

GEO NEWS

Newsletter of the Association of Environmental & Engineering Geologists, Carolinas Chapter
2009, 2011, 2013, and 2015 AEG Chapter of the Year

FALL 2016



IN THIS ISSUE

Fire, Earth, Rain, and Jerome DeGraff	6
Boone Field Trip	8
Education News	15

SAVE THE DATE

Fall Meeting
October 26, 2016
Natty Greene's
Greensboro

GEONEWS Fall 2016
Issue Date: June 21, 2016
TABLE OF CONTENTS

Articles and Reports

2016-2017 Jahns Lecturer Presents Fire Earth, and Rain: Emergency Response for Wildfire-Induced Landslide Hazards	6
Field Trip Photos: Linville-Boone Edition <i>by Sue Buchanan and Jennifer Bauer</i>	8

Columns and Regular Features

Message from the Chair <i>by Madeline German</i> ...	3
GeoRamblings <i>by Dr. Charles Welby</i>	4
Education: Education News <i>by Randy Bechtel</i> ..	15
Announcements	19

Board Business

Treasurer's Report <i>by Eric Cross</i>	5
Minutes for June 12 Board of Directors Meeting <i>by Rebecca Deal</i>	11

Forms and Flyers

Calendar of Events	21
Third North American Symposium on Landslides	24
AEG Membership Application	25
Sponsor Application	26

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

AEG Carolinas Chapter Website www.aegcarolinas.org

AEG National Website www.aegweb.org

GeoNews Editor Jennifer B. Thomas, P.G.
jen@jennotecllc.com

Cover: (Citizen-Times) Wildfire in Madison County, North Carolina

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MESSAGE FROM THE CHAIR

By Madeline German, P.G., Carolinas Chapter Chair

Greetings Carolinas Chapter!

Our second joint meeting and field trip for 2016 was held in Boone on August 26th and 27th. The meeting was well attended with 40 professionals, professors and students. The networking social began by viewing the amazing geology collection at the McKinney Geology Teaching Museum then moved to a BBQ picnic outside in the Rankin Rock Garden. Dr. Arthur Merschat (USGS), Jessie Hill (UNC PhD candidate) and Keith Seramur, PG (consultant) presented talks on the “Evolution of the Linville Falls Fault Zone and its Influence on Topographic Relief and Slope Stability Today”. On Saturday we enjoyed a full day including rock collection at the newest Highway 321 outcrop, examined and discussed not only Paleozoic deformation and mountain building, but also over-printing brittle structures and geomorphic evidence for later reactivation of the Linville Falls fault, and made several landslide-related stops. A huge thank you to **Crystal Wilson** and the geology department at [Appalachian State University](http://www.appalachianstate.edu) for their hard work in organizing a fantastic meeting and field trip.

Coming up in October we have the Jahns Lecture Tour with Jerry DeGraff. He has a busy schedule planned, but if you will be near any of his venues, it will be worth your time to visit. His speaking schedule is as follows:

Monday (10/24)	Furman (10:30 AM) and Clemson (4:30 PM)
Tuesday (10/25)	Western Carolina (noon) and UNC Asheville (3:15 PM)
Wednesday (10/26)	UNC Charlotte (9:30 AM) and Guilford College (TBD, afternoon)
Thursday (10/27)	UNC Chapel Hill (noon) and NC State (4:00 PM)
Friday (10/28)	Wake Tech (9:00 AM) and Brewery Social (5:00 PM)

Additionally, Jerry will be speaking at our Fall Chapter meeting held at Natty Greene’s in downtown Greensboro on Wednesday October 26, 2016. He will be presenting “Fire, Earth & Rain: Emergency Response for Wildfire-Induced Landslide Hazards.” I look forward to seeing you all there.

At the Boone meeting we held a 50/50 raffle for the Carolinas Scholarship fund and though the generous donation of the winnings, we were able to raise \$130 dollars for the scholarship. Please encourage all the undergraduate geology majors in the Carolinas to apply.

Over the summer the membership voted and your current Carolinas board is composed of:

Madeline German – Chair
 Susan Kelly – Vice Chair
 Eric Cross – Treasurer
 Rebecca Tinnel - Secretary

(Continued on page 4)



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 •
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 FAX: (910) 484-4978
 MOBILE: (910) 322-5000
 mark.vestal@cci-env.com

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 Greensboro, NC 27416-0265

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 (866) 545-9507
 Fax (336) 691-0648
 doug@pyramidenvironmental.com
 www.pyramidenvironmental.com

(Continued from page 3)

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

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

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



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



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

mclaurinbt@subhorizonresources.com

Georamblings By Charles W. Welby

Many readers are an individually skilled player of a musical instrument, I am sure. So how does one's mind relate (or perhaps not?) To the music and geology? Perhaps we all have some memory or concept of the "Music of the Spheres". Others may have other ideas about music and geology. After many years of not playing the piano, I have returned to refreshing my skills to relax and to move away from the day's events, fun or not so much fun late in the evening, and to think about earlier times in the last century, like "Old Dog Tray". Thoughts sometimes stray to geology and the earth's surface and a bit of the subsurface.

Some music, gentle in its sounds, reminds me of rounded hills of the Temblor Range in California. Other pieces of music, perhaps more vigorous, remind me of the more sharp topography of other mountain ranges. Certainly the sharp topography of the Yosemite Valley brings some more sharper to mind. In contrast, one can think of a Strauss waltz as being an emulations of a flowing, meandering river, and using the back of one's thumb to play 1/64 notes on a piano can emulate in one's mind the sudden movement of a fault and the destruction caused by the accompanying earthquake.

If you should desire an interesting book about faulting and earthquakes and their effects on civilizations and politics, the book by Andrew Robinson, *Earth Shattering Events: Earthquakes, Nations, and Civilization* published by Thomas and Hudson, London will provide you with some interesting reading about how earthquakes have done more than destroy major cities. They have also affected how certain political bodies within various countries have reacted (some of it serious name-calling.)



