



# AO SECTION NEWSLETTER

APRIL 2013

Editor: Nate Saraceno

## Meeting Date

Wednesday, April 17th

## Time

6:00 PM - Social Hour /Poster Presentations

7:00 PM - Dinner

8:00 PM - Oral Presentations

## Location

Foster's Restaurant

Foster's Plaza 10

Pittsburgh, PA 15220

## Cost

\$25 Professionals

\$5 Students with ID

(Checks preferred)

## Reservations

c/o "Student Night"

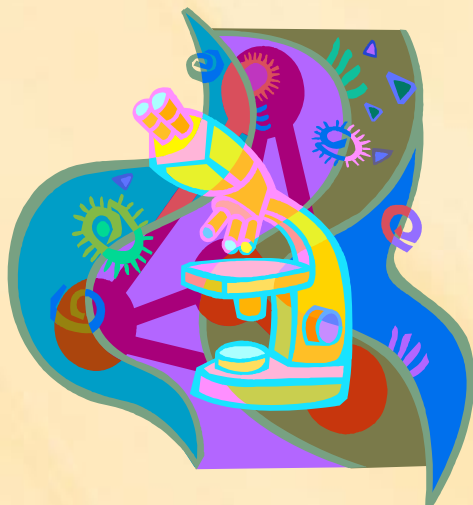
to Steve McGuire at:

[smcguire@chesterengineers.com](mailto:smcguire@chesterengineers.com)

or (412.809.6723)

E-mail  
→ Me ←

**RSVP BY Monday, April 15th**



## 11th Annual Student Night Hosted by AEG/PGS/ASCE on Wednesday, April 17, 2013

### AEG Oral Presentation Award

**Nidal Atallah, Kent State University**

*"An Investigation of the Origin of Rock City and Cause of Piping Problems at Mountain Lake, Giles County, Virginia"*

Mountain Lake is one of two natural lakes in the state of Virginia and a major tourist attraction. The lake's unusual formation in the non-glaciated portion of the Appalachian Mountains has prompted geologists to attribute its origin to either a natural solution collapse basin or to landslide damming of a local stream. My research study focuses on mapping and analyzing the displacement mechanics of large-size rock blocks present at the northern end of the lake in an area locally referred to as "Rock City". An additional objective is to investigate the piping of lake sediment associated with water loss into karstic bedrock, causing rapid water-level drops in recent years.

Mapping of the Rock City was conducted by taking GPS readings at the corners of the rock blocks and using ArcMap Software to generate maps. Investigations of the displacement mechanics of the rock blocks was done by taking measurements of the orientations of major discontinuity sets, including bedding, forming the rock-block boundaries. These data were compared with discontinuity data from the undisturbed outcrops using stereonet analysis. Sieve analysis, Atterberg limits, hydrometer analysis and permeability testing were used to evaluate lake sediment's susceptibility to piping.

Preliminary results show a high level of displacement of Rock City blocks with respect to undisturbed rock. Laboratory tests reveal that lake sediment consists of low plasticity silt and silty sand, which are known for their piping potential. The permeability tests demonstrate that that lake sediment pipes at hydraulic gradients exceeding 4.

Join us on Wednesday April 17 at 6:00PM



### AEG Poster Presentation Award #1

#### **Bryan Nicholson, California University of PA**

##### *“Monitoring Water Quality for Historical and Emerging Impacts, Washington County, PA”*

As pressure increases for energy resource exploration and extraction, water quality must be regarded with the utmost scrutiny, especially in areas of prior environmental stress. In southwestern Pennsylvania, a project is underway to acquire baseline water quality and monitor changes due to current impacts. Located near the California Borough, PA, data have been collected from local tributaries of the Monongahela River, the primary drinking water source for towns along its course, including Pittsburgh. Challenges to water quality exist due to historic coal mining, increased infrastructure development, and the potential impact of shale gas exploration and extraction within the local watersheds. It is impossible to attain a water quality background before historic coal mining began, but the chance remains to acquire background data before drilling activities mature in the area. The area of study, primarily within Washington County, is characterized by hill and valley topography with numerous streams and a humid continental climate. Land use varies from localized, sporadic development, especially along the Monongahela River, intermixed with agricultural development. Our primary target, Pike Run, responds quickly to precipitation, generating concern for the ability of the stream to dilute contaminants, especially during low-water level times between rain events. Conductivity, temperature, water level, and precipitation data in four different watersheds were collected. Our primary variable, conductivity, tells little by itself, but may indicate stresses to the health of a stream, especially when compared to flow (and precipitation). Conductivity values for Pike Run have been measured as high as 1200  $\mu\text{S}/\text{cm}$  and average about 680  $\mu\text{S}/\text{cm}$  during this 14 month study. Based on EPA standards we find the consistently high values troubling compared to other streams. When considering precipitation events, conductivity decreases indicating normal dilution. However, rapid rebound of values to above-acceptable levels is the norm.

