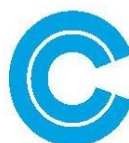
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## EDUCATION

### Some Love For AEG Carolinas!

#### Nice thank you note from Roger Shew:

Good morning,

First, let me apologize for not writing sooner. The end of semester was a blur of papers and presentations but also lots of outreach to the Community so it was a good thing to have those opportunities.

I wanted to thank you and the Carolina Section of the Association of Environmental and Engineering Geologists for your sponsorship of the Outstanding

Earth Science Educator Award. I feel honored to have received it for 2016; geoscience education is very important to me and whenever I can I try to go to schools, the community, to different groups, and yet politicians/administrators to share facts and not opinions. Organizations like yours, that support education and professionalism are important and essential.

I want to say thank you for allowing me to participate this past spring with AEG with a presentation and then a little field excursion. It was a pleasure meeting you (Madeline) and other members of the group.

Again, thank you very much for the support of the award. I hope AEG continues to be a vibrant and successful group and that you have a wonderful holiday season.!

All the best,

Roger D. Shew

Department of Earth and Ocean Sciences

Department of Environmental Science

UNC Wilmington

#### Another great thank you note:

Hi Ms. German!

I would like to thank you so much for your organization supporting me as the NC Outstanding Earth Science Teacher. It is amazing to be recognized for the work I do in my classroom and my students' accomplishments. I can't wait to use my award money to buy needed supplies for my classroom. Both my students and I will benefit from your tremendous generosity.

Thank you so much and I hope you have a wonderful holiday!

Lindsey Knippenberg

Mooresville High School, Mooresville, NC

Environmental Health and Marine Science Teacher

National Board Certified Teacher—Adolescent and Young Adult Science

Some pictures of my students doing Earth Science to make you smile:



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EDUCATION







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## CALENDAR OF EVENTS - 2017

### *Geological Events in the Carolinas*

Courtesy of AEG Carolinas Chapter – [www.aegcarolinas.org](http://www.aegcarolinas.org). Last updated September 21, 2016

Send updates/corrections to Josh Hanks, Duncklee & Dunham, [josh@dunckleedunham.com](mailto:josh@dunckleedunham.com)

*Meeting Date, Time, and Location are Subject to Change – Please Verify Prior to the Meeting*

**Date: Thursday, January 5, 2016 (meetings are held on the first Thursday of the month)**

Event: Engineers Without Borders monthly meeting, Research Triangle Park Professional Chapter  
Location: 6:30-8:00 PM at the offices of Camp Dresser & McKee; 5400 Glenwood Avenue, Suite 300; Raleigh

Details: [www.meetup.com/EWB-USA-RTP-Professional-Chapter/](http://www.meetup.com/EWB-USA-RTP-Professional-Chapter/)

**Date: Thursday, January 19, 2016**

Event: AEG Carolinas Section Meeting

Speaker: Dale Andrews

Presentation: Chemical Modification of Soils

Cost: ASCE and AEG members \$30, non-members \$40, public sector \$15, teachers \$10, students FREE with student ID

Time: 5:30pm- Social, 7:00pm dinner, 8:00pm

Presentation

Location: Draught – 601 S. Cedar St, Charlotte, NC

Contact/RSVP: Rebecca Deal ([rdeal@harthickman.com](mailto:rdeal@harthickman.com)) by 5:00 on Monday January 16, 2017.

**Date: Thursday, January 19, 2016 (meetings are held on the third Thursday of the month)**

Event: Meeting of South Carolina Association of Environmental Professionals

Presentation: TBD

Cost: Annual fee of \$25 includes pizza, beer and soft drinks at all meetings

Time: 6:30pm Social with Pizza & Beverages, 7:00pm Presentation

Location: Jim Hamilton-L.B. Owens Airport – 1400 Jim Hamilton Boulevard, Columbia, SC

Contact/RSVP: Laurence Leblang at [facebook.com/SCAEP.org](http://facebook.com/SCAEP.org) or [leblanlm@dhec.sc.gov](mailto:leblanlm@dhec.sc.gov)

**Date: Tuesday, January 24, 2017**

Event: Quarterly meeting of the North Carolina Board of Licensing Geologists

Location: Starts at 9 AM at the office of Upton Associ-

ates; 3733 Benson Dr. Raleigh, NC; morning session open to the public

Contact: [ncblg@bellsouth.net](mailto:ncblg@bellsouth.net)

**Date: Thursday, February 2, 2016 (meetings are held on the first Thursday of the month)**

Event: Engineers Without Borders monthly meeting, Research Triangle Park Professional Chapter