ESP Associates, P.A.
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7204 W. Friendly Ave., Suite G
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Paul M. Weaver, P.G.
pweaver@espsociates.com

office: 336.232.5210
mobile: 336.287.2165

AEG CAROLINAS CHAPTER 2Q TREASURER'S REPORT*By Eric Cross, Chapter Treasurer*

AEG Carolinas Section Treasurer's Quarterly Report
March 31, 2016 to June 30, 2016

BALANCE As Of June 31, 2016

Checking Account	\$4,754.93
Savings Account	\$14,696.70
	<u>\$19,451.63</u>

INCOME**Sponsorships**

2016 Sponsors	\$3,045.00
Newsletter Ad	\$60.00

Meetings

January Meeting	\$415.00
April Meeting	\$3,640.00

National

Dues deposits	\$100.00
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Interest

Savings Account	\$1.83
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SUBTOTAL - INCOME	<u>\$7,261.83</u>
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EXPENSES**Banking Fees**

Paypal fees	\$132.47
Online deposit fees	\$6.00

Meeting Expenses

April meeting, field trip	\$4,534.43
Wilmington meeting venue	\$857.25

Additional Expenses

Sponsorship refund	\$100.00
Visiting Professionals food, expenses	\$906.80
Mid-year National Board meeting expenses	\$480.34
Membership dues payment (to Ntl. for direct pay)	\$150.00

SUBTOTAL - EXPENSES	\$7,167.29
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BALANCE As Of June 31, 2016

Checking Account	\$4,847.64
Savings Account	\$14,698.53

TOTAL	<u>\$19,546.17</u>
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2016-2017 Jahns Lecturer Presents Fire, Earth and Rain: Emergency Response for Wildfire-Induced Landslide Hazards



Jerome De Graff has been named the 2016-2017 Richard H. Jahns Distinguished Lecturer in Applied Geology. The Jahns Distinguished Lectureship, established in 1988, is sponsored by the Association of Environmental and Engineering Geologists and the GSA Engineering Geology Division. Its purpose is to provide funding for distinguished engineering geologists to present lectures at colleges and universities in order to increase awareness of students about careers in engineering geology. The lectureship is named in honor of Dr. Richard H. Jahns (1915 - 1983), an engineering geologist who had a diverse and distinguished career in academia, consulting and government.

Biography

During most of his 36 years in the US Forest Service, Jerome (Jerry) De Graff served in positions designated as being either an environmental or engineering geologist on National Forests in Utah and California. In those capacities, he collected and interpreted geologic information needed for sustainable development, multiple-use management of natural resources, and emergency response. Jerry acted as the in-house geologist providing information about geomorphic processes, groundwater conditions, and other relevant geologic information. During his last 6 years, he was a Forest Service On-Scene Coordinator for Superfund-type issues and responses at abandoned mines and other Forest Service sites in California. Since retiring from government service in February 2014, Jerry continues his geology career teaching graduate courses for the Department of Earth & Environmental Science at California State University-Fresno, acting in editorial and

related capacities for various professional journals, and being active in professional organizations.

All through his geology career, Jerry has been active in professional organizations; notably the Geological Society of America (GSA) and the Association of Environmental & Engineering Geologists (AEG). He joined GSA in 1972, was made a Fellow in 1983, and served as Councilor from 2006-2010. In addition to holding the Chairmanship and other leadership positions in GSA's Engineering Geology Division, Jerry received their Distinguished Practice Award in 2004. He was honored with their Meritorious Service in 1997 and in 2011. Jerry joined AEG in 1980 and chaired their Committee on Landslides from 1984 to 1995. He received presidential citations in 1995 and 2013 in appreciation for his service to AEG. Jerry is presently vice-Chair of the San Joaquin Valley Chapter in AEG's Sacramento Section.

A native of the Finger Lakes region of upstate New York, Jerry graduated from State University of New York-Genesee with a BS in Education/Earth Science in 1967. He continued to take geology courses there for six years while working full-time. During the last five years while an instructor at the Strasenburgh Planetarium (Rochester, NY), he realized he was too interested in what was beneath his feet to continue talking about what was happening among the stars. So Jerry and his wife moved west where he earned an MS in Geology from Utah State University in 1976. A job offer from the US Forest Service following a year as a USU researcher seemed more attractive than his original goal of returning east to teach in a community college, so he took it and never looked back.

While not hired as a researcher for the US Forest Service, Jerry often undertook extended studies in order to generate needed geologic information. Other opportunities to gain geologic information occurred during overseas assignments in the Caribbean, Thailand, and Italy. When the results seemed interesting, he would make an effort to share the information through presentations at conferences or in publications. Consequently, he has authored or co-

(Continued on page 7)

Chad D. Northington, PE

Southeast District Technical Manager



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(Continued from page 6)

authored more than 60 contributions to journals, books, and proceedings volumes. With Dr. Robert B. Johnson, he co-authored the textbook, **Principles of Engineering Geology**, which was awarded GSA's E.B. Burwell Jr. Memorial Award in 1989 and AEG's Claire P. Holdredge Award in 1990. In 2010, Jerry received the annual AEG publication award for the paper, "The formation and persistence of the Matthieu landslide-dam lake, Dominica, W.I.", published in the journal, **Environmental and Engineering Geoscience**.

Abstracts

The main talk being offered by Mr. De Graff is "Fire, Earth & Rain: Emergency Response for Wildfire-Induced Landslide Hazards".

- **Fire, earth & rain: emergency response for wild-fire-induced landslide hazards:** Wildfire is a unique natural hazard because it poses immediate threats to life and property as well as creating conditions that can lead to subsequent debris flows and accelerated rock fall. This is a significant problem in the western U.S. where large wildfires have become more frequent since the mid-1980s. Limiting the impact of these post-fire geologic hazards requires determining their likelihood and location within the burned area. A rapid assessment is needed to ensure mitigation measures can be implemented prior to initiating rainfall.
- **What does it take to effectively monitor for environmental and engineering geology projects?** Monitoring is often part of environmental or engineering geology projects. Monitoring of surface crack development over an active coal mine, herbicide movement in groundwater, and long-term temperature and pH trends in an areas of hot springs illustrate how this activity can develop information important to project objectives. The presentation will also explore how to ensure the effectiveness of monitoring efforts.
- **The challenges of providing landslide information during an emergency response:** A geologist may find themselves being a member of a team called as part of an emergency response when a destructive landslide happens. Being successful during such a stressful and intense assignment requires rapid acquisition of needed geologic information. Experience with a large landslide event damming a river in Dominica, West Indies in 1997 and a large rock slide which buried a major highway in California in 2006 illustrate strategies for effectively accomplishing the tasks necessary to provide required information.
- **Dealing with hazardous mine openings— blasting is not always a good option:** Openings into abandoned mines can pose a physical hazard that is not always apparent to the general public. There is a continuing effort by State and Federal agencies with mining or land management responsibility to implement measures to prevent people from entering abandoned mines. Often the suggestion to just "blast the opening shut" is advanced as being a reasonable way to handle the problem. This presentation explores a number of reasons why this approach is not as simple as it would appear and one situation where this option turned out to be the best approach.

