

SUMMER 2016

# GEO NEWS

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

## IN THIS ISSUE

Get Ready for a Mountain Adventure ..... 6

National AEG News ..... 12

You Should Have Been on the Coastal  
Geology Trip ! ..... 15

Ten Years of Visiting Professionals ..... 23

## SAVE THE DATE

Second Summer Meeting and Field Trip  
August 26-27, 2016  
Boone



**GEONEWS Summer 2016**  
**Issue Date: June 21, 2016**  
**TABLE OF CONTENTS**

**Articles and Reports**

Announcing the 2016-2017 Jahns Lecturer .....	12
Updates on National <i>by Madeline German</i> .....	12
Starting Summer at the Beach <i>by Sue Buchanan</i> .....	15

**Columns and Regular Features**

Message from the Chair <i>by Madeline German</i> ...	3
Editor's Note <i>by Jennifer Thomas</i> .....	5
GeoRamblings <i>by Dr. Charles Welby</i> .....	5
Education.....	21
Education: Ten Years of Visiting Professionals <i>by Rick Kolb</i> .....	23
Announcements .....	25

**Board Business**

Treasurer's Report <i>by Eric Cross</i> .....	4
-----------------------------------------------	---

**Forms and Flyers**

Meeting and Linville Falls Fault Zone Field Trip .	6
Calendar of Events .....	26
Third North American Symposium on Landslides .....	28
Natural Selections .....	29
AEG Membership Application .....	30
Sponsor Application .....	32

**Thanks to our Sponsors!**

**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**

Chair	Madeline German, P.G. <a href="mailto:madeline@smithgardnerinc.com">madeline@smithgardnerinc.com</a>
Vice Chair	Susan Kelly, P.E., L.G. <a href="mailto:susan.kelly@amecfw.com">susan.kelly@amecfw.com</a>
Treasurer	Eric Cross, P.G. <a href="mailto:eric@pyramidenvironmental.com">eric@pyramidenvironmental.com</a>
Secretary	Rebecca Deal Tinnel <a href="mailto:RDeal@shieldengineering.com">RDeal@shieldengineering.com</a>
Past Chair	Alex Rutledge, P.G., P.E. <a href="mailto:frutledge@schnabel-eng.com">frutledge@schnabel-eng.com</a>
Membership Chair	Russell Molyneux <a href="mailto:russ@dunckleedunham.com">russ@dunckleedunham.com</a>
Student Liaison	Rick Kolb, P.G. <a href="mailto:rick.kolb1@gmail.com">rick.kolb1@gmail.com</a>
Social Committee Chair	Adam Phillips <a href="mailto:aphillips@prismlabs.com">aphillips@prismlabs.com</a>
Field Trip Chair	Susan Buchanan, P.G. <a href="mailto:sbuchanan@schnabel-eng.com">sbuchanan@schnabel-eng.com</a>
Sponsor Chair	Walt Plekan, P.G. <a href="mailto:Walt.plekan@aecom.com">Walt.plekan@aecom.com</a>
Advisor	Jennifer Bauer, P.G. <a href="mailto:jennbbauer@gmail.com">jennbbauer@gmail.com</a>
Advisor	Rick Kolb, P.G. <a href="mailto:rick.kolb1@gmail.com">rick.kolb1@gmail.com</a>
Advisor	Paul Weaver, P.G. <a href="mailto:pweaver@espassociates.com">pweaver@espassociates.com</a>

**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.  
[jen@jennotecllc.com](mailto:jen@jennotecllc.com)

**Cover:** (National Park Service) Linville Falls

**Disclaimer:** © 2016 Association of Environmental & Engineering Geologists - All Rights Reserved. Views expressed in this publication are not necessarily those officially representing the Association of Environmental & Engineering Geologists except where expressly stated.

## MESSAGE FROM THE CHAIR

By Madeline German, PG

Chapter Chair—AEG Carolinas Chapter

Greetings Carolinas Chapter!

Our spring meeting was well-attended on April 7, 2016 at 1705 Prime in Raleigh. Matt Hanchey, an attorney at Duke Energy, presented an overview of the Duke coal ash situation, and State Geologist Kenneth Taylor spoke on natural gas deposits in NC and the history of natural gas investigations in NC. Nearly 100 professionals, educators, regulators, students and lawyers were in attendance. We also honored our Outstanding Earth Science Educator of the year Ms. Jo Wallace, who teaches at J.Y. Joyner Elementary Magnet School in Wake County.

Our first combination meeting/field trip this year was held on May 13 and 14 in Wilmington. On Friday evening we met downtown at the Reel Café, where Professor Roger Shew from UNC Wilmington provided background information pertinent to the field trip stops for the field trip on Saturday. In the morning, Professor Shew brought us face-to-face with the reconstructed seawall and coastal hazards at Kure Beach. In the afternoon we traveled by boat down the Cape Fear River observing and discussing water quality, river classification, efforts to restore anadromous species with the construction of a rock arch rapid, future fishery efforts, and population and development stressors in the area.

We will have our second joint meeting and field trip in Boone on August 26 and 27, 2016. The meeting will begin with viewing the Rankin Rock Garden and Museum at 5:30 pm on August 26<sup>th</sup>. Dr. Arthur Merschat, Professor Crystal Wilson and Keith Seramur will present “Evolution of the Linville Falls Fault Zone and its Influence on Topographic Relief and Slope Stability Today”. On Saturday we have a full day planned to examine and discuss not only Paleozoic deformation and mountain building, but also over-printing brittle structures and geomorphic evidence for later reactivation of the Linville Falls fault. Be sure to bring your camera for a day of structure, landslides and incredible scenery. You can make reservations online through our website [aegcarolinas.org](http://aegcarolinas.org) or through **Sue Buchanan** directly.

At the end of April, I represented the Carolinas Chapter at the last AEG board meeting where Chapter Chairs would be represented on the board. It was a very busy weekend. Most importantly to note, the period of governance restructure is coming to a close. The first board of directors meeting with Regional Directors, held at the annual meeting this September, signals the beginning of the transition period. The transition is the period where the majority of the governance restructure changes will be implemented. At the local level, there will be little noticeable change. The Executive Council (EC) and BOD will also start shifting their focus onto the other areas identified in the Needs Assessment, including Resource Alignment, Value Proposition and Communication. Additionally, the local and

national boards want feedback from the members: Where do you want to see AEG in the next 5, 10, and 20 years, at both a local and national level? Feel free to send me ([madeline@smithgardnerinc.com](mailto:madeline@smithgardnerinc.com)) suggestions or you can submit national ideas by filling out the comments form on the website at: [www.aegweb.org](http://www.aegweb.org). A comprehensive summary of the meeting is provided on page 12.

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 Section Chair



MARK VESTAL  
PRESIDENT  
P.O. BOX 64399  
FAYETTEVILLE, NC 28306  
•  
3434 BLACK AND DECKER ROAD  
HOPE MILLS, NC 28348  
•  
OFFICE: (910) 484-7000  
FAX: (910) 484-4978  
MOBILE: (910) 322-5000  
[mark.vestal@cci-env.com](mailto:mark.vestal@cci-env.com)

**AEG CAROLINAS CHAPTER 1Q TREASURER'S REPORT***By Eric Cross, Chapter Treasurer*

**AEG Carolinas Section Treasurer's Quarterly Report**  
**January 1, 2016 to March 31, 2016**

**BALANCE As Of October 1, 2015**

Checking Account	\$3,145.05
Savings Account	\$14,694.87
	<u><b>\$17,839.92</b></u>

**INCOME****Sponsorships**

2016 Sponsors	\$3,650.00
---------------	------------

**Meetings**

Charlotte Meeting	\$355.00
-------------------	----------

**National**

Dues deposits	\$401.00
---------------	----------

**Interest**

Savings Account	\$1.83
-----------------	--------

<b>SUBTOTAL - INCOME</b>	<u><b>\$4,407.83</b></u>
--------------------------	--------------------------

**EXPENSES****Banking Fees**

Intuit card reader	\$6.53
Online deposit fees	\$6.00

**Meeting Expenses**

Charlotte Meeting	\$2,265.18
Natty Greens Meeting - deposit	\$200.00

**Additional Expenses**

Go Daddy annual website fee	\$198.51
Visiting Professionals Food	\$119.90

<b>SUBTOTAL - EXPENSES</b>	<b>\$2,796.12</b>
----------------------------	-------------------

**BALANCE As Of March 31, 2016**

Checking Account	\$4,754.93
Savings Account	\$14,696.70

<b>TOTAL</b>	<u><b>\$19,451.63</b></u>
--------------	---------------------------



**Editor's Note***By Jennifer Thomas*

What's in a name? The name of our section was a hotly debated topic prior to the Mid-Year Board Meeting. The national board wants to move towards more localized geographic locations for chapters and names reflecting such. These chapters would be within larger regional sections.

Unfortunately, our active members are concentrated in both Greensboro and Raleigh with some of us scattered further afield. There aren't enough active members in one place to maintain viable chapter locations in individual cities. (As big a city as my home, Charlotte, has gotten, there just aren't many of us here.) It appears to be unusual for a chapter to be regional in nature like ours.

Our board made these arguments to National. In the end, the Carolinas Chapter is here to stay as it is now. We have the option and are encouraged to form individual chapters to serve members in places such as Asheville or Charleston or Charlotte.



**SGR**  
SUBHORIZON GEOLOGIC RESOURCES

**Subhorizon Geologic Resources**

[www.subhorizonresources.com](http://www.subhorizonresources.com)

- Geologic Exploration & Mapping
- Economic Evaluation of Mineral Resources/Reserves
- Slope Stability Assessments
- Floodplain Determination and other Natural Hazards
- Groundwater Assessments
- Phase 1 Environmental Assessments
- Petrographic Services

North Carolina – Jim Stroud, PG

[336-416-3656](tel:336-416-3656)

[stroudjr@subhorizonresources.com](mailto:stroudjr@subhorizonresources.com)

Pennsylvania – Brett McLaurin, PG

[570-798-7824](tel:570-798-7824)

[mclaurinbt@subhorizonresources.com](mailto:mclaurinbt@subhorizonresources.com)

**Georamblings***By Charles Welby*

As one looks at flooding and then at the aftermath and then again at a long time history, what is the overall picture? Flooding happens, we clean up and perhaps pass regulations and laws about occupation of flood plains hoping to improve the situation and reduce the risk of flooding. What then are we going to do about droughts? In a sense we measure climate as what we see today; i.e. the current weather. Certainly we have seen less and less water filling the lower places (aka lakes) in recent years and as has been noted, Lake Meade shows some well-marked “bathtub” rings, reflecting the loss of water. There are certainly clues about the past, whether or not the “climate” was warm, had little or a lot of moisture, and was suitable or not suitable for humans to occupy an area. Use of tree rings of indigenous trees can provide some important clues about the relative abundance of water to supply the trees.

In one case in North Carolina a dam was constructed across a river to provide a flood control lake for areas downstream from the dam. So water in a lake provides water for development upstream from the lake and along the edges of the lake. What happens? Surface runoff and in some cases septic tank discharges provide nutrients to the lake and “surprisingly” algae begins to develop in the lake. So how better to solve the algae problem than to install something that stirs the water to keep the algae from developing. Of course they do not work and are subsequently removed. The evil in this scene is the dense development allowed upstream from the lake which follows the concept that growth (urbanization) is good.

A quote from Mark Twain reportedly made after he had visited the area around Lake Tahoe, seems appropriate for this note. “Whiskey is for drinking and water is for fighting.”



ENVIRONMENTAL & ENGINEERING, P.C.

**Douglas A. Canavello, P.G.**  
President

503 Industrial Ave. (27406)  
P.O. Box 16265  
Greensboro, NC 27416-0265

(336) 335-3174 ext. 121

(866) 545-9507

Fax (336) 691-0648

[doug@pyramidenvironmental.com](mailto:doug@pyramidenvironmental.com)

[www.pyramidenvironmental.com](http://www.pyramidenvironmental.com)





**ASSOCIATION OF ENVIRONMENTAL  
& ENGINEERING GEOLOGISTS**  
-Carolinas Chapter



## **Evolution of the Linville Falls Fault Zone and its Influence on Topographic Relief and Slope Stability Today**

**Reservations:** You can register and prepay for the pre-field trip dinner/presentation and/or 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 meeting or field trip.