### AEG Poster Presentation Award #2

#### **Emine Mercan Onur, Kent State University**

##### *“Predicting the Permeability of Sandy Soils from Grain Size Distribution”*

Permeability is one of the most frequently used properties of sandy soils. It is well known that grain size distribution and relative density influence the permeability of sands but this influence has not been quantified. The objective of my research was investigate the quantitative relationships between permeability and grain size distribution parameters such as effective particle size ( $D_{10}$ ), coefficient of uniformity ( $C_u$ ) and, coefficient of curvature ( $C_c$ ), and to determine whether these relationships could be used for reliable estimates of permeability. I performed laboratory tests on six samples of sandy soils, ranging from well graded to poorly graded, to determine their grain size distributions,  $D_{10}$ ,  $C_u$  and,  $C_c$  values, as indicated by the grain size distribution plots, and maximum dry density and optimum water content values. Based on the compaction curves, I prepared five replicate samples of each soil at varying dry density values and determined their permeability values using the constant head permeability test. Data analysis shows that permeability decreases with increasing density, reaching its lowest value slightly dry of the optimum water content. The analysis also shows that  $D_{10}$ ,  $C_u$  and  $C_c$  can be used for estimating permeability of sandy soils when lack of equipment or time constraints may not allow conducting the permeability tests. Among the three grain size parameters  $C_c$  appears to show the correlation with permeability.



**ASCE Oral Presentation Award**

**Blaise Bucha, University of Pittsburgh**

*“The Influence of Geology and Mining Layouts on Water Discharges from Pennsylvania Underground Mine Pools”*

Blaise Bucha, Undergraduate Research Assistant, Civil and Environmental Engineering, Swanson School of Engineering, University of Pittsburgh Acid mine drainage (AMD), has been an impact of legacy mining in southwest Pennsylvania for many decades. To combat AMD, mines are now required to leave a coal barrier between the mine workings and surface outcrops. Once the mine is closed, the workings fill with water. The barriers are intended to prevent the contaminated mine water from discharging to water sources on the surface.

However, even with barriers in place, discharges are still occurring. The analysis of three Somerset County mines, Grove No. 1, Solar No. 7, and Genesis No. 17, has shown that the geology of the area has a significant impact on whether or not discharges occur. In the first two mines, discharges were facilitated by mining induced seismicity and by full extraction mining near the barrier, respectively. On the other hand, the Genesis No. 17 barrier has proven successful to date at preventing discharges from the mine pool to surface waters.

Students led by Dr. Anthony Iannacchione at the University of Pittsburgh are working to develop more effective design criteria for coal mine barriers, taking into account geologic factors. Case studies are conducted using ArcGIS software to create 3-D models of mines and their geologic surroundings. These models, along with site visits, measurements, and interviews are used to determine factors associated with barrier performance. The final product of the analysis will allow coal companies and regulatory agencies to design functional barriers based on each mine’s specific geology to prevent the occurrence of AMD discharges.

**Come support our students!**



**ASCE Poster Presentation Award #1****Matthew Miller, California University of PA***“Assessing Groundwater Contribution from AMD Treatment Ponds to Lake Arthur, Moraine State Park, PA”*