The story of the Matthieu landslide-dam, Dominica, West Indies: Natural dams created by large landslides blocking rivers are found in many parts of the world. Upstream flooding from impounded water is often followed sometime later by downstream flooding. Consequently, these impacts call upon geologist involved with such events to make predictions or forecasts, especially about when later downstream flooding will take place. The behavior of the Matthieu landslide dam in the small island nation of Dominica in the eastern Caribbean clearly illustrates how far off the mark these predictions can be.

Contact:

Jerome V. De Graff
Department of Earth & Environmental Science
California State University-Fresno
5241 N Maple Ave
Fresno, CA 93740
jdegraff@csufresno.edu

Fall Meeting Announcement:

October 26, 2016

5:30-9:00

Natty Green's, Greensboro, North Carolina

Jerome DeGraff speaking

Contact Alex Rutledge

frutledge@schnabel-eng.com for reservations



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Field Trip Photos: Linville-Boone Edition

Susan Buchanan and Jennifer Bauer



Jennifer Bauer

Group shot of field trip attendees (above)



Trip leaders Jesse Hill and Arthur Mersch (left)

Susan Mickiewicz



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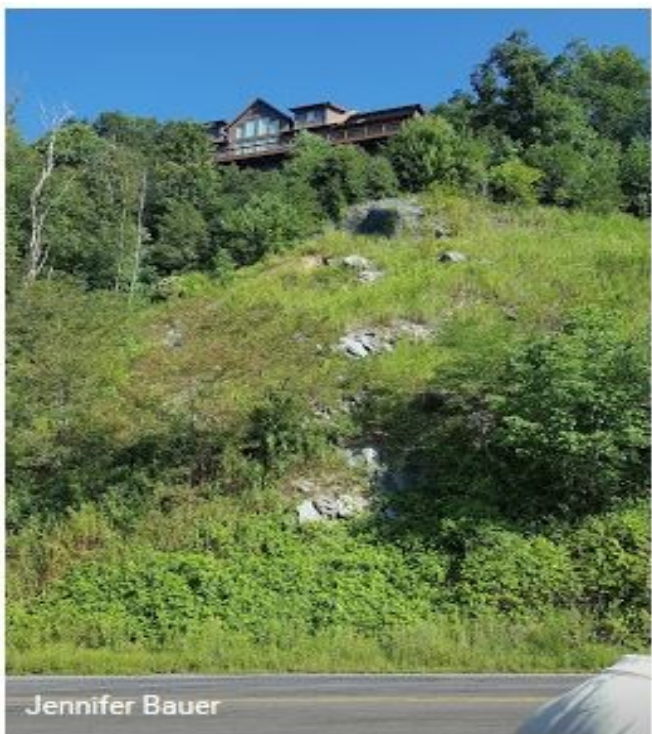
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Blowing Rock Gneiss as seen in a road cut on US Highway 321

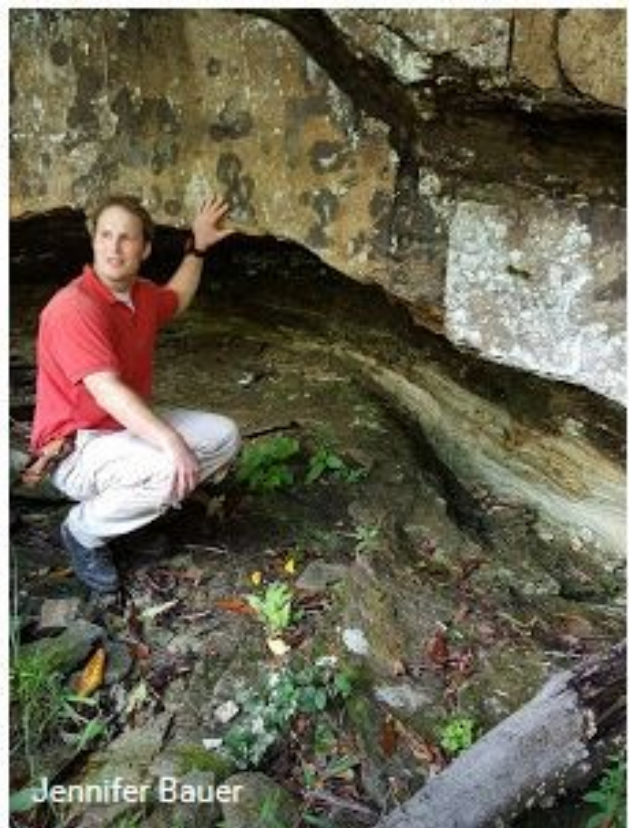


Unstable slope over parking lot in Boone; note the broken boards where a rock is breaking through



Site of 2006 landslide (above)

Arthur Merschat discussing the Linville Fault (right)





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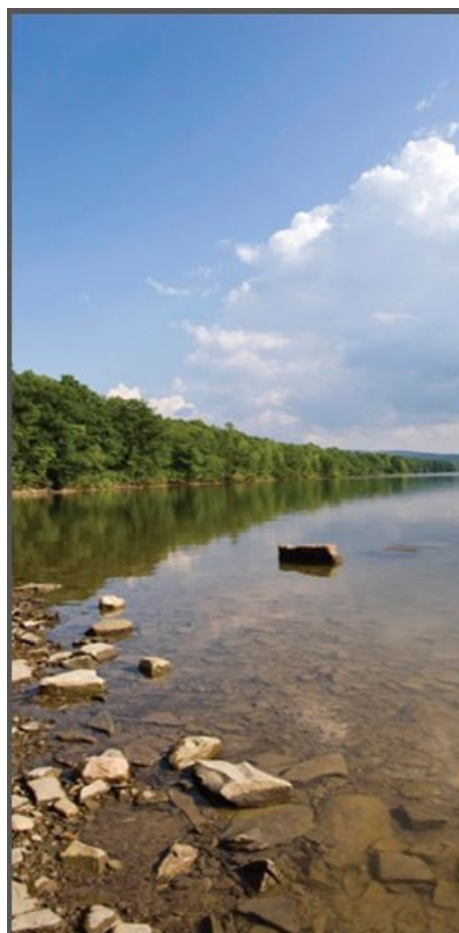
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Minutes for June 12, Board of Directors Meeting