**MEETING/FIELD TRIP RESERVATION DEADLINE: 5PM Friday, August 19<sup>th</sup>, 2016.**

*Hotel reservations must be made by July 26<sup>th</sup>, 2016, use AEG to receive our group rate.*

### **Dinner Meeting and Field Trip Related Presentation**

**Friday, August 26, 2016, 5:30pm to 8:00pm**

**Where:** Department of Geology, Frank and Margaret McKinney Geology Teaching Museum & Atrium, Rankin Science Building, 572 Rivers Street, Boone, NC 28608. *Parking is available after 5pm in the Rankin Science (Bldg. 66 on map attached) Parking lot (red star). AEG members can enter that lot by turning into the Peacock Parking lot off Rivers Street. The Rankin Science lot is to the right.*

**Time:** 5:30-6:00PM Museum Viewing, 6:00-7:00PM Dinner, 7:00-8:00PM Presentations

**Cost:** Members \$30; Non-members \$40; Public-sector \$15; Teachers \$10; Students free with college ID

**Dinner:** Catered by Pedalin' Pig BBQ.

**Speakers:** Dr. Arthur Merschat ~ Precambrian to Paleozoic tectonic history of the southern Appalachians  
Ms. Crystal G. Wilson ~ Rejuvenation and dynamic topography of the southern Appalachians  
Mr. Keith C. Seramur ~ Mass wasting and slope stability in the High Country

**South Carolina Continuing Education Credits:** TBD

### **Summer Field Trip**

**Saturday, August 27, 2016, 8:00am to 6:00pm**

**Departing 8:00am** from Baymont Inn and Suites, 1075 NC-105, Boone, NC 28607, 828.264.0077

**Cost:** Members, Non-members, Public-sector, Teachers \$75; Students with college ID \$50

**Field Trip Waiver:** Please sign/date and return field trip waiver to Sue Buchanan by **August 19th, 2016**

**South Carolina Continuing Education Credits:** TBD

**Travel Accommodations:** AEG has reserved a block of 30 hotel rooms for this field trip at:

**Baymont Inn and Suites**  
1075 NC-105, Boone, NC 28607

Call the hotel front desk directly (828.264.0077) to book your room. The room rates are \$89 for a double-queen room. **Please reserve your room at the Baymont Inn and Suite ASAP as the hotel will hold the block of rooms and the \$89 AEG room rate until July 26, 2016 (one month before the field trip).** If you



/AEGweb



@AEGweb



Association of Environmental & Engineering Geologists – AEG



choose to stay at a different hotel in the Boone area, NC-105 hosts several that are close to the Baymont Inn. You can try Comfort Suites and Super 8 which are comparable hotels to the Baymont, or the Courtyard Marriott which is ~\$209/night & directly across NC-105 from the Baymont.

### Field Trip Summary

The Linville Falls fault has long been recognized as an Alleghanian ductile fault zone that frames the Grandfather Mountain window in northwest North Carolina. The fault zone separates Mesoproterozoic Grenville basement rocks in the hanging wall from complexly deformed basement and Neoproterozoic cover sequences of the Grandfather Mountain Formation in the window. Although orogenic mountain-building in the southern Appalachians ceased at the end of the Alleghanian orogeny, features such as high topographic relief, steep slopes, incised river gorges, and frequent mass wasting events suggest later rejuvenation may be responsible for the landscape we see today. Join AEG on a field trip in and around Boone, NC as we examine and discuss not only Paleozoic deformation and mountain building, but also over-printing brittle structures and geomorphic evidence for later reactivation of the Linville Falls fault.

### Field Trip Logistics

Please meet at the Baymont Inn and Suite parking lot by **7:40 am** Saturday morning, August 27. The bus will depart the conference hotel at **8:00 am** Saturday morning. Vehicles can park at the hotel during the field trip. We will visit outcrops on US-321 between Boone and south of Blowing Rock for the first half of the day and just after lunch, before driving southwest to Linville Falls on the Blue Ridge Parkway. Boxed lunches will be provided. The bus will return to the hotel around **6:00 pm**. **Stops 5, 6, and 7 will involve hiking and/or traversing forested & rocky slopes, so please do wear appropriate shoes or boots and clothing.**

### **Tweetsie Outcrop: Crosscutting relationships and overprinting fabrics in the Blowing Rock Gneiss.**

Crystal G. Wilson, stop leader.

### **New US-321 Highway Cut: Blowing Rock Gneiss (~0.25 mi south of Blackberry Rd.).** Dr. Jamie Levine, stop leader.

*At stops 1 and 2 we will examine cross-cutting and structural relationships between weakly metamorphosed granitic and mafic dikes (Crossnore plutonic suite?) that intrude 1.1-1.2 Ga Blowing Rock Gneiss, which contains spectacularly sheared K-feldspar augen.*

### **MORNING BREAK (Restroom @ “Greene’s &/or Mountain Man Trading Post” on US-321)**

**Historical landslides on US-321, south of Blowing Rock.** Keith C. Seramur, stop leader. *In 2006, a rock slide that brought down ~5000 tons of material occurred at this location, and was likely due to freeze-thaw between foliation planes in the Blowing Rock Gneiss that dip parallel to the slope and previous widening of the road. A similar event had also occurred in 1973. The house that you will see above this exposure was built after the 2006 slide and current road construction.*

**Payne Branch Outcrop, Intersection of Payne Branch Rd. and NC 321: Grandfather Mountain Formation.** Dr. Arthur Merschat and Crystal G. Wilson, stop leaders. *To examine primary and tectonic structures in a representative exposure of the arkose member of the Neoproterozoic Grandfather Mountain Formation.*

### **LUNCH BREAK (Restroom @ on the Boone Greenway)**

**Rock slope stability and the Linville Falls Fault, Village of Meadowview Apartments.** 304 Madison Avenue, Boone, NC 28607. Dr. Gabriele Casale, Dr. Jamie Levine & Keith Seramur, stop leaders. *Development of the Meadowview apartments in the early 2000’s prompted steep slope regulations by the Town of Boone. Rock falls and slides are common as loose blocks of rock pervade a cut-slope due to the intersection of multiple fracture sets and the slope-parallel, mylonitic foliation related to the Linville Fault zone.*



**Young alluvial deposits/terraces & mass wasting at old Watauga High School property.** Dr. Gabriele Casale, stop leader. *This stop features evidence of active creep and slumping. On-going work will utilize cores from bent tree trunks (aka “drunken” trees) to determine the age and/or rate of slope movements at this site.*

**AFTERNOON BREAK (Restroom & Parkway Gift Shop)**

**Linville Falls fault @ Linville Falls, Blue Ridge Parkway,** Dr. Arthur Merschat, stop leader. *At this classic and very important exposure, we will examine the Linville Falls fault, the base of the Blue Ridge thrust sheet. We will discuss the different deformational processes, the ductile and brittle behavior, and the tectonic significance of the fault.*

**Field Trip Leaders**

**Dr. Gabriele Casale** is an assistant professor at Appalachian State University and teaches courses in Structural Geology and Tectonics and Physical Geology. His research focuses on the complex interplay between contemporaneous shortening and extension in active mountain belts from a field structural geology perspective. He has studied Eocene-present tectonic evolution of the Adria continental block as it is consumed beneath Eurasia and the Apennines, in addition to local work in the Tallulah Falls Dome and Grandfather Mountain window.

**Dr. Jamie Levine** is an assistant professor at Appalachian State University and teaches courses in Mineralogy, Geologic Writing, and Field Methods. She is a structural petrologist by training and her current research focuses on better understanding the tectonic evolution of the southern Appalachians investigated through both field mapping and microstructural analysis.

**Dr. Arthur J. Merschat** is adjunct faculty at Appalachian State University and a research geologist with the U.S. Geological Survey where he is currently working on the geology of the Mount Rogers area, VA-NC-TN. He has spent the past 15 years studying the structure and tectonics of the Blue Ridge and Inner Piedmont, publishing several papers, field trip guidebooks and maps. His hobbies include changing dirty diapers, not sleeping when he should be, sleeping when he should not, plotting excessive structural data on maps, and making superfluous traverses across simple structures.

**Mr. Keith C. Seramur** is the principal geologist for Seramur & Associates, PC and an adjunct research associate with the Geology Dept. at ASU. He holds a B.S. Degree in Geology from University of Wisconsin and a M.S. degree in Geology from Northern Illinois University. Mr. Seramur is a licensed geologist in six states including the State of North Carolina. He has been practicing geology in the southeast and mid-Atlantic for the past twenty-six years. Mr. Seramur has produced slope stability maps for the Town of Seven Devils and Banner Elk. He performs slope stability assessments for residential and commercial developments.

**Ms. Crystal G. Wilson** is a Senior Lecture at Appalachian State University and teaches courses in Physical and Environmental Geology, in addition to field methods. She joined the faculty following completion of her Masters in Structural Geology and Tectonics from University of Tennessee in 2006. Crystal's field studies in the Appalachian Mountains utilize detailed geologic mapping, coupled with structural and geochemical analyses to understand the local geology. Her work spans the orogen from brittle-deformed sedimentary rocks in the Valley and Ridge to high-grade metamorphic rocks and migmatites of the Inner Piedmont.

**Appalachian STATE UNIVERSITY**

A University permit is required to park on campus M-F 7 a.m. - 5 p.m.  
Permits are available at Parking & Traffic Office, 31.

**Academic Buildings**

- 63 Anne Belk Hall
- 51 Appalachian Hall
- 71 Beasley Media Complex
- 61 Belk Library and Information Commons
- 1 Bryhill Center
- 8 Bryhill Music Center
- 37 Chapel Wilson Hall
- 30 Garwood Hall
- 59 College of Education Building
- 66 Edwin Duncan Hall
- 42 I.G. Greer Hall
- 32 Katherine Harper Hall
- 53 L.S. Dougherty Building
- 9 Living Learning Center
- 69 Peacock Hall
- 43 Ransford Science
- 64 Smith-Wright Hall

**Athletics/Recreation**

- 76 Appalachian Soccer Stadium
- 34 Holmes Convocation Center
- 21 Kidd Brewer Stadium
- 23 Owens Field House
- 23 Quinn Recreation Center
- 18 Smith Baseball Stadium
- 73 State Farm Fields Complex/Appalachian
- 5 Student Recreation Center
- 17 Synapse/Lloyd Softball Stadium
- 20 Tennis Courts
- 38 Tennis Courts (Durham Park)

**Residence Halls**

- 19 Track and Field Throwing Areas
- 41 Varsity Gymnasium
- 3 Appalachian Heights
- 74 Appalachian Purbellene Hall
- 11 Belk Residence Hall
- 15 Bowie Residence Hall
- 46 Cannon Residence Hall
- 25 Cottrane Residence Hall
- 50 Core Residence Hall
- 48 Doughton Residence Hall
- 44 East Residence Hall
- 14 Eggers Residence Hall
- 12 Frank Residence Hall
- 24 Gardner Residence Hall
- 47 Hoy Residence Hall
- 29 Justice Residence Hall
- 9 Living Learning Center
- 45 Lovell Residence Hall

**Student Support/ Administration/Dining**

- 37 B.B. Dougherty Administration Building
- 40 Ross Dining Hall
- 62 D.O. Dougherty Hall
- 36 Founders Hall
- 75 Human Resources Bldg.
- 33 John E. Thomas Hall (Admissions)
- 54 Miles Annex Student (Health Services)
- 56 Support Building
- 54 Plomin Student Union/Solarium
- 24 Thivette Hall
- 35 University Bookstore
- 38 University Police

**Visitor Parking**

- 60 College Street Parking Deck
- 31 University Police/Traffic and Parking Department/ Rivers Street Parking Deck
- Appalachian Stop
- Tickets
- Dining
- Info
- Visitor Parking
- New Student and Parent Orientation
- Handicap Parking/Access Ramps
- Emergency Blue Light Phones

**Additional Locations**

- 16 Appalachian House and Chancellor's Residence
- 58 Lucy Brock Child Development Center
- 39 McKimsey Alumni Center
- 38 Steam Plant
- 28 Tomlinson Park/Duck Pond

**Arts & Cultural Venues**

- 8 Bryhill Music Center
- 57 Legends
- 7 Schaefer Center for the Performing Arts
- 70 Turchin Center for the Visual Arts
- 43 Vaborg Theatre

**Off-Campus Facilities**

- 72 73 74 75 76



## REGISTRATION AND LIABILITY WAIVER FORMS

Chapter Meeting and Field Trip, Boone, NC  
August 26-27th, 2016

**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@schnabel-eng.com),  
Schnabel 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: \_\_\_\_\_

**Please check one lunch option.** Please list any food allergies or special diet request(s) below, as well. During the field trip, water, snacks, and lunch will be provided.