It is well-known that legacy coal mining has had significant impacts on the environment, particularly in the Appalachian coal regions. Legacy underground mining is pervasive, especially in the western part of Pennsylvania. Moraine State Park is an example of an area with demonstrated impacts to water quality from mine effluent. Lake Arthur, the centerpiece of the park, is a reservoir of Muddy Creek, a low-order tributary of the Ohio River. Established in 1970, the lake is a destination for recreational fishermen, boaters, and wildlife observers. In order to create the lake and protect local surface streams, many of the underground mines were sealed. However, over time several have failed and it is not uncommon to find the characteristic orange effluent in tributary streams and seeps. In 1996, a passive wetland treatment system was established and singled out as an educational example of impacts of coal mining in the area and the potential remediation efforts. The three-pond system was estimated to have a life span of twelve years. Over the past several years, the ponds have been monitored by students at California University of PA for educational and research purposes. It has become apparent during that time that the ponds have begun to fail and are no longer buffering Lake Arthur from mine effluent. Iron hydroxide precipitates have accumulated in the beds of the first two ponds, reducing their volume and residence times. Low pH water continues through the system to the third pond where it is not adequately treated before emptying into the lake. In addition to the obvious surface water discharges, it is hypothesized that groundwater contributions through the beds of the ponds is also negatively impacting the lake. Topography alone would indicate that water from the ponds is emerging as a distributed discharge to the shores of the lake. Four piezometers have been placed in series to ascertain the impact of groundwater flow. Piezometric head data suggest a groundwater contribution from Pond 1 and possibly Pond 2, toward the lake. Additionally, temperature data suggest good communication between the groundwater system and the lake. With continued degradation of the ponds, it is likely that the impacts to Lake Arthur will increase over time and will negatively affect water quality.

**ASCE Poster Presentation Award #2****Matthew Waugh, Kent State University***“Characterizing Slope Stability of Colluvial Soils in Ohio Using LiDAR Data”*

Slope instability in colluvial soils is a recurring problem along roadways throughout the state of Ohio. Colluvial soils develop from the weathering and deterioration of the underlying bedrock and tend to move downslope under gravity. Colluvial soils are typically derived from shales and claystones, which are prevalent in southern Ohio. The objective of this study is to investigate the differences in engineering properties of colluvial soils in Ohio, and to evaluate the use of airborne LiDAR in differentiating between the types of slope failure that occur in shale-derived versus claystone-derived colluvial soils. To accomplish this, twelve colluvial slopes, adjacent to highways and affected by slope movement, were sampled in central and southern Ohio, six in each of the two types of bedrock. The engineering properties determined to date include slake durability indices of bedrock units, and natural water content, grain size distribution, and Atterberg limits of the soil samples. Additional laboratory tests will include direct shear tests of rock-to-rock and rock-to-soil contacts and x-ray diffraction analysis on clay fractions of bedrock and soil samples. LiDAR data, obtained from OSIP, were used to generate digital elevation models for identifying different types of slope failures affecting shale-derived versus claystone-derived soils. Preliminary laboratory results indicate that claystones are less durable than shales, and generally, claystone-derived colluvial soils have higher plasticity index values than shale-derived soils. Initial evaluation of LiDAR effectiveness indicates that LiDAR imagery may be useful in differentiating between rotational slides common in claystone-derived soils and translational slides common in shale-derived soils. The next phase of research will focus on slope stability evaluation using direct shear tests results.



**PGS Oral Presentation Award**

**Chantelle Parrish, West Virginia University**

*“Insights into the Appalachian Basin Middle Devonian Depositional System from U-Pb Zircon Geochronology of Volcanic Ashes in the Marcellus Shale and Onondaga Limestone”*

Numerous thin volcanic ash layers are found within the upper Onondaga Limestone and lower Marcellus Shale of the Appalachian basin. These ashes were sourced from continental arc magmatism along the Acadian orogen during the Middle Devonian. They form key stratigraphic markers, allow for geochemical analysis of parent magma, and most importantly, provide radiometric dates used in determining depositional rates and chronostratigraphic relations.

Zircons were extracted from ashes found in 8 well cores and 2 outcrops in PA and WV. The ashes range in thickness from 0.5-14 cm and are recognized by their buff color, abundant white mica, and high U/Th ratios in spectral gamma ray logs. The U-Pb age of each ash layer was determined by analyzing 12-15 spots on individual zircon crystals at the USGS-Stanford SHRIMP-RG laboratory. The youngest concordant  $^{206}\text{Pb}/^{238}\text{U}$  age populations were used to calculate average eruption ages also assumed to be coeval with the depositional age of each ash bed.