By Rebecca Deal, Chapter Secretary

10:00 AM - Raleigh

Call to Order

Roll Call – Determination of Quorum

Walt (Sponsor Chair)
 Alex (Past Chair)
 Eric (Treasurer)
 Susan K. (Vice Chair)
 Jane (Advisor)
 Maddie (Chair)
 Rebecca (Secretary)
 Sue B. (Field Trip Committee Chair)

5 of the 5 members of the Carolinas Section Board of Directors were present- Quorum obtained.

Carolinas Section Finances – Eric

Review of current section finances

Checking Account	\$4,837.64
Savings Account	\$14,69.93
Pay Pal Account	\$663.01
Total	\$20,198.58

Review of meeting Finances

Ideas/Action items to reduce meeting losses

Increase meeting cost

Board decided against increasing meeting costs at this time, Rick would prefer to increase meeting cost and sponsor fees.

Less Food/No dessert

Judge food options per venue more strictly.

Shop around for venues more and further in advance.

No more desserts to help with cost.

Sponsors to help with meeting?

Like this idea, add sponsor a student to pay pal check out as a pop-up during check out. Need to look into the options available.

Other

Use a baseline of \$1,000 income for each meeting, when planning.

Bank Account Changes – from MYBM

Need new bank

Lawyers reviewed the new AEG bylaws and discovered we are out of compliance with CA law. At the national level AEG is revising the financial structure of AEG to provide flexibility at the Chapter level but to still

comply with CA Law and the AEG bylaws. One of the items we need to do locally is have someone from the EC on the account. To do this we likely need a new bank that allows for electronic signatures.

Kevin the current AEG national secretary will be added using electronic signature to the Carolinas Chapter account.

Action Item: Contact banks, Alli, Synchrony to see about online banking and electronic signatures.

Monthly bank statements now required to be submitted to Headquarters.

Contract policy

Major contracts (especially those for transportation companies and hotels) must be reviewed by headquarters and signed by the AE president (currently Paul Santi). Whoever is signing the contracts is taking responsibility and personal liability for these events and any accidents that may occur during these events. This is not a burden a volunteer should have to bear; therefore the Chapters will be making a more concentrated effort to ensure they are shifting the liability to the organization as a whole.

Updates to card reader – unable to use without access code.

Issue now resolved. Eric and Susan worked together to update the contact information and passwords so the AEG board will be able to access and utilize the card reader Discussion on having a money market account for the chapter. No action items at this time.

*Carolinas Section sponsorship of the 2016 AEG Annual Meeting

Past donation amount \$1,500

Suggestions for sponsored activities.

Women in AEG \$750

Speakers and Moderators \$625

Maddie made a motion to sponsor the 2016 Annual meeting in an amount of \$1500. Alex seconded the motion and it was passed unanimously.

Who is planning to attend?

Maddie

Paul, likely as regional director

(Continued on page 12)

(Continued from page 11)

*NCSTA conference and Earth Science Kits - Maddie

October 20-21, Kouray Convention Center, Greensboro

Randy expects a larger turnout than 2015 as the conference moves back to Greensboro and they historically had higher attendance at this venue. Next year will also be a rock giveaway year.

2015 sponsorship

OESE and OEST awards (\$500)

Earth science kits 400? 500? (~\$2,000)

Booth shipment (\$100)

Randy has requested sponsorship of the earth science room again (\$1,000).

Alex made a motion to sponsor the OESE and OEST awards, Earth Science Kits, Booth Shipment and the Earth Science Room for 2016. Rebecca seconded the motion and it was passed unanimously.

As long as we have the money, we would like to continue to sponsor these events at the NCSTA conference.

Sponsor Update – Walt

Renewals are about the same as last year, still plan on emailing a few people.

Summer Field Trip & Meeting – Boone – Sue B.

Staff from ASU will present at the meeting and the field trip

Meeting: Friday August 26 in Rankin Science on ASU campus

Catered, no alcohol, expecting/ planning for a lower than average turnout.

Fieldtrip guidebooks are being written up by Crystal.

Everything is good to go!

Action Item: Send out email blast for Boone trip.

This coming Monday, 7-13-16

First weekend in July

Mid July 20 regarding last chance

for discounted rates

August 8 for last chance

Field Trips – Help for Sue

A lot of work for one person (compare to planning 1 day conferences two times per year)

Yes, move to one per year

We need to find people, even student volunteers to help to keep these moving forward. **Rick Wooten was a suggested name to help with planning Field Trips**

Ideas for Annual Meeting in Asheville – send suggestions to Susan Kelly, she is field trip chair for the 2019 meeting. Sue B. forwarded her the ideas list we generated in the 2016 June Carolinas Board meeting.

Options to make available to public (outreach)

Some Ideas for next year's spring / summer trip

Contact Carolina Geologic Society for cross meeting possibility.

Lake tour with Engineering Geology.

South Carolina options would be a good way to connect with South Carolina members, and grow a SC contingent of AEG.

Asheville Meeting

Not this year since we have Boone in August and Greensboro in October

2015-2016 Jahns Lecture Tour – Susan K.

Proposed schedule for the week of October 27th fly into Greenville, visit Furman, Clemson, UNCC, Guilford, UNC CH, NCSU and Wake Tech

Schedule confirmations

Clemson 10/23, Western 10/25, UNCA 10/26, UNCC 10/26, Guilford 10/26, UNC & Wake Tech 10/27, NC State 10/28

Action Items?

Drivers

Maddie 10/27

Alex

Paul

(Continued on page 13)

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.