<b>___ BASIL'S SPECIAL</b> Lightly toasted cranberry pecan french bread, turkey, bacon, avocado, provolone, lettuce, tomato, and mayo	<b>___ WILSON DRIVE</b> White truffle aioli, havarti, turkey, onion, cucumber, and spinach on sourdough	<b>___ THING-A-THON (vegan)</b> Hummus, tabouleh, sprouts, avocado, tomato, cucumber, with salt and pepper
<b>___ ROAST BACON</b> Bacon, roast beef, gorgonzola artichoke spread, onion, and arugula on sourdough	<b>___ NAPTIME</b> Salami, capicola, prosciutto, fresh mozz, red pepper, onion, arugula, vinaigrette on garlic parmesan focaccia.	<b>___ APOLLO WRAP (vegetarian)</b> Olive tapenade, feta, spinach cucumber, red onion, tomato, roasted red pepper, oregano, and vinaigrette.
<b>Please list any food allergies or special diet request(s):</b>		

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

Event	Member	Non-Member	Public-Sector	Teacher	Student
Friday presentation and dinner	\$30	\$40	\$15	\$10	FREE
Field Trip	\$75	\$75	\$75	\$75	\$50
<b>Total Payment Amount:</b>					

**Payment Options:****1) CHECK:**
☐

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

**2) PAYPAL:**
☐

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

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

## 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, August 27, 2016, in Boone, 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: \_\_\_\_\_

**Send waiver form to:**

Sue Buchanan  
Schnabel Engineering  
11A Oak Branch Drive  
Greensboro, NC 27407  
[sbuchanan@schnabel-eng.com](mailto:sbuchanan@schnabel-eng.com)



## Announcing the 2016-2017 Jahns Lecturer

The Environmental and Engineering Geology Division of the Geological Society of America and AEG have selected **Dr. Scott Anderson** as the 2016-17 Jahns Lecturer. Dr. Anderson is the Geotechnical Engineering Technical Services Team Manager for the Federal Highway Administration's (FHWA) Resource Center. He leads a national team of geotechnical engineers that assist state and local transportation agencies through technical assistance, training and the deployment of new technologies. Prior to joining FHWA he advanced from Staff Geologist to Senior Consulting Engineer and Landslide Technology Leader for a major A/E design firm and spent four years as an Assistant Professor of Civil Engineering at the University of Hawaii. He earned his Bachelor's and Master's degrees in engineering geology from the University of Colorado at Boulder and Colorado State University, and Master's and Doctorate degrees in civil engineering from the University of California at Berkeley. He is a licensed engineer and practicing engineering geologist with over 30 years of experience and approximately 100 publications and invited presentations, and he makes his home in Colorado. He will have lectures related to:

- Natural hazards, risk, and the resilience of the built environment, especially highways
- How engineering geology relates to the needs of those owning and maintaining infrastructure
- Visions of future opportunities for site and event characterization using remote sensing and social media
- Technical observations from the 2014 SR 530 (Oso) Landslide reconnaissance

**Chad D. Northington, PE**  
Southeast District Technical Manager



**REGENESI**

Technology-Based Solutions  
for the Environment

[www.regenesi.com](http://www.regenesi.com)

Tallahassee, FL

Mobile: 864.884.4346

[cnorthington@regenesi.com](mailto:cnorthington@regenesi.com)

## Updates on National AEG By Madeline German, PG Chapter Chair—AEG Carolinas Chapter

### Mid-Year Board of Directors Meeting – Golden Colorado, April 30 and May 1, 2016

After 53 years the last Board of Directors meeting of the Association of Environmental and Engineering Geologists with Section Chairs was held in Golden, Colorado. The following is a summary of discussed items.

Needs Assessment Response and Governance Restructure: The nominations and upcoming election of the Regional Directors signify the ending of the restructure period and the beginning on the 3 year proposed transition. With the governance restructure hurdle mostly behind us the Executive Council and AEG leadership are looking forward to pursuing the other 3 focus areas identified in the needs assessment: Resource Alignment, Value Proposition and Communications. For details on the needs assessment and focus areas please visit the AEG website <http://www.aegweb.org/?page=NeedsAssessment>.

The board passed an interim policy to provide up to \$1000 per year, \$500 per meeting for RD travel and lodging for the annual and mid-year board meetings. \$5000 had already been provided from operations funds from national to help RD with travel to the Kona meeting. An additional \$5000 was added to this fund from surplus funds from the extremely successful Pittsburgh annual meeting to help fund inner-region travel. The policy for RD travel for the International region was referred to the Finance Committee for Review. The updated travel policy is expected to be ready for a vote at the annual meeting in Kona.

The RD travel policy withdraws \$10 of dues sent to each section. In the Carolinas the entirety of the dues coming to the section is \$10; therefore, with no other changes, once this policy is implemented the chapter will no longer receive funds from member dues. (Locally, our board decided since we currently fund the chair's travel this will not be an added expense, therefore dues will not be raised at this time.)

As part of the Governance Restructure the sections had to choose a new chapter name; most elected to keep the name of their section as their chapter name. Following discussion the BOD voted to approve the suggested section and region names. Our Carolinas Section is now the Carolinas Chapter in the Southeastern Section. Please contact me ([madeline@smithgardnerinc.com](mailto:madeline@smithgardnerinc.com)) if you have any questions about the governance restructure.

### Conferences:

Technical Working Groups and Committees desperately need volunteers. Any level member can join these groups and are encouraged to enhance their membership in this fashion. Details and contact information can be found on <http://www.aegweb.org>.

(Continued on page 13)

(Continued from page 12)

The Naturally Occurring Asbestos Symposium will happen sponsored by the San Francisco Chapter in December 2016. The 3<sup>rd</sup> NA Landslide Symposium will be held in June 2017 at the Hotel Roanoke in Virginia. A call for abstracts was recently submitted to the membership. Jenn Bauer former Carolinas Section Chair and AEG President is helping to plan what is going to be an amazing event.

Things are looking good for Kona planning. So far 140 of the necessary 170 abstracts have been submitted, and at the time of the call they were expecting the last push of 50 -60 to arrive before the deadline. There is an urgent need for students to submit posters for this meeting, please share with any students. This meeting has a slightly higher price tag (\$50) than previous meetings due to the location and the costs associated with making this meeting successful. Registration is already open on the website and members have already started registering; remember if you register by August 1<sup>st</sup> the full meeting for members cost only \$445. The short courses and field trips are also already available on the website. Sponsorship opportunities are available. For any Kona related information please visit the 2016 Annual Meeting website <http://www.aegannualmeeting.org/>.

We discussed extensively the creation of a policy for large meetings planned and executed at the chapter level; and distribution of funds from those meetings. The Meetings Advisory committee is working with the Finance Committee to deal with the financial aspects in this policy. Additionally the Meetings Advisory Committee is writing a cookbook style how-to guide for the association on organizing and executing meetings and conferences at the section/chapter level. The local boards are always interested in ideas from the members, let us know topics you are interested in and what you feel is an up and coming issue for a conference.

We are pleased to announce the amazing Jahns Lecture for 2016-2017 year will be Dr. Scott Anderson. Keep an eye on email for announcements for his visit to your area.

#### AEG News and EE&G Articles:

The BOD voted to reduce the AEG NEWS to 4 total publications per year. Due to the difficulties with putting together the Annual Report and Directory at the same time as the winter NEWS, the Directory will replace that issue of the news and the other three issues will be spaced throughout the year. This will also provide a cost savings of approximately \$5000 per year to AEG.

Also related to the AEG NEWS, members will start to receive a separate email, informing them that the AEG NEWS is now available on the website. The goal is to increase readership and inspire more members to submit articles.

The EE&G (Environmental Engineering and Geoscience Publication) is seeking technical articles for publication

this year. Please visit the website at <http://www.aegweb.org/?page=SubmitToEEG> for information on how to submit your articles.

#### Miscellaneous:

The Advocacy Committee stressed the importance of writing clear press releases and encouraged members to utilize the tools provided by the advocacy committee to help promote and inform about geology to the general public.

The EPA Coal Ash rules were written delegating licensed engineers the responsibility for coal ash ponds and related activities due to the lack of licensure for geologists in all 50 states. Both the Licensure and Advocacy Committees put out a call to all members for ideas, suggestions and volunteers to help support licensure in the states in which it exists and to bring licensure to those in which it does not.

The BOD participated in a workshop on developing student members into full members. Currently a lot of money is spent on students, but unfortunately the majority of students are not converting to full members. One of the goals for the upcoming year is to work to include students and help them experience the same values the professional experience from the association. Please e-mail any suggestions to [madeline@smithgardnerinc.com](mailto:madeline@smithgardnerinc.com)

The Carolinas leadership is looking for input from its members. Where do you want to see AEG in the next 5, 10 and 20 years both locally and at a national scale? Let us know what is working and what isn't.

Headquarters is going to work on cleaning up the national website to make it more streamlined and easier to use. The user friendliness factor will be geared towards maintaining fellowship between the chapters allowing easy access to newsletters and other boards to share ideas and promote regional issues and conferences.

Editor's Note: A photo of the BOD members attending the meeting follows on the next page.



Jennifer Thomas Environmental Contracting

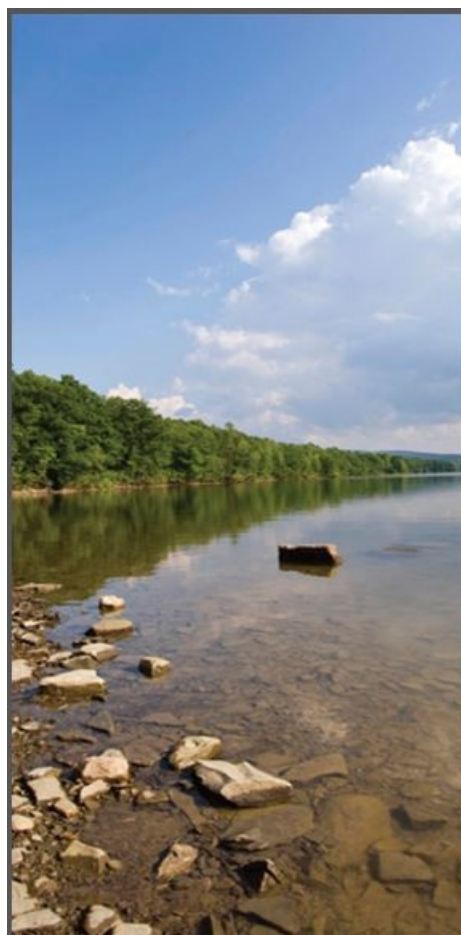
\* Phase I and II ESAs \* Asbestos Inspections \* UST

**Jennifer B. Thomas, P.G.**

704-491-7724  
jen@jennotecllc.com  
www.jennotecllc.com

P.O. Box 30334  
Charlotte, NC 28230





## SGS ACCUTEST NOW OFFERS A FULL ARRAY OF ENVIRONMENTAL SERVICES

SGS Accutest is now part of SGS Environmental, Health & Safety (EHS), North America. Added to the superior environmental services and technical expertise you've known, we now offer an ever-growing breadth of industry-leading services through the SGS group of companies. These include Industrial Hygiene analysis and monitoring through SGS Galson, Ultra Trace analysis (Dioxins/Furans, PCB Congeners, PBDE) through the Wilmington, North Carolina lab.

SGS Accutest has provided environmental testing and analysis for over 60 years. For more information on our services, contact Michelle Williams at +1 803 360 4634 or [michellw@accutest.com](mailto:michellw@accutest.com), or Kendall Sutler at +1 910 465 5958 or [kendall.sutler@sgs.com](mailto:kendall.sutler@sgs.com).