Location: 6:30-8:00 PM at the offices of Camp Dresser & McKee; 5400 Glenwood Avenue, Suite 300; Raleigh

Details: [www.meetup.com/EWB-USA-RTP-Professional-Chapter/](http://www.meetup.com/EWB-USA-RTP-Professional-Chapter/)

**Date: Thursday, February 16, 2016 (meetings are held on the third Thursday of the month)**

Event: Meeting of South Carolina Association of Environmental Professionals

Presentation: TBD

Cost: Annual fee of \$25 includes pizza, beer and soft drinks at all meetings

Time: 6:30pm Social with Pizza & Beverages, 7:00pm Presentation

Location: Jim Hamilton-L.B. Owens Airport – 1400 Jim Hamilton Boulevard, Columbia, SC

Contact/RSVP: Laurence Leblang at [facebook.com/SCAEP.org](http://facebook.com/SCAEP.org) or [leblanlm@dhec.sc.gov](mailto:leblanlm@dhec.sc.gov)

**Date: February 24 – February 26, 2017**

Event: Southeastern Friends of the Pleistocene 2017 Field Trip

Trip Leader: Dr. Terry A. Ferguson, Wofford College Environmental Studies

Details: <http://www.friendsofthepleistocene.com/>

Contact: Missy Eppes at [meppes@unc.edu](mailto:meppes@unc.edu)

**Date: Thursday, March 2, 2016 (meetings are held on the first Thursday of the month)**

Event: Engineers Without Borders monthly meeting, Research Triangle Park Professional Chapter

(Continued on page 22)



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(Continued from page 21)

Location: 6:30-8:00 PM at the offices of Camp Dresser & McKee; 5400 Glenwood Avenue, Suite 300; Raleigh

Details: [www.meetup.com/EWB-USA-RTP-Professional-Chapter/](http://www.meetup.com/EWB-USA-RTP-Professional-Chapter/)

**Date: Thursday, March 16, 2016 (meetings are held on the third Thursday of the month)**

Event: Meeting of South Carolina Association of Environmental Professionals

Presentation: TBD

Cost: Annual fee of \$25 includes pizza, beer and soft drinks at all meetings

Time: 6:30pm Social with Pizza & Beverages, 7:00pm Presentation

Location: Jim Hamilton-L.B. Owens Airport – 1400 Jim Hamilton Boulevard, Columbia, SC

Contact/RSVP: Laurence Leblang at facebook.com/SCAEP.org or [leblanlm@dhec.sc.gov](mailto:leblanlm@dhec.sc.gov)

**Date: Friday, March 17, 2017**

Event: ASBOG Geology Exam

Exam Details: Deadline to apply for the exam is January 27, 2017 (and preapproval to take the exam before that)

Location: McKimmon Center, NC State University, Raleigh

Contact: [www.ncblg.org](http://www.ncblg.org)

**Date: March 30-31, 2017**

Event: Southeastern Section GSA 66<sup>th</sup> Annual Meeting  
Location: Omni Richmond Hotel; 100 South 12<sup>th</sup> Street, Richmond, VA 23219

Abstract Deadline: January 3, 2017

Hotel Registration Deadline: March 7, 2017

Details: <https://rock.geosociety.org/Sections/se/2017mtg/>

**Date: Saturday, April 22, 2017**

Event: AEG Carolinas Spring Field Trip

Topic: Geologic Hike along the Haw River, Chatham County, NC

Trip Leader: Phil Bradley PG, Senior Geologist for the NC Geologic Survey for the Piedmont

Time: 9 AM to 4 PM

Cost: Members, Non-members, Public sector, Teachers \$50; Students with college ID \$20

Details: <http://aegcarolinas.org/aeg-carolinas-spring-field-trip-april-22-2017/>

Registration: Available on AEG Carolinas Chapter website in January 2017

**Date: September 10 – September 16, 2017**

Event: AEG Annual Meeting

Location: Antlers Hilton Colorado Springs; Four South Cascade, Colorado Springs, Colorado, 80903-1685

Contact: [contact@aegweb.org](mailto:contact@aegweb.org)

**Date: September 2019 (dates to be determined)**

Event: AEG Annual Meeting

Location: Asheville, North Carolina

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Third North American  
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## THEME

### **Landslides: Putting Experience, Knowledge and Emerging Technologies into Practice**

The 1st North American Symposium on Landslides held in 2007 in Colorado and of 2nd North American Symposium on Landslides held in 2012 at Banff, Alberta, Canada.