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(Continued from page 12)

Susan K.
Rebecca

Susan will finalize the schedule and send it out as soon as it is planned.

2016-17 Jahns Lecture – Dr. Scott Anderson
Start requesting time on his schedule now for late march / early April. Make sure that the schools are not a spring break. Action Item: Susan to contact Dr. Anderson.

Future Speakers

Dale Andrews- Incoming AEG President – January in Charlotte, Maddie to contact and see when is a good time

Terzaghi Lecturer

Dependent on Finances

Cyrus Parker – DOT

Martin Woodward

Kenneth Taylor

Student Meetings

Done in most of the other sections, 1X per year very successful for students to practice presenting a poster or research topic, Typically 5-7 minute presentations.

Likely a loss financially

Perhaps include only one or two before a regular speaker, not as a whole meeting.

Membership Update –Russ

How are renewals looking?

80 paying members

Ideas to keep members and also gain new members:

Member brings a non-member, dinner discount

If join at meeting receive a free dinner

Renewal reminders (targeted emails)

Maddie check if reduced price then email out list of people that need to renew memberships and we will contact people we know personally, then she will assign people to contact.

Student Membership – Retention Ideas from MYBM

Have students involved in volunteering at the meetings.

AEG Student Poster Session Presentation (3-4 posters) or slide show.

Have students sign up with an email account other than their school account.

Russ to contact students.

Get professors to see value in AEG, they are a large influence on students; need to convince them that AEG (practical application) has more value than only theoretical (GSA).

Newsletter – Jennifer Thomas

Newsletter to go out next week.

Regional Director– Maddie

Paul Weaver will be running uncontested for Regional Director to represent the Southeastern Region; we should expect to see ballots in July. **Please vote for him when you receive your ballot.**

Social Committee – Adam

Any activities planned for the summer or into the fall? (Durham Bulls/Brewpub socials)

Each board member to represent their city and come up with Social events.

Updates on US National Whitewater Center in Charlotte, (Rebecca and Joanna did some research on this as well) – **Postponed due to recent events and water quality issues.**

Visit to NC Museum of Natural Sciences Tabled due to Chris health issues. Consider again for next winter? – Wait on updates from Rick.

2019 Asheville Meeting – Paul

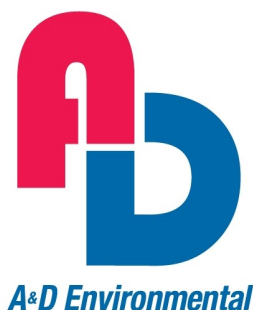
Any announcements or updates for the group

Working on the meeting, everything is moving along well. First planning meeting was a success. The mill room is an option for the Asheville meeting. Jane created a nice logo. We are currently looking for bands and locations to house the special event.

Visiting professionals – Rick

Rick would like to step down from this position. Thank you Rick for your dedication to the future geologists of the Carolinas and surrounding states. He put an ad/article in the

(Continued on page 14)



Scott Pearce
Vice President

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summer edition of GeoNews. Asked Cyrus Parker, he declined due to other obligations; but is happy to still speak when needed.

Other ideas for a dedicated volunteer replacement?

Kristen Lloyd, but travels a lot.

Look at list in article of those who have given more than one VP talk and send targeted emails.

Communication and Social Media - Joanna

Reminders to apply for and donate to the Carolinas Section Scholarship. These should pop up at least every other week

Need to start adding interesting articles

Each board member to post one interesting article each week to the Facebook page.

Discussion to add a student volunteers to work social media to tap into the younger generation?

Scholarship – Paul

First Awardee Ashleigh Nicole Kirker – Rising Junior at College of Charleston.

\$2000 scholarship!

Plans, updates, ongoing fundraising.

Made ~400/500 from the 50/50 raffle so far this year

Action Item: Add pop-up to PayPal check out to Donate to scholarship fund.

Paul to contact Bridget about if award winner notified and allowing the chapter to be notified so we can announce as well.

Chapter to consider making an annual donation of \$200, not done yet for 2016.

Legislation to disband Arizona geology board

i) ALEC pushing this move to eight other states

The goal of ALEC is to eliminate licensure for Geologists and many other professions. Geology was on their list in Arizona but it did not pass. Contact Kenneth Taylor to see what we can do or if they are making motions in NC.

ii) This was discussed at the MYBM as a poten-

tial threat to all licensure in all states. We need to be vigilant because they will start with smaller professionals such as electrolysis providers or foresters, (as were recently discussed in NC).

Ideas for next conference

i) Repeat VI?

ii) Other Ideas?

Coal Ash, Regulators, Consultants

ii) Potential timeline?

Establish a team to spearhead this by the end of summer, and email ideas to Maddie for topic, location, and time line.

iii) Upcoming Annual Meetings - FYI

2017 Colorado Springs, Co

2018 International AEG meeting San

Francisco

2019 Asheville, NC

2020 Portland Oregon

Develop model for VI conference that can be exported and implemented successfully in other sections – Rick/Maddie

request from Paul Santi

Maddie presently working on cookbook style instructions on how to plan and implement a successful conference at the chapter level. To be distributed through the meetings advisory committee.

MYBM Updates – Maddie

Ideas to get and keep good volunteers

Renaming – Carolinas

Strongly encouraged to re-work the section into the chapter model

Update GeoNews and Website to be for the Southeastern Region, more to advertise etc.

Greater exposure for sponsors

Encourage volunteers, and utilize more volunteers. More chapters provide more opportunities for leadership and help's to spread the work around.

Bridget suggestions to encourage membership and volunteers in SC.

(Continued on page 15)

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(Continued from page 14)

Work on starting South Carolina Chapter.

Need to make more efforts to convert student members to full members

Future of AEG

Meetings policy in draft form – likely voted on in Kona – meetings advisory and finance committee working on presently.

Options to maintain connectivity between chapters/former sections

EDUCATION**Education News**

By Randy Bechtel, North Carolina Geological Survey

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

The NCSTA-PDI is back in its old stomping grounds this year, but with an earlier date:

October 20-21, 2016 at the Koury Convention Center in Greensboro, NC

Registration is now open for participants and exhibit booths www.ncsta.org

2016 Outstanding Earth Science Teacher (OEST) and Educator (OESE) Awards. The Carolinas Section of AEG is a co-sponsor of both awards.