### SGS

Wilmington, NC  
Charlotte, NC

Columbia, NC

Raleigh, NC

[www.us.sgs.com/environment](http://www.us.sgs.com/environment)

### SGS ACCUTEST

Orlando, FL

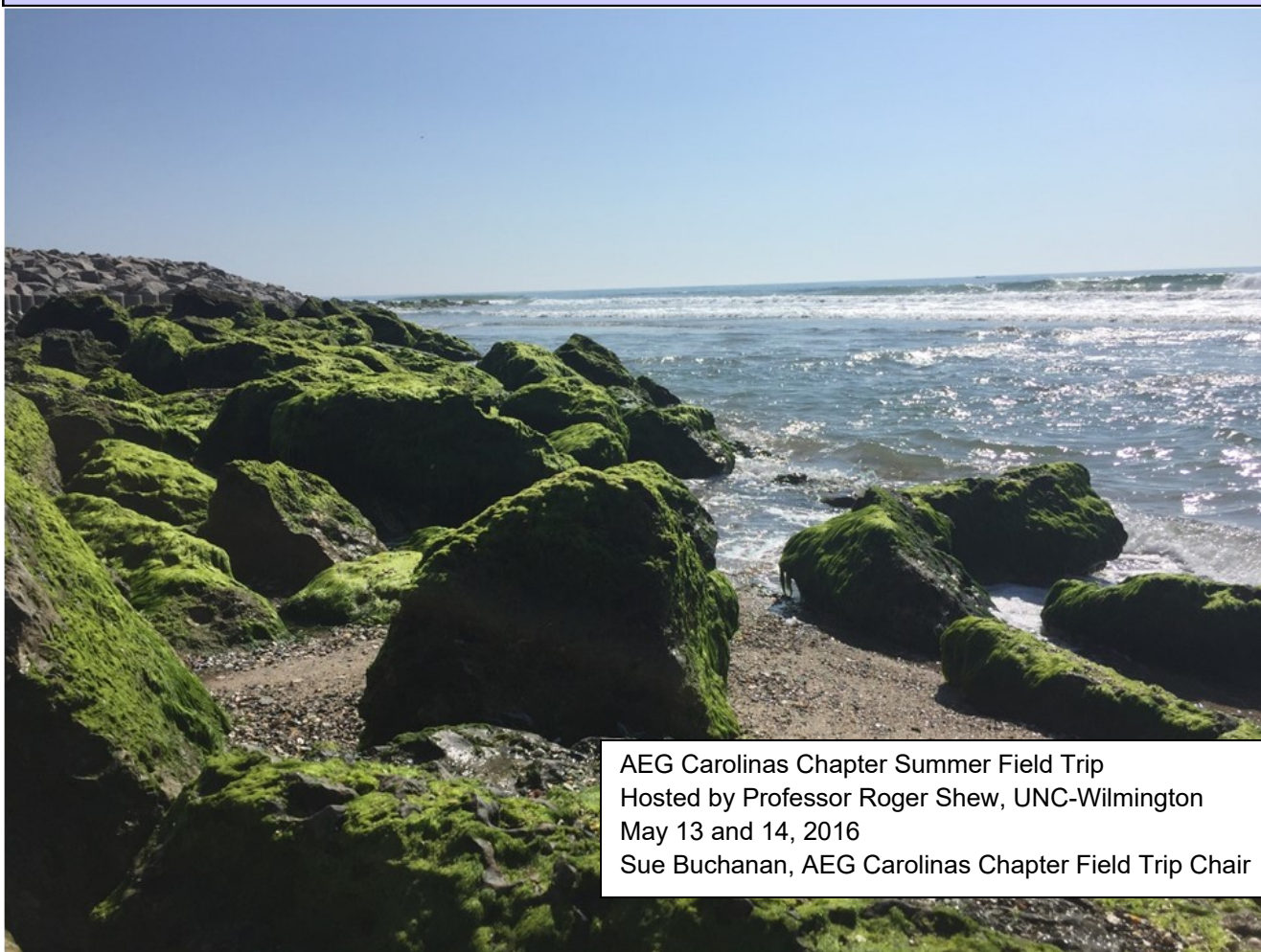
[www.accutest.com](http://www.accutest.com)

SGS ACCUTEST IS PART OF SGS, THE WORLD'S LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.



## Starting Summer at the Beach

*By Sue Buchanan, Field Trip Chair*

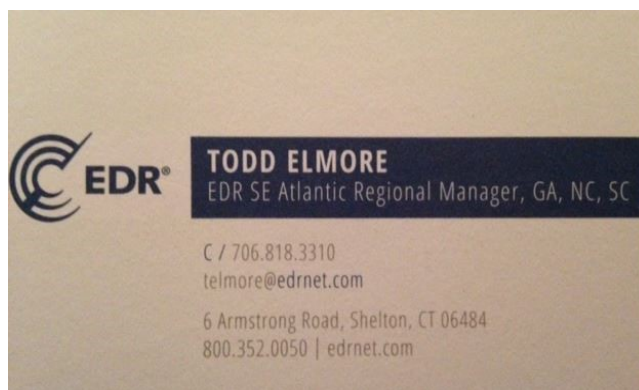


AEG Carolinas Chapter Summer Field Trip  
Hosted by Professor Roger Shew, UNC-Wilmington  
May 13 and 14, 2016  
Sue Buchanan, AEG Carolinas Chapter Field Trip Chair

The AEG Carolinas Chapter and Professor Roger Shew hosted a meeting and field trip in Wilmington, North Carolina. Roger taught and discussed the beauty and diversity of the coastal ecosystems of North Carolina and how these ecosystems are being effected by the always growing tourism, agricultural, and residential/commercial demands in North Carolina.

The field trip started with a walk along Kure Beach starting at the beach near the Seawall and walking north to observe residential impacts on the beach and outcrops of the Neuse Formation Coquina. At the beach south of the Seawall, Roger talked about grain size differences between natural beach sand, sand placed to replenish beaches, and dune sand. There was an obvious difference in grain size and amount of coarse-grained sand to fine-grained sand. Replenishment sand must meet 3 main criteria: sand must be compatible to the naturally occurring sand, and the sand must not contain more than 10% gravel and less than 35% carbonates.

Constituents of sand are important not only for the stability and appearance of the beach, but to wildlife as well like turtles who nest in these beaches.







Professor Roger Shew discussing beach sand grain size and showing samples of beach sand, replenishment sand, and dune sand. Seawall (boulders and stapods) at Kure Beach visible in the background.

Fort Fisher is the site of the last significant land/sea battle of the Civil War and the historical site is located on the Cape Fear River side of Kure Beach. The defeat of the Confederacy at Fort Fisher led closure of the last supply route for the blockade runners up the Cape Fear River to Wilmington through the an inlet called New Inlet. After the Civil War, shoaling and the transport of sand in this inlet led to navigation problems in the Cape Fear River. Rocks were placed in 1875 to slow the movement of sediment into the Cape Fear River. Since the end of the Civil War, the ocean has claimed nearly half of the fort (approximately 200 yards of sea front) due to wave action.

The Seawall at Kure Beach was constructed June 1995 to protect the historically significant State Civil War Historic Site at Fort Fisher. The seawall is 3,040 feet long and had to be rebuilt following severe damage by Hurricane Fran in 1996. The current seawall is constructed of 3-ton Piedmont granite boulders and nearly 400 interlocking 5-ton, 7 feet tall, stapods placed below and in front of the boulders along the shoreline. Seawalls are not allowed in North Carolina, but this seawall has been grandfathered in as it was constructed to protect Fort Fisher because beach erosion is prevalent in this area, averaging up to 9 feet/year.

## SAEDACCO

SAEDACCO is using its Roto-Sonic drill to conduct Groundwater Interval Profile Sampling. This in-situ sampling system is used in sedimentary aquifers with a two inch stainless steel screen, inflatable packer and a Grundfos Redi-Flo pump to collect discrete formation samples at a rapid pace during the drilling process. This system assists the client in determining the vertical extent of contamination in aquifers without having to install multiple monitoring wells. Cost savings, innovative ideas! Let us know how we can help you on your next project.

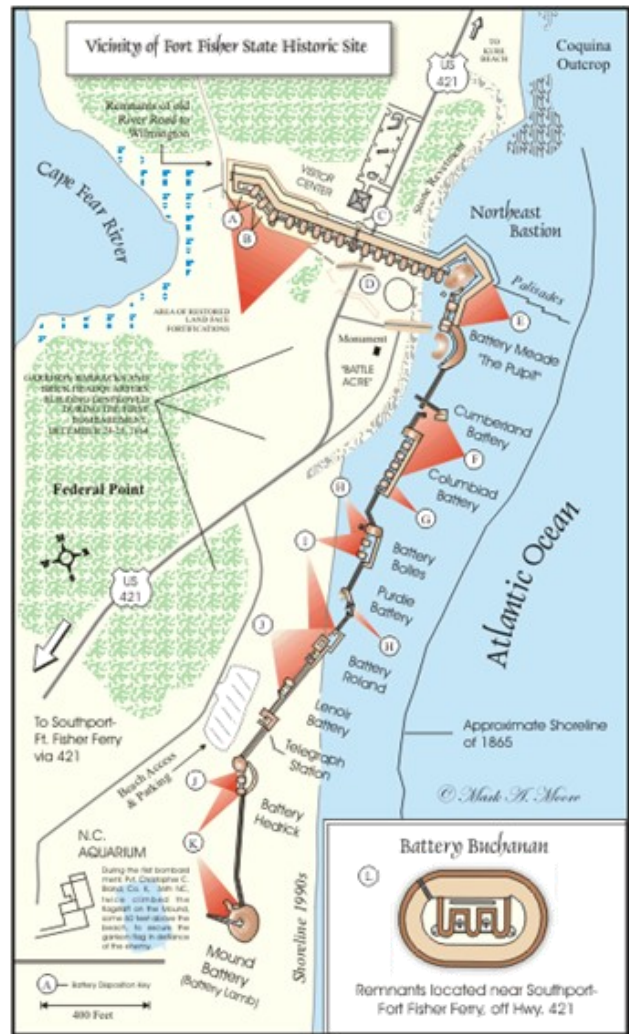


**Innovative Solutions:**  
Groundwater Interval Profile  
Sampling Using Roto Sonic Drilling

**SAEDACCO, Inc.**  
9088 Northfield Dr. Fort Mill, SC 29707  
800.849.0353 / [www.saedacco.com](http://www.saedacco.com)

**Your one source for DPT, roto sonic,  
conventional drilling, injection and  
remediation services.**





The picture on the left is a depiction the shoreline in during the Civil War in 1865. The picture on the right is the present Kure Beach shoreline showing the removal of the beach in respect to Fort Fisher since 1865 (pictures courtesy of [www.federal-point-history.org](http://www.federal-point-history.org) and [www.nchistoricsites.org/fisher](http://www.nchistoricsites.org/fisher)).



Along the shoreline in front of the Seawall, Professor Roger Shew points out an unconformity between Neuse Formation Coquina (55ka to 75ka) and Castle Hayne Limestone (35Ma) in the algae covered boulders.





Stapods to prevent undercutting along Kure Beach. Stapod approximately 7 feet in height (picture courtesy of Professor Roger Shew's field trip handout).

Roger took the group north of the Seawall along Kure Beach to show the impact of residential development on the Beach at the Riggings Condominiums. These condominiums had to place sandbags on the beach in front of the structures as beach erosion problems began occurring within the same year the condominiums were built. The condominiums were built in front of a Natural Heritage Area (a site of coquina outcrops on the beach) and just north of the seawall. Beach replenishment is not allowed on a Natural Heritage Area and the seawall has intensified erosion on the beach in front of the condominiums. In 2013, the Riggings Homeowners successfully appealed the NC Coastal Resources Commission's decision that sandbags be removed from the beach. This rule now keeps sandbags on the beach, which will cause problems such as increased rate of beach loss, cost on taxpayers for consistent beach replenishment, reduce turtle and bird nesting, and make access difficult to beachgoers.



Professor Roger Shew discussing the impacts of residential development at Kure Beach and showing the group the outcrop of Neuse Formation Coquina (Natural Heritage Area). Beach replenishment is not allowed at this location of the beach due to the coquina outcrop.

**Stop Guessing... Know What's Down Inside Your Well**

**Water well video, analysis, and repair**

**Geophysical Surveys**

**EGIS, PA**

**Mike L. Vaught, PG, CWC**

(919)929-8363  
441 Northside Dr.  
Chapel Hill, NC 27516  
gwinvest@juno.com

**GEOLOGIC EXPLORATION**

Monitoring & Recovery Well Specialists

**JASON MANTAK**

176 Commerce Boulevard  
Statesville, NC 28625  
jmantak@gexnc.com

Tel: 704-872-7686  
Fax: 704-872-0248  
1-800-752-8853





During the field trip, active erosion of the beach was encountered as freshwater was observed seeping through the coquina bedrock and flowing into the ocean. (Above)

Caption Doug Upton of Wilmington Water Tours gives a guided tour of the Northeast Cape Fear River while the group has a picnic on the boat. Caption Doug talked about the bottomland hardwood forests, the history of Carolina Gold Rice plantations, and pointed out families of osprey nesting in the bottomland hardwood trees and rock outcrops along banks of the NECFR. (Right)

From the beach, Roger took the group on a water tour of the Northeast Cape Fear River (NECFR) with Caption Doug and his wife Diane Upton, of Wilmington Water Tours. The Cape Fear River system is the largest watershed in the state, is contained entirely within the state boundary (9,164 square miles or 16% of the state's area), and is the only river system that empties directly into the Atlantic Ocean. The total tributary stream length is 6,684 miles, crossing 27 counties that have greater than 20% of the state's population. The boat tour took the group up the NECFR, which is termed a blackwater river because of the tannins that are leached from organic matter giving the river a dark color. The Cape Fear River is clay-rich and brown in color, and this color change was evident at the boundary between the Cape Fear and NECFR during the boat tour.