## THE OBJECTIVE OF THESE SYMPOSIA

The main objective of the symposia is to provide a stimulating forum for geoscientists, engineers, planners, economists, program managers, and other decision makers concerned with landslide hazards and their impact on society. Papers related to investigation, classification, monitoring, analysis and mitigation of landslides, as well as case studies on innovative analysis techniques and solutions will be presented.

## THE TECHNICAL PROGRAM

- Sunday Workshops
- Sunday Evening "Ice-Breaker" Reception
- Three days of Technical Presentations with Morning Plenary Sessions and Afternoon Concurrent Sessions
- Exhibition Space
- Included Luncheons and Refreshment Breaks
- Selection of Full-day Field Trips on Wednesday
- Poster Sessions
- Electronic Proceedings

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The Symposium Hotel is in central Roanoke, the largest city, shopping, and dining destination in the "Virginia Mountains Region." Roanoke is an entry point for the Blue Ridge Parkway – "America's Most Scenic Drive." Local points of interest include several museums, the Historic Roanoke City Market, various craft breweries, and one of Virginia's favorite hikes, McAfee Knob. Nearby areas are a playground for outdoor enthusiasts with lakes to boat, rivers to fish, and peaks to conquer. But that's not all, there are many historical and cultural attractions. So consider a family vacation before or after the Symposium!!

**For Additional Information:**

<http://www.aegweb.org/landslideroanoke2017/>



## Association of Environmental & Engineering Geologists

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### Connecting Professionals, Practice and the Public

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#### 1. CHOOSE YOUR MEMBERSHIP

##### FULL MEMBER

☐ Full Member Dues - \$140\*

Applicants for Member Class shall hold a degree in geology, engineering geology, or geological engineering, or a degree in a related professional field with 30 semester-hours of credit in the geosciences. In addition, the applicant shall be practicing in the field of Engineering Geology, Environmental Geology, or Hydrogeology.

##### AFFILIATE

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Applicants for Teacher Member Class shall be engaged in full-time teaching at the Primary, Secondary or Post-Secondary level in the area of Earth Science education or a related subject.

##### INTERNATIONAL

☐ International Dues - \$25

Applicants shall hold the same requirements as Full Member Class but shall not be a citizen of the United States. International Members receive online digital access ONLY to AEG publications.

*AEG memberships are based on the calendar year. Applications received after October 1 will be entered for the following calendar year.*

#### 2. INDICATE YOUR CHAPTER

All paying memberships listed require applicants to pay Chapter dues in addition to the applicable membership fee. Visit [www.aegweb.org/Chapters](http://www.aegweb.org/Chapters) to view the entire list of chapters and a map of their locations.

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#### AEG PUBLICATIONS

All members will receive *free digital access* to the following publications at [www.aegweb.org](http://www.aegweb.org):

##### AEG News

##### AEG Annual Meeting Program with Abstracts

##### AEG Annual Report and Directory

##### Environmental & Engineering Geoscience Journal

AEG News print publication is available for an additional \$30/year

\$ \_\_\_\_\_

E&EG Journal print publication is available for an additional \$60/year

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Phone ( ) \_\_\_\_\_ Fax ( ) \_\_\_\_\_ E-mail \_\_\_\_\_

Website \_\_\_\_\_

Are you a registered Geologist or Engineer? Yes \_\_\_\_\_ No \_\_\_\_\_

Signature \_\_\_\_\_ ☐ Please DO NOT list my contact information in the AEG Directory

My signature attests that, to the best of my knowledge, I meet the academic and practice requirements for the membership class requested and that all information on this application are true and correct.

#### 4. GO GREEN (PAPERLESS)\*\*

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☐ I Do Not Agree

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If you do not remember your Username or Password, use the *Forgot Your Password?* link on the AEG website by entering the e-mail address associated with your member record. Please contact the AEG office at (844) 331-7867 if you have any questions or have trouble signing in.

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Thank you! We appreciate your support of the Association of Environmental & Engineering Geologists.

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REVISED October 2016

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Our sponsors provide the financial support that allows us to have reasonably priced dinner meetings, host seminars, provide discounted dinner meeting costs for students and teachers, underwrite the cost of newsletters and our web site, provide geoscience mentors for students and young professionals, and support science education tools to our teachers and in our schools. All costs listed below are per year and end in December. New sponsorships received after October will continue to December of the following year.

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Please complete the form below and send to Jennifer Thomas, AEG Carolinas newsletter editor at [jen@jennotecllc.com](mailto:jen@jennotecllc.com). Please call or email if you have any questions (contact information below).

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