Each year the state winners of the OEST award are automatically submitted for the Southeastern Section of the National Association of Geoscience Teachers SENAGT to vie for the Section Level OEST Award.

I am very honored to announce, North Carolina's State winner was chosen as the **2016 SENAGT Section OEST Award winner, Ms. Lindsay Knippenberg** from Mooresville Senior High School (MSHS) in Iredell



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EDUCATION

County.

Here is an excerpt from her nomination package: “Ms. Knippenberg (Figure 1) has taught Marine Science and Environmental Earth Science for the past four years at MSHS. Prior to coming to North Carolina, she taught for seven years in the Detroit area. Her abilities in the classroom are exemplary as illustrated by the following example quoted from her nomination packet: “She welcomes all students into her room including some of our most disabled students. She believes that science is for everyone and that all students should have access to science courses. Therefore, she opens her classroom to all types of students. For example, one of her biggest challenges and successes was teaching a blind student science, Mary (Figure 2). As observation is a key component in the scientific method, many scientists rely on their sense of sight to record those observations. Creating labs, activities, and projects for Mary was challenging for Ms. Knippenberg. Each creation had to be converted to braille and had to allow the students to use more senses than just sight. Not only did this allow Mary to engage in the class, Ms. Knippenberg’s other students also benefited because they learned to use their other senses to aid in their observations. Some of my favorite experiences have been watching Mary identify rocks based on touch versus sight and having her assemble Pangaea based on the evidence for continental drift using different types of foam.”



Figure 1. Ms. Knippenberg (left) with her students at a stream table.



Figure 2. A blind student assembling Pangaea using tactile foams and a key in braille.

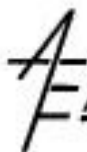


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The **2016 NC OESE award winner is Mr. Roger Shew** from UNC Wilmington in New Hanover County.

Here is an excerpt from his nomination package: “Mr. Shew (Figure 3) has been a full-time lecturer for 15 years at the University of North Carolina at Wilmington focusing on Earth, Ocean and Environmental Science. Previously he spent 20 years with Shell Oil and had the opportunity to be involved with research and teaching. His philosophy is one of data driven assertions supported with direct observation that leads the learner to make their own decisions about his learning objectives. He is never confrontational in his instruction but he is motivational and the learner often yearns for more knowledge when he is complete with his efforts. I often recommend many of my students studying science education to take

EDUCATION



Figure 3. Mr. Shew in the field with students

(Continued from page 17)

his classes when and where possible. Much of the material he covers in class can be easily adaptable to secondary science education.”

The OEST and OESE awards will be presented during the NCSTA-PDI award ceremony on the evening of Thursday Oct. 20, 2016.

To see previous winners and find out more about the awards, including the generous sponsors, visit the N.C. Geological Survey [website](#) (or google NC Geoscience Education).

“Rocking your Classroom” – Geoscience Education Room. AEG is the sole sponsor for this room and will receive free advertisement in the conference program and an exhibit booth.

The Carolinas Section of AEG is graciously sponsoring a room devoted to geoscience and earth science presentations called “Rocking Your Classroom.” This is the second year for this sponsorship and the first time in Greensboro. It is a dedicated room that allows scheduling of sessions in a coherent line-up and avoids conflicts of multiple geoscience sessions being scheduled at once. Having a single purpose room also provides a home base to draw participants. There will be a total of nine, one-hour presentations over the two-day conference.

Below is a list of the presentations. ***2016 SENAGT

Section OEST Winner; **2016 NC OESE Winner;
*Previous OEST or OESE winner:

What to do with your Rocks?! (Randy Bechtel)

***Engage and Inspire Students with Story Maps
(Lindsay Knippenberg)

**North Carolina Energy Resources: Supply,
Demand, Issues (Roger Shew)

*Out of this World: Activities About Outer Space
(Judy McDonald)

*Rockin' Geoscience Share-a-Thon (Carrie
Jones)

*Relative Dating...with Rocks NOT your Cous-
ins (Tim Martin)

Earth Science @ AppState: Resources for Teach-
ers (Marta Toran)

*All About Those “Bass-ic” Materials in Science
(Rebekah (Fuerst) Westneat)

*Now I have a box of rocks, what do I do with it?
(Mark Case)

The Rock Giveaway is back this year! The North Carolina Aggregates Association will be bringing barrels of rocks for tons of fun. Be sure to pick up your ‘bag-o-rocks’ full of samples from across our state then go to the Earth Science Room and attend a presentation to see how to use them in your classroom

Theme of the NCSTA-PDI and Literacy Workshop

The theme this year is ‘**Success in Science for All – Improving Student Literacy**’ with three strands:

Strand 1: ‘STEM for All’ will consist of the best classroom activities and examples for truly integrating the four areas of STEM.

Strand 2: ‘Let's Get Physical’ will focus on the area of Physical Science.

Strand 3: ‘Integrating Science and Literacy’ Sessions will demonstrate how to teach science concepts while requiring students to apply literacy skills to improve their reading, writing, speaking and listening.

In addition to the traditional professional institute sessions and exhibits, we are offering a separate workshop specially designed to show all K-6 classroom teachers the best practices for strengthening literacy skills through the use of STEM activities “STEM: The Key to Conquering Literacy”

Earth Science Week (ESW) Kits are here! ESW is October 9-15, 2016.

This year’s theme for the week is ‘Our Shared Geoheritage’. There are also daily themes such as International

(Continued on page 19)

EDUCATION

(Continued from page 18)

EarthCache, Earth Observation, No Child Left Inside, National Fossil Day, Geoscience For Everyone, Geologic Maps, and Archeology Day. For more information <http://www.earthsciweek.org/newsletter/2016/august>

The North Carolina Science Festival (NCSF)
www.ncsciencefestival.org

“This event is a multi-day celebration showcasing science and technology. This year the Festival will run from **April 7-23, 2017**. The Festival highlights the educational, cultural and financial impact of science in our state. Through hands-on activities, science talks, lab tours, nature experiences, exhibits and performances, the Festival engages a wide range of public audiences while inspiring future generations. This event offers an opportunity to celebrate science in fun and welcoming settings. It provides the opportunity to cultivate a positive environment which encourages children to pursue science-related careers and encourages businesses to invest in North Carolina.