# Enviro-Equipment, Inc.

***"When it has to work"***

1-888-274-8929    [www.enviroequipment.com](http://www.enviroequipment.com)

## WE BUILD THESE...

### Our Instrument Division Includes:

- Rental instruments and accessories
- Instruments for purchase
- Instrument repair
- Field sampling supplies
- Personal Protective Equipment (PPE) supplies
- Equipment Training

### Our Remediation Division Includes:

- Soil and groundwater remediation equipment
- Remediation rental equipment
- New and used remediation systems for sale
- Pilot testing equipment and support
- Remediation components and parts for sale
- Custom electrical control panels
- Field installation and startup service
- Field repair of remediation systems
- Bulk carbon sales and change-out services
- Carbon injection services



## WE RENT THESE...



**...AND SO  
MUCH  
MORE!**

**Call or visit our website today!**

EEI is a North Carolina certified "Woman-Owned Business Enterprise" incorporated in January, 1993, and is located at 11180 Downs Road in Pineville, NC 28134. In 2004, EEI opened a 10,000 sqft Remediation System Division at 10120 Industrial Drive in



## EDUCATION

### Wake Tech forms a Student Chapter

*By Dustin Travels,  
Wake Tech Chapter President*

The Association of Environmental and Engineering Geologists (AEG) Wake Tech Student Chapter is a new club, roughly one year old. In our first year we focused on establishing our officers, choosing a direction for club activities, and making our presence known to the Student Government Association and other clubs on campus. We also participated in a few campus events, such as Wake Tech's STEM Day and Facts and Snacks Day. For STEM Day we did a Mentos and Coke demonstration to show how gas and pressure become an eruptive force in volcanos, and to excite students' interests in geoscience with some fun. For Facts and Snacks Day a chapter table was set up, and the goal was to inform as many students as possible about the AEG club and encourage interest in the sciences. Currently, our focus has been primarily on coming up with new activities like field trips, guest speakers, volunteer projects, and designing a club logo. In addition to those activities we have also been working on new ideas to raise awareness of the club, attract new members, and create an environment which is conducive to all students who wish to be involved with geology extracurricularly. In order to raise awareness to students and inform current club members, we have established a blog on Wake Tech's Club Blog web site.

### Carolinas Chapter Announces the Winner of the 2016 Carolinas Scholarship

*By Paul Weaver, Chair of Carolinas Scholarship Fund*

The Carolinas Chapter is pleased to announce that the first Carolinas Scholarship recipient has been chosen. This year's awardee of a \$2,000 scholarship is Ashleigh Nicole Kirker.

Ashleigh is a rising Junior at the College of Charleston with a major in Geology and a minor in Spanish and Mathematics. She has maintained a 4.0 GPA while also working in the research lab, pursuing a research project investigating geochemical fate of environmental nanoparticles discharged into surface and groundwater environments. She also spends time volunteering as a Reading Partners Tutor, participating in the Geology Club and Students for Social Innovation, and playing trumpet.

Ashleigh's essay for the Carolinas Scholarship was as follows:

I will use the Carolinas Scholarship for my undergraduate tuition. The grant will allow me to continue studying diverse geological topics while taking advantage of research opportunities few undergraduate programs could offer. During my second year at the College of Charleston, I approached my mentor regarding researching the fate of engineered nanoparticles in the environment. The particles are increasingly are produced in a variety of industries despite a lack of laboratory studies on potential risks because they have a wide array of practical applications. My independently designed project focuses on the transport of Titanium Dioxide nanoparticles in porous media, especially on the effect of aggregation on their movement.

I am excited to be doing work that I feel will actually make a difference in the world so early in my career. My research will continue into my junior year and is an independent study credit. In order to pursue this ongoing research opportunity, I am taking on the financial burden of an out-of-state education. A grant, therefore, will allow me to pursue my goals. Specifically it will enable me to publish my research in the next year.

Furthermore, I will be embarking on a field studies trip to India in the Summer of 2016. It

*(Continued on page 22)*



Full-Service Analytical & Environmental Solutions  
**When You Need RESULTS...**

#### ADAM PHILLIPS

Customer Service Representative  
Raleigh, NC

c 919.451.3370  
f 704.525.0409

aphillips@prismlabs.com  
www.prismlabs.com  
800.529.6364

449 Springbrook Rd, Charlotte, NC 28217 | Mail: PO Box 240543, Charlotte, NC 28224-0543

*A Woman Owned, Small Business Administration Certified Company*

## EDUCATION

(Continued from page 21)

will be an added cost, but an incredibly important step in my education. In addition to being required for my bachelor's degree, the course will focus on hydrogeology, pollution, and environmental concerns. These topics are my passion, as I see myself as a professional geoscientist working to protect Earth's water resources through research.

I will gain knowledge and experience related to geologic field work, especially water quality sampling and pollution studies. As an adult, I believe a career in environmental geology will require a deeper understanding of river systems than I could attain with simple classroom instruction.

In my post-graduate life, I want to focus on understanding the impact of human activity on coastal environments. I want to be a geologist because I am fascinated by the complexity and interconnectedness of the world around me. It is awe-inspiring to realize the effects a sea urchin can have on reef sediment production, the effect of reef rocks on warm-water habitat, the effect of ocean health on the geosphere as a whole. I want to research coastal processes, and learn about anthropogenic effects on things like runoff and barrier island rollover. With this knowledge, I believe I can make a difference in the way people treat their environment. I will discover ways to remediate pollution, protect marshy coastlines, and educate future generations about the importance of sustainability.

The Carolinas Scholarship Committee believes that Ashleigh is an excellent inaugural recipient of the Carolinas Scholarship, and we hope that all of you will join us in congratulating her. We see a bright future for Ashleigh and welcome her into the geology community.

We will continue to conduct on-going fundraising for the Scholarship Fund throughout the year with the hope to

continue awarding scholarships for years to come. If you would like more information about the Carolinas Scholarship fund, the fund charter and description, this information can be found at <http://www.aegfoundation.org/funds/carolinas.php>. If you would like to make a donation to the fund, please go to <http://www.aegfoundation.org/pdf/AEGF%20Donation%20Form.pdf>.

The Carolinas Scholarship Fund Committee and the Carolinas Chapter Board of Directors are excited to have finally established the Carolinas Scholarship Fund. This has been a goal many people have wanted and worked towards for many years. We look forward to awarding scholarships to deserving students for many more years into the future.

Paul M. Weaver, P.G.

Chair – Carolinas Chapter Scholarship Fund



**Scott Pearce**  
Vice President

P.O. Box 484  
High Point, NC 27261  
P: 336.434.7750  
F: 336.434.7752  
C: 336.803.1783  
[spearce@adenviro.com](mailto:spearce@adenviro.com)  
[www.adenviro.com](http://www.adenviro.com)

<b>CHOICE</b>		<b>RENTALS &amp; SUPPLY SALES</b>	
ENVIRONMENTAL SERVICES		WATER QUALITY, WATER SAMPLING, AIR MONITORING, & SOIL SAMPLING	
 <a href="http://WWW.CHOICE-ENVIRO.COM">WWW.CHOICE-ENVIRO.COM</a>		<b>NICOLE MANNING</b> <b>919-369-1001 (DIRECT)</b> <b>919-363-6890 (FAX)</b> <b>NICOLE@CHOICE-ENVIRO.COM</b>	
<b>WE ALSO RENT THE KAWASAKI MULE 3010 TRANS 4X4 XUV!</b>			
BACKPACK & HANDHELD GPS, GEM 2000, TVA 1000B, SURVEY EQUIP., GENERATORS, LAPTOPS, ANEMOMETERS, MONSOON PUMPS, PERISTALTIC PUMPS, BLADDER PUMPS & NOISE DOSIMETERS & LOTS LOTS MORE!		YSI HORIBA RAE IN-SITU PHOTOVAC ISCO LAMOTTE QED QUEST TSI LANDTEC TRIMBLE SOLINST PROACTIVE	



## EDUCATION

### Ten Years of Visiting Professionals

*By Rick Kolb,  
Student Liaison*

The Carolinas Section started presentations to students on geology careers in 2007, prior to AEG starting the Visiting Professionals program in 2008. As section chair in 2006, I exchanged emails with Dr. Drew Coleman, the undergraduate advisor at UNC-Chapel Hill, to discuss the decreasing enrollments in geology programs nationwide. I thought a presentation to students on typical geology careers would show the students the types of jobs that are available for graduates. We made our first presentation at UNC-Chapel Hill in the spring of 2007. Our presenters were Marianne Link, Dennis LaPoint, Jim Simons, Dr. Kenneth Taylor, and me. These geologists were employed in the public sector (NCDENR), the mining industry, and the environmental consulting industry. Our presentations were well-received, so I suggested a similar presentation in 2008 to Dr. Del Bohnenstiehl, the undergraduate advisor at NC State. We made these presentations at NC State during spring semester of 2008, again with much positive feedback from the students. One of the students approached me after our presentations and said she'd wished she'd heard out talks three years earlier, as she began her college career.

Based on the initial positive responses, I began to schedule visits to universities throughout our section. I found the undergraduate advisors at these schools for the departments' websites and wrote an email to each, asking if they'd be interested in presentations on geology careers. I received back almost unanimous responses saying yes. Starting in the spring semester of 2009, I "recruited" volunteers to present 20-or-so minute talks on their careers to undergraduate and graduate students. During the fall semester, I sent out an email blast to my university contacts, asking if they'd like a presentation from us during spring semester. Once I had the list of those interested, I'd schedule our presentations for a late Thursday afternoon, starting at 5:00 or 5:30pm, so students finishing afternoon labs would still be near campus, and so the presenters don't miss much work time and have only one day of work afterwards. Through the generosity of our section's many sponsors, we were able to provide pizza and soft drinks as an inducement to attend.

For presenters, I would invite an engineering geologist, an environmental geologist, and one or two geologists from the public sector (e.g., NCDOT and NCDENR). We've also had presentations from degreed geologists that worked as a teacher, an attorney, and in industry. I would try to target at least one alumnus of the school at which we were presenting. I found it fairly easy to recruit geologists, since it seems one characteristic of the majority of geologists is that they are naturally outgoing, and most geologists like to talk about their job. Sometimes I found

they liked to talk too much, and a 20-minute presentation would stretch to 30 or 40 minutes. We took questions from the audience at the end of our presentations, and typically we were done by 7:00pm, but the presenters hung around to answer individual questions. The students were attentive, and my observations were that the presenting geologists (especially me) enjoyed presenting talks as much as the students enjoyed hearing from us. The number of students in the audience ranged from 10 to as many as 75. As we presented more, we noticed the number of students in the audience grew, which reflected the increasing enrollments in geology programs since 2007. A part of our presentations always was to inform the students about AEG. Concurrent with our presentations and again due to the support of our sponsors, our section in 2007 began paying the \$25 annual fee for student memberships. Between the free membership and our presentations on geology careers to students, our student membership grew rapidly, from 2 student members in 2006 to over 100 in 2009, where it has remained since. Our success in bringing students into AEG may have been one reason AEG decided a few years ago to make student membership free.

Through the years, we have made yearly trips to UNC-Chapel Hill and -Charlotte, and to NC State. Other schools prefer we come every other year. Since we began our presentations, we have visited the following schools at least once and most more than once: Appalachian State, Clemson, East Carolina, East Tennessee State, Furman, Guilford, Methodist, NC State, Radford, UNC-Chapel Hill, UNC-Charlotte, UNC-Wilmington, Virginia Tech, Wake Tech, and Western Carolina. Although East Tennessee State, Radford, and Virginia Tech were outside our section boundary at the time of the visits, due to our close proximity and capable volunteers we were able to arranged visits for both members from the Carolinas and members from the Baltimore/Washington Section. Through our work with and the efforts of Gretchen Miller at Wake Tech, that school has become AEG's first community college with a student chapter. They have been successful funneling their graduates other schools' geology programs.