(Continued on page 19)

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ANNOUNCEMENTS

Are you one of the lucky ones going to this year's Annual Meeting in the Waikoloa Beach Marriott in Kona? If so, be sure and stop by our Silent Auction Booth near the Exhibit area; look for the big **WELCOME - AEG FOUNDATION SILENT AUCTION** banner, and bid on one of the items donated to the AEG Foundation, or get a raffle ticket for a one-of-a-kind queen-sized quilt especially designed for this occasion by our North Carolina AEG Foundation Quilt Team. It is in shades of blue and green, with beautiful Hawaiian tropical fish appearing to swim by on the sides of the quilt. These are from original watercolors painted exclusively for the AEG Foundation by artist Kitty Montgomery.

Helping students and practitioners by raising money for scholarships and travel grants is the primary objective of the AEG Foundation, which is a 501(c)(3) organization, associated with, but separate from, AEG. All the proceeds of the auction this year will go towards the **Norman R. Tilford Field Studies Scholarship Fund**, this year's designated fund. For more info about our programs, go to www.aegfoundation.org.

If you are unable to attend AEG 2016, please consider donating \$5 or \$10 or more to the AEG Foundation to help support our worthy scholarship and grant winners. You may donate online at www.aegfoundation.org/donate/, or you may send a check, written out to the AEG Foundation, to: AEG Foundation, PO Box 161683, Boiling Springs, SC 29316. Remember, the AEG Foundation is a 501(c)(3) non-profit, so **all donations are tax deductible**. Please put AEG Foundation Fundraiser in the memo line of your check.

Please call or email me at the numbers below if you have any questions, or would like to see about being a sponsor or supporter of the **AEG Foundation**. We are so very grateful for our donors, who make all the scholarships, grants, and support programs possible. **THANK YOU!**

Jane Gill-Shaler, Silent Auction Chair
Director, AEG Foundation
janehgillshaler@gmail.com
336-687-6144



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EDUCATION

In an era when recent reports indicate that the United States is losing ground as the world leader in science and technology, and fewer students than ever are pursuing careers in science and technology, the North Carolina Science Festival energizes our state's effort to respond to these challenges while building new and stronger relationships among the education, business and cultural leaders who will lead that response.

Most importantly, scientists want everyone to know what they know – that science is fun!”

The North Carolina Science Festival is an initiative of [Morehead Planetarium and Science Center](#).

If you or your company are interested in participating, please go to the website: <http://www.ncsciencefestival.org/get-involved/host-an-event/>

Carolina Geological Society Meeting and Field Trip: Oct. 28-30, 2016 in Boone, NC

Geology of the Mount Rogers area, revisited: Evidence of Neoproterozoic continental rifting, glaciation, and the opening and closing of the Iapetus Ocean, Blue Ridge, VA–NC www.regonline.com/cgs2016

CALENDAR OF EVENTS - 2016

Geological Events in the Carolinas

Courtesy of AEG Carolinas Chapter – www.aegcarolinas.org. Last updated September 21, 2016

Send updates/corrections to Josh Hanks, Duncklee & Dunham, josh@dunckleedunham.com

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

Date: Thursday, September 22, 2016

Event: Groundwater Professionals of North Carolina Meeting

Presentation: Changing Our Views on Old Ideas to Promote Sustainable Bioremediation

Speaker: Dr. Kevin T. Finneran, Clemson University Professor, Department of Environmental Engineering and Earth Sciences

Cost: Members: \$35, Non-members: \$45, Gov.: \$20, Students FREE

Location: U.S. national Whitewater Center; 5000 Whitewater Center Parkway; Charlotte, NC; 28214

Time: Dinner Meeting and Speaker 5:30 – 9 PM.

Details: <http://gwpnc.org/meetings.html>

Date: Friday, September 23, 2016

Event: Geotech Bar-B-Q and Open House

Cost: Members: \$35, Non-members: \$45, Gov.: \$20, Students FREE

Location: Geotech Raleigh Service Center; 2517 Noblin Road, Suite 103; Raleigh, NC; 27604

Time: 11 AM to 6 PM

Contact/RSVP: David Hathaway;

DavidH@geotechnenv.com

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

Date: September 25-28, 2016

Event: Geological Society of America Annual Meeting

Location: Denver, Colorado

Technical Session and Short Course Proposal Deadlines: February 1, 2016

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

Date: Friday, 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

Date: Thursday, October 13, 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/

Date: Thursday, October 20, 2016 (meetings are held on the third Thursday of the month)

Event: Meeting of South Carolina Association of Environmental Professionals

Presentation: TBD

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

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

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

Contact/RSVP: Laurence Leblang at [facebook.com/leblanlm](https://www.facebook.com/leblanlm) or leblanlm@dhcc.sc.gov

Date: Thursday, October 20, 2016

Event: Pretreatment 101 for Industrial Dischargers

Cost: \$50 Non-Members, \$25 NC-PC Members

Time: 8 AM to 3:15 PM

Location: Sheraton Greensboro Hotel at Four Seasons; 3121 West Gate City Boulevard; Greensboro, NC; 27407

Registration Deadline: Thursday, October 13, 2016

Contact/RSVP: Amanda Hill (919)-304-9220

Information: www.ncpretreatment.org

Date: Wednesday, October 26, 2016

Event: AEG Carolinas Section Fall Meeting

Location: Natty Greene's; 345 South Elm Street; Greensboro, NC 27401

Topic: What Does it Take to Effectively Monitor for Environmental and Engineering Geology Projects by Jerry DeGraff

Time: 5:30-7 PM Social, 7 PM Dinner, 8 PM Presentation

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

Details: <http://aegcarolinas.org>

Date: October 28-October 30, 2016

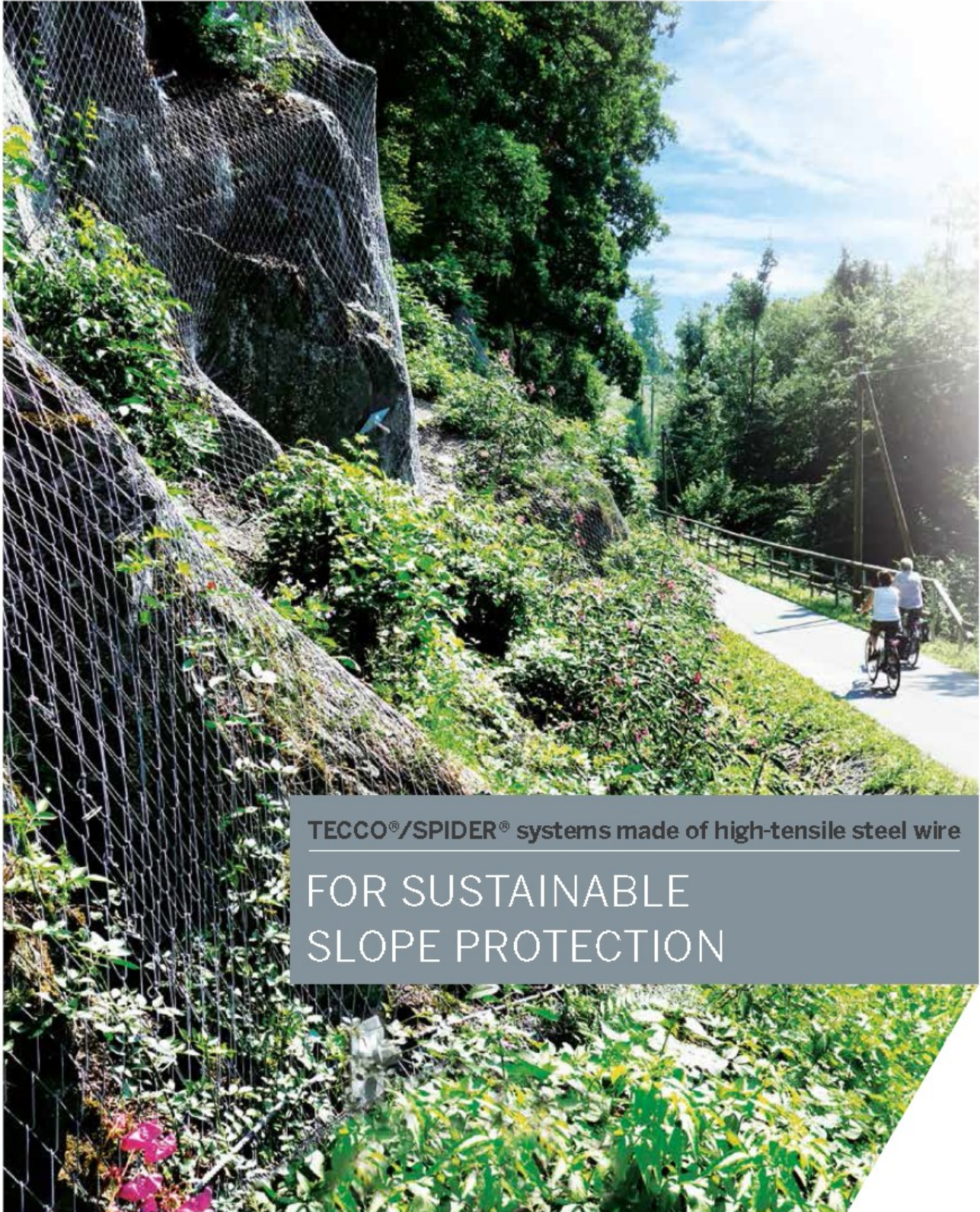
Event: Carolina Geological Society 2016 Annual Meeting and Field Trip

Topic: Geology of the Mount Rogers Area; Evidence of Neoproterozoic Continental Rifting, Glaciation, and

(Continued on page 23)



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(Continued from page 21)

the Opening and Closing of the Iapetus Ocean
Time: 6:30pm Social with Pizza & Beverages, 7:00pm
Presentation

Hotel: La Quinta Inn & Suites; 165 NC-105 Extension;
Boone, NC; 28607

Details: [http://www.carolinageologicalsociety.org/CGS/
Next_Meeting.html](http://www.carolinageologicalsociety.org/CGS/Next_Meeting.html)

Registration: www.regonline.com/cgs2016

**Date: Thursday, November 3, 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; Ra-
leigh

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

Date: November 4-November 6, 2016

Event: ASBOG Fall Workshop

Location: Lawrence, Kansas

Contact: ncblg@bellsouth.net

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 Associ-
ates; 3733 Benson Dr. Raleigh, NC; morning session

open to the public

Contact: ncblg@bellsouth.net

Date: September 10-16, 2017

Event: AEG Annual Meeting

Location: Colorado Springs, Colorado

Date: June 4-8, 2017

Event: 3rd North American Symposium on Landslides

Landslides: Putting Experience, Knowledge, and Emerg-
ing Technologies Into Practice

Location: Roanoke, VA

Date: September 2018 (dates to be determined)

Event: AEG Annual Meeting

Location: San Francisco, CA

Date: September 2019 (dates to be determined)

Event: AEG Annual Meeting

Location: Asheville, North Carolina



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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/>

MEMBERSHIP APPLICATION



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MEMBER:

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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.*

AFFILIATE:

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

TEACHER:

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

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:

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Preferred Phone:

☐ Home ☐ Work ☐ School ☐ Mobile

Preferred E-mail:

☐ Home ☐ Work ☐ School

Alternate Address:

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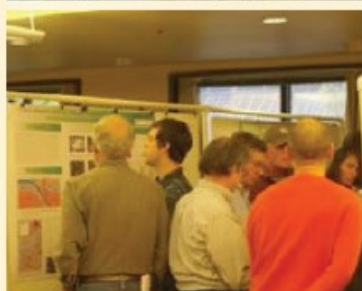
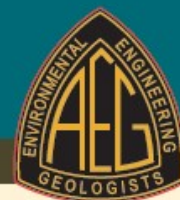
My signature attests that, to the best of my knowledge, I meet the academic and practice requirements for the membership class I have requested and that all entries on this application are true and correct. I also authorize AEG to charge my credit card for the dues payment, if I selected the credit card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

Connecting Professionals, Practice and the Public



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Anticipated Graduation Year: _____

Please check one: ☐ Student (free) ☐ New Graduate
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Submission Send this form to:

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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.

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

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

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