Our Visiting Professionals program has been successful only because of the number of people willing to donate some of their time to help the future of AEG and, more importantly, our profession. Some of our volunteers enjoy this so much and feel it is important that they have presented numerous times. In addition to the 29 presentations I have made, Brad Worley of Summit Engineering (formerly NCDOT) and State Geologist Dr. Kenneth Taylor of NCDEQ have presented 11 times each, and section Vice Chair Susan Kelly of Amec Foster Wheeler has volunteered nine times (she's been a great help in western

*(Continued on page 24)*

## EDUCATION

North Carolina and at East Tennessee State, and established us at her alma mater, Clemson). Below is a list of volunteers, though I am sure I have missed a few and to those I apologize; those with asterisks after their names have volunteered more than once. The Carolinas Chapter thanks them for their participation in our program:

Carolyn Bachl  
Rosemarie Ballance  
Kevin Barnes\*  
Jennifer Bauer\*  
Brian Bellis  
Ned Billington  
Rick Bolich  
Ann Borden\*  
Dave Brown  
Mark Brown  
Christine Bruinsma  
Robert Cannon  
Andy Clark  
Brandy Costner  
Brad Crenshaw  
Eric Cross\*  
Dave Duncklee  
Matt Flinchum\*  
Joanna Harbison  
Tami Idol\*  
David Jerosé  
Kelly Johnson  
Paul Johnstone\*  
Susan Kelly\*  
Rachel Kirkman \*  
Rick Kolb\*  
Carin Kromm\*  
Tom Lammons  
Dennis LaPoint  
Rebecca Latham  
Brett Laverty\*  
Marianne Link

Clint Little  
Kristen Lloyd\*  
Brad Lockamy  
Hank Lyon  
Judd Mahan  
Nathan Mohs\*  
Bill Moore  
Leo Moretz  
Cyrus Parker\*  
John Pilipchuk  
Steve Pond\*  
Josh Roberts\*  
Gary Rogers  
John Rogers  
Alex Rutledge  
Malcolm Schaefer\*  
Jack Sherrill  
Brian Smith\*  
Jim Simons\*  
Lee Stone  
Kenneth Taylor\*  
Drew Thomas\*  
Jennifer Thomas  
Al Tice  
Rebecca Deal Tinnel  
Adam Tripp  
Bonnie Ware  
Sam Watson  
Paul Weaver\*  
Rick Wooten\*  
Ted Witteman  
Brad Worley\*

In summary, the Carolinas Visiting Professionals program has been successful in reaching out to students and presenting them information on career choices, and it should continue. But as the title of this article reads, it's time for a new start. After 10 years, I think the program is ready for a change, so our section seeks a volunteer to lead its Visiting Professionals program. It doesn't require a large time commitment, with an established group of volunteers and contacts at the universities, so it's primarily maintenance of the program we have. Are you willing to help our future geologists? Contact me at [rick.kolb1@gmail.com](mailto:rick.kolb1@gmail.com) or Chapter Chair Maddie German at [madeline@smithgardnerinc.com](mailto:madeline@smithgardnerinc.com) for further information or to volunteer to lead this effort.

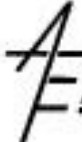


**ESP Associates, P.A.**  
[www.espassociates.com](http://www.espassociates.com)

7234 W. Friendly Ave., Suite B  
Greensboro, NC 27410

**Paul M. Weaver, P.G.**  
[pweaver@espassociates.com](mailto:pweaver@espassociates.com)

office: 336.232.6210  
mobile: 336.287.2165



**A.E. DRILLING SERVICES, LLC**

**W. Martin M. Johnson, P.G.**  
Vice President

Two United Way  
Greenville, South Carolina 29607  
[www.aedrilling.com](http://www.aedrilling.com)

Phone: (854) 288-1905  
Fax: (854) 288-2272  
Cell: (828) 674-9494  
[mjohnson@aedrilling.com](mailto:mjohnson@aedrilling.com)



## ANNOUNCEMENTS

### AEG JOB LINKS

As a reminder, there is a tab for careers on the national AEG website:

<http://aegweb.site-ym.com/?Careers>

The Carolinas Chapter website also has a place to post and search for job listings:

<http://aegcarolinas.org/jobs/>

### TRB SUMMER WORKSHOP

The North Carolina Department of Transportation (NCDOT) is hosting the [Transportation Research Board \(TRB\) 2016 Summer Workshop](#) this year in Asheville, NC, from July 26-29. We hope to see you all in Asheville this summer!

### AEG VOLUNTEERS NEEDED!

Interested in more networking and leadership opportunities? Volunteer to help AEG Carolinas! We are looking for members to help in several rolls. Only a few hours a month needed. Please email Maddie German at [maddeline@smithgardnerinc.com](mailto:maddeline@smithgardnerinc.com).

### NATURAL SELECTIONS

The North Carolina Museum of Natural Sciences in Raleigh is holding an event August 19 on the science of beer. Though not specifically a geology event, we have noticed interest in beer is common with geologists. See flyer on page 29 for details.



**con-test®**  
ANALYTICAL LABORATORY

**Paul Konnik**  
Regional Sales Manager - Southeast

Laboratory:  
39 Spruce Street  
East Longmeadow, MA 01028  
413.525.2332  
Fax: 413.525.6405

Raleigh, NC Service Center  
6104 Westgate Road  
Suite 129  
Raleigh, NC 27617

Cell: 314.302.0431  
[paul.konnik@contestlabs.com](mailto:paul.konnik@contestlabs.com)  
[www.contestlabs.com](http://www.contestlabs.com)



## Rentals • Sales • Service

*The leading supplier of environmental monitoring, sampling and safety equipment.*



**PINE ENVIRONMENTAL  
SERVICES LLC**

### A sample of our inventory:

- Air Quality Monitors
- Clean Room Performance Testing
- Confined Space Entry
- Hazardous Waste Investigation
- Heat Stress Monitors
- High Volume Samplers
- HVAC Monitors
- Personal Sampling Pumps
- Moisture Meters
- Gas Detection
- Particle Counters
- Water Monitoring Equipment
- Noise Dosimeters
- And Much More!

*For after hours emergency needs, call: Paul Federline at 919-333-6287*

**CONTACT  
US TODAY!**

**866-646-7463**  
[www.pine-environmental.com](http://www.pine-environmental.com)

Pine Environmental Services LLC  
8411 Garvey Drive, Suite 113  
Raleigh, NC 27616



## CALENDAR OF EVENTS - 2016

### Geological Events in the Carolinas

Courtesy of AEG Carolinas Chapter – [www.aegcarolinas.org](http://www.aegcarolinas.org). Last updated March 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, July 7, 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: July 26 – 29, 2016**

Event: Transportation Research Board 2016 Summer Workshop

Cost: Non-Government - \$199, Government - \$149, Student - \$79

Location: Renaissance Asheville Hotel; 31 Woodfin Street, Asheville, NC 28801

Details: <http://www.ncdot.gov/conferences/trb-adc60/about.html#Registration>

Contact: Cyrus Parker at 919-707-6868 or send a message by <https://apps.ncdot.gov/ContactUS/PostComment.aspx?Unit=TRBADC6016>

**Date: Thursday, August 4, 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: August 9, 2016**

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

Location: Starts at 9 AM at the office of Upton

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

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

**Date: Thursday, August 18, 2016 (meetings typically 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

Details: [facebook.com/SCAEP](http://facebook.com/SCAEP)

**Date: Friday, August 26, 2016**

Event: AEG Carolinas Section Dinner Meeting and Preview of Field Trip

Location: Department of Geology, Frank and Margaret McKinney Geology Teaching Museum and Atrium, Rankin Science Building; 572 Rivers Street, Boone, NC 28608

Topic: Evolution of the Linville Falls Fault Zone and its Influence on Topographic Relief and Slope Stability Today

Time: 5:30 PM to 8:30 PM

Cost: AEG members \$30, non-members \$40, public-sector employees \$15, teachers \$10, students free with ID

Details: <http://aegcarolinas.org>

**Date: Saturday, August 27, 2016**

Event: AEG Carolinas Section Summer Field Trip  
Location: Baymont Inn and Suites; 1075 NC 105, Boone, NC 28607

Topic: Evolution of the Linville Falls Fault Zone and its Influence on Topographic Relief and Slope Stability Today

Time: Meet at 7:40 AM at Baymont Inn and Suite



**SHAMROCK**  
ENVIRONMENTAL CORPORATION

Rick Wigal

Business Development Manager

6106 Corporate Park Drive, Browns Summit, NC 27214  
336-375-1989 • 800-881-1098 • Fax 336-375-1801

Mobile 336-558-5446  
[rwigal@shamrockenviro.com](mailto:rwigal@shamrockenviro.com)



[www.shamrockenviro.com](http://www.shamrockenviro.com)



**Environmental  
Conservation  
Laboratories, Inc.**

**JIM HAYS**

Account Manager

102-A Woodwinds Industrial Ct.  
Cary, NC 27511

Direct Line: (919) 812-4471  
Lab: (919) 677-1669

[jhays@encolabs.com](mailto:jhays@encolabs.com) • [www.encolabs.com](http://www.encolabs.com)



(Continued from page 26)

Parking lot; 1075 NC 105, Boone, NC 28607, field trip ends at ~6:00 pm

Cost: AEG Members, Non-members, Public Sector, Teachers \$75; Students with College ID \$50  
Field Trip Waiver and Registration Deadline to Sue Buchanan: Friday, August 19, 2016

Details: <http://aegcarolinas.org>

**Date: Thursday, September 1, 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, September 15, 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

Details: [facebook.com/SCAEP](https://www.facebook.com/SCAEP)

**Date: September 18-24, 2016**

Event: AEG Annual Meeting

Location: Waikoloa Beach Marriott Resort & Spa; 69-275 Waikoloa Beach Drive; Waikoloa Beach, Hawaii 96738

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

**Date: September 25-28, 2016**

Event: Geological Society of America Annual Meeting

Location: Denver, Colorado

Abstract Deadline: Tuesday, July 12, 2016

Early Registration Deadline: Monday, August 22, 2016

Information: <http://www.geosociety.org/meetings/2016/>

**Date: September 30, 2016**

Event: ASBOG Geology Exam

Details: Deadline to apply for the exam is August 16, 2016 (and preapproval to take the exam before that)

Location: McKimmon Center, NC State University, Raleigh

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

**Date: October 26, 2016**

Event: AEG Carolinas Section Dinner Meeting

Location: Natty Green's, Greensboro, NC

Speaker: Jahns Lecturer Jerome DeGraff

Time: 5:30 PM to 8:30 PM

Cost: AEG members \$30, non-members \$40, public-sector employees \$15, teachers \$10, students free with ID

Details: <http://aegcarolinas.org>

**Date: November 15, 2016**

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

Location: Starts at 9 AM at the office of Upton Associates; 3733 Benson Dr. Raleigh, NC; morning session open to the public

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

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

Event: Geological Society of America Southeastern Section Annual Meeting

Location: Omni Richmond Hotel; 100 South 12<sup>th</sup> Street, Richmond, VA 23219

Information: <http://www.geosociety.org/Sections/se/2017mtg/>

**Date: June 4-8, 2017**

Event: 3<sup>rd</sup> North American Symposium on Landslides (NASL) - Landslides: Putting Experience, Knowledge and Emerging Technologies in Practice

Location: DoubleTree by Hilton Hotel Roanoke & Conference Center, Roanoke, VA

Information: <http://www.aegweb.org/?page=2017NASL>

**Date: September 10-17, 2017**

Event: AEG Annual Meeting

Location: Antlers Hilton Colorado Springs; Colorado Springs, Colorado

**Date: September 11-18, 2019**

Event: AEG Annual Meeting

Location: Asheville, North Carolina



Third North American  
Symposium on Landslides

Roanoke, Virginia, USA  
June 4-8, 2017



## 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

## ROANOKE ATTRACTIONS

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:**

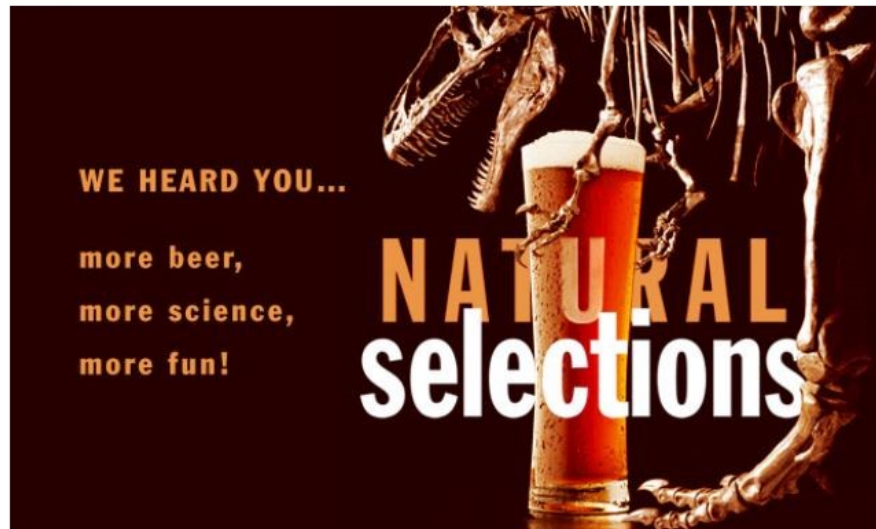
<http://www.aegweb.org/landslideroanoke2017/>





YOU'RE INVITED  
NATURAL SELECTIONS 2016

NCMNS JOIN CONTACT SUPPORT



## NATURAL SELECTIONS

AUG. 19

FRIDAY, 7-10pm

We enjoyed seeing you at Natural Selections last summer at the NC Museum of Natural Sciences. We're back - bigger and better - thanks to your feedback. Here's a first look at some of the exciting changes for 2016:

- [New brewers](#): In addition to returning favorites, we reached out to new and established breweries across the region, beyond Wake County.
- Live music by [The Hey Brothers](#)
- Hands-on science of beer activities and interactive games
- Brewing demonstration by [Atlantic Brew Supply](#)
- You be the Judge: Vote for your favorite beer and award the first annual Natural Selections People's Choice Award to one lucky brewery.
- And [more!](#)

**Tickets:** \$30, \$25 for Members. You must be 21 years or older to attend. A photo ID is required for entry.

All proceeds benefit the Friends of the NC Museum of Natural Sciences, a 501(c)(03) nonprofit. Proceeds from Friends' activities - including gift shop sales, memberships and events - all support Museum programs, research and exhibits.

[Tickets](#)

## MEMBERSHIP APPLICATION



## ASSOCIATION OF ENVIRONMENTAL & ENGINEERING GEOLOGISTS

### MEMBER:

- ☐ **New Member Dues – \$95.00** First year of membership only.  
☐ **Full Member Dues – \$140.00\***

Applicants for Member Class, including Full and New Members, 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.

*\*Section Dues - Section dues are charged to all Full Members, invoiced separately. More information regarding Section dues can be found at [www.aegweb.org](http://www.aegweb.org).*

### AFFILIATE:

- ☐ **Affiliate Dues – \$100.00**

Applicants for Affiliate Member Class shall be scientists or engineers who work with engineering geologists, or persons interested in environmental and engineering geology.

### TEACHER:

- ☐ **Teacher Dues – \$35.00**

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.

### STUDENT:

- ☐ **Annual Dues - FREE**

Applicants for Student Member Class shall be full-time students enrolled in an academic program in the geosciences or in a related field in engineering.

### INTERNATIONAL:

- ☐ **International Member Dues – \$35**

Applicants shall hold the same requirements as for Member Class. International Members receive (online ONLY) the E&EG Journal, Annual Directory, Annual Meeting Program with Abstracts and the AEG NEWS.

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

### APPLICATION FORM

Please complete this form and mail it with your Annual Dues payment to the Association's Headquarters office for processing. New member applicants do not pay Section dues for their initial year of membership.

**Name:** \_\_\_\_\_  
*(Please print your name as you would like it shown on your membership certificate.)*

**Date of Birth:** \_\_\_\_\_  
*Required to authorize payment*

**Preferred Address:** ☐ Home ☐ Work ☐ School  
 \_\_\_\_\_  
 \_\_\_\_\_

**Preferred Phone:** ☐ Home ☐ Work ☐ School ☐ Mobile  
 \_\_\_\_\_

**Preferred E-mail:** ☐ Home ☐ Work ☐ School  
 \_\_\_\_\_

**Alternate Address:** ☐ Home ☐ Work ☐ School  
 \_\_\_\_\_  
 \_\_\_\_\_

**Alternate Phone:** ☐ Home ☐ Work ☐ School ☐ Mobile  
 \_\_\_\_\_

**Alternate E-mail:** ☐ Home ☐ Work ☐ School  
 \_\_\_\_\_

**Desired Class of Membership:** \_\_\_\_\_  
 \_\_\_\_\_

**Annual Dues Amount\*:** \_\_\_\_\_  
*\*Section Dues not included. A separate invoice will be mailed to you.*

**Payment Method:**  
☐ Check Enclosed  
☐ Visa ☐ Master Card ☐ Discover ☐ AMEX  
**Name on Card:** \_\_\_\_\_

**Cardholder Address:** ☐ Home ☐ Work ☐ School ☐ Other  
*(If not provided above, please provide card address)*  
 \_\_\_\_\_  
 \_\_\_\_\_

**Card Number:** \_\_\_\_\_

**Expiration Date:** \_\_\_\_\_

**Certification/Authorization:** \_\_\_\_\_  
 \_\_\_\_\_  
*(Signature)*

My signature attests that, to the best of my knowledge, I meet the academic and practice requirements for the membership class I have requested and that all entries on this application are true and correct. I also authorize AEG to charge my credit card for the dues payment, if I selected the credit card payment option.

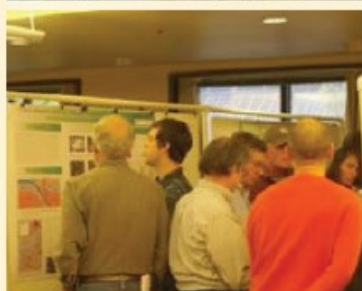
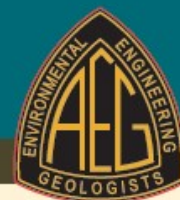
**SUBMISSION:** Send this form with your check or credit card authorization to: Association of Environmental & Engineering Geologists • PO Box 460518, Denver, CO 80246  
 Phone: 303-757-2926 • FAX: 720-230-4846  
[aeg@aegweb.org](mailto:aeg@aegweb.org) • [www.aegweb.org](http://www.aegweb.org)





# ASSOCIATION OF ENVIRONMENTAL & ENGINEERING GEOLOGISTS

Connecting Professionals, Practice and the Public



## Student and New Graduate Member Application

Let the Association of Environmental & Engineering Geologists (AEG) show you the great benefits to being a part of the geology profession! **AEG is geology in practice.** Join us and see why our members LOVE their jobs!

### Benefits of Student Membership Include:

- Eligibility for **Scholarships** that provide funding for field camp, field studies, academic studies and travel to present at national meetings.
- **Discounts** for attending AEG's Annual and local Section Meetings, field trips, and short courses (sometimes you can attend for **FREE**).
- **Networking** opportunities to potentially **meet YOUR future employer!** One member noted, "Every job I have had was a result of shaking hands at an AEG event!"
- **Free online access** to *Environmental & Engineering Geoscience*, co-published with the Geological Society of America, *AEG NEWS*, and *AEG's Annual Meeting Program with Abstracts*.
- **STUDENT MEMBERSHIP IS FREE!**
- PLUS, as **AEG's gift to you for graduating**, your first year of Professional Membership when you renew as a Full Member will be reduced by \$45.00.

### Application Form

Name : \_\_\_\_\_

Preferred Address: \_\_\_\_\_

\_\_\_\_\_

Phone: \_\_\_\_\_

E-mail (Current Institutional Provider): \_\_\_\_\_

E-mail (Non-Institutional Provider): \_\_\_\_\_

Institution (College/University): \_\_\_\_\_

Anticipated Graduation Year: \_\_\_\_\_

Please check one: ☐ Student (free) ☐ New Graduate  
\*(1st year, only \$95.00)

\*Note: AEG will contact New Graduates upon receiving the application for payment and to complete the application process.

Submission Send this form to:

Association of Environmental & Engineering Geologists,  
1100 Brandywine Blvd Suite H, Zanesville, Ohio 43701  
Phone: 1-844-331-7867 (toll free); Fax: 740-452-2552  
Email: [contact@aegweb.org](mailto:contact@aegweb.org); Website: [www.aegweb.org](http://www.aegweb.org)



## AEG CAROLINAS CHAPTER – SPONSOR INFORMATION

The Carolinas Chapter of AEG supports many of its activities with financial assistance provided by our sponsors. Our activities include quarterly meetings, periodic field trips and seminars, a quarterly newsletter, and email announcements about our meetings and geoscience related activities. In addition, we donate large quantities of educational resources to science teachers.

We offer several levels of sponsorship, but they all have one goal: to keep the sponsor's name in front of our members and to bring you business. We have a real commitment to connecting our sponsors to potential buyers and will do all we can to help you build your business. Most of our members are practicing professionals with responsibility for selecting subcontractors, so our group is a great place to find new customers and to catch up with existing clients in an informal setting.

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.

### Silver Sponsor (\$250):

GeoNews Newsletter: Business card size ad (2" high x 3-1/2" wide), four times per year.

Meetings: Listing on a Sponsor Poster, located at sign-in table. Verbal acknowledgement by name in Chairman's introductory comments.

Meeting Exhibits: Space for tabletop display at one meeting. Cost of meeting waived for one person on the exhibit date.

Email Announcements: Listing of your company name on each AEG Carolinas Chapter email announcement (our email list is currently over 1,000 people)

Web Page: Acknowledgement on the AEG Carolinas Chapter Web Page, [www.aegcarolinas.org](http://www.aegcarolinas.org), with a link to your site.

### Gold Sponsor (\$375):

GeoNews Newsletter: Quarter-Page ad (4-1/2" high x 3-1/2" wide), four times per year.

Meetings: Listing on a Sponsor Poster, located at sign in table. Verbal acknowledgement by name in Chairman's introductory comments.

Meeting Exhibits: Space for tabletop display at two meetings. Cost of meeting waived for one person on the exhibit date.

Email Announcements: Listing of your company name on each AEG Carolinas Chapter email announcement (our email list is currently over 1,000 people)

Web Page: Acknowledgement on the AEG Carolinas Chapter Web Page, [www.aegcarolinas.org](http://www.aegcarolinas.org), with a link to your site.

### Platinum Sponsor (\$500):

GeoNews Newsletter: Half-page ad (4-1/2" high x 7" wide), four times per year.

Meetings: Listing on a Sponsor Poster, located at sign in table. Verbal acknowledgement by name in Chairman's introductory comments.

Meeting Exhibit: Space for tabletop display at three meetings. Cost of meeting waived for one person on the exhibit date.

Email Announcements: Listing of your company name on each AEG - Carolinas Chapter email announcement (our email list is currently over 1,000 people)

Web Page: Acknowledgement on the AEG Carolinas Chapter Web Page, [www.aegcarolinas.org](http://www.aegcarolinas.org), with a link to your site.

### Titanium Sponsor (\$600):

Same as Platinum, but with a FULL PAGE ad in GeoNews. Limited to 2 Sponsors per year.

### GeoNews Newsletter Sponsorship Only

Businesses or individuals can also advertise in GeoNews without being a full sponsor. The annual rates for advertising in GeoNews are as follows:

Business Card	\$ 40.00
Quarter Page	\$ 60.00
Half Page	\$ 100.00
Full Page	\$ 200.00

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

### AEG Carolinas Chapter Sponsorship Form

Please begin our sponsorship of the Carolinas Chapter of the Association of Engineering Geologists. Our sponsorship level is:

\_\_\_\_\_ Platinum PLUS Chapter Sponsorship, \$600/year  
 \_\_\_\_\_ Platinum Chapter Sponsorship, \$500/year  
 \_\_\_\_\_ Gold Chapter Sponsorship, \$375/year  
 \_\_\_\_\_ Silver Chapter Sponsorship, \$250/year  
 \_\_\_\_\_ GeoNews Newsletter Sponsor Only (see above)

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Cell: \_\_\_\_\_

Email: \_\_\_\_\_

Website URL: \_\_\_\_\_

Date of Payment: \_\_\_\_\_

Something about your company (use back of page for more room) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Please enclose a business card or email ad in jpg, pdf, or doc to Walt Plekan at [walt.plekan@aecom.com](mailto:walt.plekan@aecom.com).

### MAKE CHECK OUT TO AEG CAROLINAS

Snail mail form and payment to:

Walt Plekan, AECOM, 701 Corporate Center Drive, Suite 475,  
 Raleigh, North Carolina 27607

(Modified 1/7/15)

**SPONSOR OR RENEW MEMBERSHIP AT [WWW.AEGWEB.ORG](http://WWW.AEGWEB.ORG)!**



## Thank You, AEG Carolinas Sponsors!!

### TITANIUM SPONSORS

**Enviro-Equipment, Inc.** 11180 Downs Road Pineville NC 28134  
[www.enviroequipment.com](http://www.enviroequipment.com)  
 Denise Chew, 704-588-7970, [denise@enviroequipment.com](mailto:denise@enviroequipment.com), Brian Chew, 888-274-8929, [brian@enviroequipment.com](mailto:brian@enviroequipment.com); We are a Woman-Owned Small Business, staffed by experienced professionals, committed to providing quality environmental equipment and products for rent or sale at reasonable rates. EEI is a stocking distributor of numerous environmental products for detection of air, water, and soil contamination.

**Geobrugg North America, LLC**, 8004 Windspray Drive, Summerfield, NC 27358; [www.geobrugg.com](http://www.geobrugg.com)  
 Meredith Gray, 505-771-4080, [Meredith.gray@geobrugg.com](mailto:Meredith.gray@geobrugg.com)  
 As the manufacturer of high-tensile steel wire protection systems, we provide the best solution for our customers -- worldwide.

### PLATINUM SPONSORS

**Pine Environmental Services, Inc.** 8411 Garvey Drive, Suite 113 Raleigh NC 27616 [www.pine-environmental.com](http://www.pine-environmental.com)  
 Paul Federline, 866-646-7463, [pfederline@pine-environmental.com](mailto:pfederline@pine-environmental.com) 919-713-0008; Pine Environmental Services, Inc., "The Environmental Supply and Support People" is the largest environmental supply and leasing company in North America. Pine is the leading provider of rental equipment in the nation with the latest instruments available. Pine Environmental Services, Inc. takes pride in their unprecedented customer support and competitive pricing. Extended hours of operation and after-hour emergency support are on hand.

**SGS Accutest**, 5500 Business Drive, Wilmington, NC 28405;  
[www.sgs.com](http://www.sgs.com); Michelle Williams, 803-360-4634, [michellew@accutest.com](mailto:michellew@accutest.com)

### GOLD SPONSORS

**AECOM Technical Services-North Carolina**, 1600 Perimeter Park, Suite 400, Morrisville, NC 27560, [www.aecom.com](http://www.aecom.com), Walt Plekan, 919-461-1100, [walt.plekan@aecom.com](mailto:walt.plekan@aecom.com)

**Parratt-Wolff, Inc.**, 501 Millstone Drive, Hillsborough, NC 27278; [www.pwinc.com](http://www.pwinc.com), Gary Ellingworth, 800-627-7920, [gellingworth@pwi.com](mailto:gellingworth@pwi.com)

**SAEDACCO** 9088 Northfield Drive Fort Mill SC 29707 [www.saedacco.com](http://www.saedacco.com)  
 Peter Byer, 803-548-2180, [pbyer@saedacco.com](mailto:pbyer@saedacco.com) 803-548-2180; South Atlantic Environmental Drilling and Construction Co, Inc., (SAEDACCO), founded in 1993, is a southeast regional environmental services company. SAEDACCO is located in Fort Mill, SC and specializes in providing Direct Push, Drilling Construction, and Remediation services for the environmental industry.

**Smith Gardner, Inc.**, 14 N. Boylan Avenue, Raleigh, NC 27603; [www.smithgardnerinc.com](http://www.smithgardnerinc.com), Madeline German, 919-828-0577, [mailto:madeline@smithgardnerinc.com](mailto:mailto:madeline@smithgardnerinc.com)

### SILVER SPONSORS

**A & D Environmental Services, Inc.** 2718 Uwharrie Road Archdale NC 27263 [www.adenviro.com](http://www.adenviro.com)  
 Scott Pearce, 336-803-1783, [spearce@adenviro.com](mailto:spearce@adenviro.com), Dan Martin, 336-434-7750, [dmartin@adenviro.com](mailto:dmartin@adenviro.com); A & D Environmental Services, Inc., is a full-service environmental and industrial company offering remedial, industrial, emergency response, waste management, and transportation services throughout the southeast. Maximum protection, minimum risk, total peace of mind.

**AE Drilling Services, Inc.** Two United Way Greenville SC 29607 [www.aedrilling.com](http://www.aedrilling.com)

W. Martin Johnson, P.G., 864-288-1986, [mjohnson@aedrilling.com](mailto:mjohnson@aedrilling.com); AE Drilling Services has provided geotechnical, environmental, water supply, and mineral exploration drilling services to fellow professionals for over 40 years.

**Contaminant Control, Inc. (CCI)**, 3434 Black & Decker Road, Hope Mills NC 28348. [www.cci-env.com](http://www.cci-env.com) Mark Vestal, 910-484-7000, [mark.vestal@cci-env.com](mailto:mark.vestal@cci-env.com). CCI is a full service environmental consulting company. Our services include asbestos abatement, remediation, demolition & specialty blasting.

**Con-test Analytical Laboratory**, 39 Spruce Street; East Longmeadow, MA 01028; [www.contestlabs.com](http://www.contestlabs.com)  
 Paul Konnik, 314-302-0431, [paul.konnik@contestlabs.com](mailto:paul.konnik@contestlabs.com); Con-Test Analytical Laboratory is a full service environmental testing laboratory with capabilities in nearly all soil, air and water analyses. Con-Test has experienced staff and state of the art instrumentation to provide quality analytical services, balancing response and prompt turnaround with precise and reliable analyses, ensuring data integrity. Our value added service includes expertise in technical and customer service which is reflected in a diverse customer base.

**Choice Environmental** 1804 Holt Road Cary NC 27519-5984 [www.choice-enviro.com](http://www.choice-enviro.com)

Nicole Manning, 919-369-1001, [nicole@choice-enviro.com](mailto:nicole@choice-enviro.com), Steve Jenkins, , [steve@choice-enviro.com](mailto:steve@choice-enviro.com); Choice Environmental Services, LLC. We carry or rent backpack & handheld GPS, EEM2000, TVA1000B, Survey Equipment, Generators, Laptops, anemometers, monsoon pumps, peristaltic pumps, bladder pumps, and more. We also rent the Kawasaki Mule 3010.

**Covanta Environmental Solutions**, 2242 Carl Drive, Asheboro, NC 27203; [www.covanta.com](http://www.covanta.com) Al King, 919-451-3960, [aking1@covanta.com](mailto:aking1@covanta.com)

**EGIS, PA** 441 Northside Drive Chapel Hill NC 27516 [www.waterwellvideos.com](http://www.waterwellvideos.com)  
 Mike Vaught, 919-929-8363, [gwinvest@juno.com](mailto:gwinvest@juno.com), Lynn Bressler, 919-929-8363, ; EGIS, PA specializes in downhole geophysical and borehole video inspection services. We can assist in well development and rehabilitation.

**Environmental Conservation Labs (ENCO)** 102-A Woodwinds Industrial Court Cary NC 27511 [www.encolabs.com](http://www.encolabs.com)  
 Jim Hays, 919-467-3090, [jhays@encolabs.com](mailto:jhays@encolabs.com), Susan Purser, , [spurs@encolabs.com](mailto:spurs@encolabs.com); ENCO Labs is committed to having the best service in the industry. With this service, we are also the most economical lab to use as well. Fewer errors, less rework time, and solid defensible data.

**Environmental Data Resources (EDR)** 6 Armstrong Road, Shelton, CT 06484 [www.edrnet.com](http://www.edrnet.com)  
 Todd Elmore, 706-818-3310, [telmore@edrnet.com](mailto:telmore@edrnet.com); Founded in 1990 by environmental professionals, EDR is headquartered in Shelton, Connecticut. Twenty regional offices are located throughout the United States. EDR is wholly owned by Daily Mail and General Trust, plc (DMGT) subsidiary **DMG Information**. Other DMGI companies include Trepp, Landmark Information Group, Lewtan Technologies and Genescape. For more information about EDR, please visit [www.edrnet.com](http://www.edrnet.com).

**ESP Associates, P.A.** 7204 W. Friendly Ave., Suite G Greensboro NC 27401 [www.espassociates.com](http://www.espassociates.com)  
 Paul Weaver, 336-267-2165, [pweaver@espassociates.com](mailto:pweaver@espassociates.com); ESP Associates with offices in Fort Mill, South Carolina and in Wilmington, Raleigh, Concord, and Greensboro, North Carolina. Providing Civil Engineering, Water Resources, Mobile 3D Mapping, 3D Laser Scanning, Geotechnical Engineering, Materials Testing, Special Inspections, Geophysics, Hydrographic Surveys, Transportation Geotechnical Engineering, Environmental Engineering, GIS, Landscape Architecture/Land Planning, and LEED services since 1986

**Geologic Exploration, Inc.** 176 Commerce Blvd. Statesville NC 28625 [www.geologicexploration.com](http://www.geologicexploration.com)  
 Matt Tischler, 800-752-8853, [mtischler@gexnc.com](mailto:mtischler@gexnc.com), Steve Taylor, 704-872-7686; Geologic Exploration is a full service environmental drilling contractor, specializing in monitoring and recovery wells. We also perform rock coring, packer testing, well abandonment, and other envi-

(Continued on page 34)

## Thank You, AEG Carolinas Sponsors!!

ronmental services.

**Prism Laboratories** P. O. Box 240543 Charlotte NC 28224-0543

[www.prismlabs.com](http://www.prismlabs.com)

Adam Phillips, 919-451-3370, [aphillips@prismlabs.com](mailto:aphillips@prismlabs.com)

Since its inception in 1992, Prism Laboratories, a woman owned small business certified company, has been committed to providing the highest level of quality analytical services and technical support to our customers in the environmental monitoring, water quality and waste disposal market. Our team of highly qualified professionals is focused on ensuring on-time delivery of accurate and precise analytical results, while working one on one with our customers to provide customized service to suit each client's specific requirements. Prism Laboratories is NELAC and DOD accredited, holds State certifications throughout the Southeast and maintains an extensive list of accreditations and memberships pertinent to the analytical testing and environmental monitoring industry.

**Pyramid Environmental** 503 Industrial Avenue Greensboro NC

27406 [www.pyramidenvironmental.com](http://www.pyramidenvironmental.com)

Doug Canavello, 336-335-3174, [doug@pyramidenvironmental.com](mailto:doug@pyramidenvironmental.com); Since 1990, as a professional, licensed engineering and geological firm, Pyramid has the expertise to research and analyze relevant environmental regulations, potential hazards, clean-up alternatives and environmental protection issues to design and implement solutions for environmental problems.

**Regenesis** 123 Ridgecrest Drive Greenville SC 29609

[www.regenesis.com](http://www.regenesis.com)

Drew Baird, PG, 864-240-9181, [dbaird@regenesiis.com](mailto:dbaird@regenesiis.com) 800-529-6364; Our mission is to develop, manufacture and market advanced, innovative technologies for the restoration or remediation of natural resources such as groundwater and soil. Regenesis' efforts are driven by and focused on technology performance, customer needs and cost-effectiveness. Looking forward, we will seek out and explore new technologies for the prevention and/or remediation of a broad range of environmental concerns.

**Shamrock Environmental Corporation**, 6106 Corporate Park Drive,

Browns Summit, NC 27214; [www.shamrockenviro.com](http://www.shamrockenviro.com); Rick Wigal, 336-375-1989, [rwigal@shamrockenviro.com](mailto:rwigal@shamrockenviro.com)

*Our sponsors are a valuable resource for the funding of meetings, outreach and educational programs. Please honor their support by giving them your business. If you don't see your company name here, contact our sponsor chair, Rick Kolb at [rick.kolb1@gmail.com](mailto:rick.kolb1@gmail.com). for sponsorship information, or fill out and mail the Sponsorship form on page 34 in this issue.*

***You may also renew or join our sponsors online at [www.aegweb.org](http://www.aegweb.org).  
Consider becoming a national AEG Sponsor!***