Conodont biostratigraphy for the Marcellus in the outcrop belt indicates a mid-upper Eifelian to lower Givetian age. However, our ash ages near the base of the Marcellus range from Late Emsian ( $396\pm 2$  Ma) to Late Eifelian ( $389\pm 3$  Ma), indicating that the basal Marcellus Shale was likely deposited diachronously. A trend is also apparent where the basal Marcellus is oldest in the western study area and becomes younger moving east, giving an age distribution which is inconsistent with the simplistic model of prograding Appalachian basin fill where the oldest sediments are expected closer to the eastern margin.

**Join us on Wednesday April 17 at 6:00PM**

**PGS Poster Presentation Award #1****Ashley Tizzano, Kent State University***Geotechnical Investigation of the October 2011 Cedar City Landslide, Utah*

On October 8, 2011, a massive landslide severely damaged SR 14 in Cedar Canyon, 8 miles from Cedar City. The landslide detached 1.5 million cubic yards of material from the south side of the canyon, displacing and covering a 1200-ft stretch of SR 14 under 100-ft thick debris. The stratigraphy of the canyon at the landslide site consists of the cliff-forming Tippet Canyon Member of the Straight Cliffs Formation and the underlying, slope-forming, Tropic and Dakota Formations, all Cretaceous in age. The bedrock is covered by 75-100 feet of colluvial soil. The objectives of my study were to determine the type and causes of the Cedar Canyon landslide, the location of the failure plane, engineering properties of the colluvial soil and bedrock units involved in sliding, perform stability analysis, and develop suitable remedial measures. The field observations suggest the landslide initiated as a rotational movement near the scarp and transformed into a translational failure downslope, along the soil-bedrock contact. Lab tests show the contact between the Dakota bedrock and dry soil has a peak friction angle ( $\phi_p$ ) of  $45^\circ$ , peak cohesion ( $c_p$ ) of 4.33 psi, residual friction angle ( $\phi_r$ ) of  $34.2^\circ$ , and a residual cohesion ( $c_r$ ) of 0 psi. The contact between the Dakota bedrock and the soil at natural water content has  $\phi_p$  of  $34.5^\circ$ ,  $c_p$  of 4.6 psi,  $\phi_r$  of  $34^\circ$ , and  $c_r$  of 1.8 psi. A rain and snow storm the prior day appears to have triggered the landslide. Pore pressure buildup in the colluvial slope of  $\sim 40^\circ$  most likely caused the failure. This needs to be confirmed by stability analysis, currently being conducted.

**PGS Poster Presentation Award #2****Anthony Nelson Vaiana, Indiana University of PA***Estimating the amount of total organic carbon in Devonian shales of the Appalachian Basin using wireline logs: a case study from eastern Kentucky*

Quantifying the amount of total organic carbon (TOC) in shale is a key step in evaluating its potential as an unconventional reservoir. Generally TOC is measured from core samples in a lab, which can be time consuming and costly. Estimating TOC using standard wireline logs could improve efficiency in characterizing shale reservoirs. Recent work has indicated that a log-based TOC estimate used in conventional plays can be adapted for use in unconventional plays. We use this method to estimate the variation in TOC through Upper Devonian shale reservoirs of eastern Kentucky using logs from over 100 wells. Future work will focus on comparing and calibrating our estimates to samples from wells in the study area, with the goal of testing the accuracy of log-based TOC predictions for the Upper Devonian rocks in the Appalachian Basin.



## **NEW POSITION OPENING!**

### Visiting Professional Program Liaison

AEG is looking for friendly, motivated members to help run the Visiting Professional Program in the Section.

Responsibilities of the **VP Liaison** position will include:

- Scheduling VP presentations within your Section
- Recruiting new VP volunteers
- Outreach to potential new presentation groups

**This position is open to all AEG Section members!**

For information on the VP Liaison position or AEG's Visiting Professional Program, contact the AO Section Secretary, Nate Saraceno at [nrsaraceno@gmail.com](mailto:nrsaraceno@gmail.com)

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### **Are you interested in volunteering as a Visiting Professional?**

The AEG Visiting Professional Program (VPP) helps to increase advocacy for AEG and the professions of engineering geology, environmental geology, and related fields. This is accomplished by AEG members volunteering their time to share their experiences with other professionals, community members, students, and others who could benefit from the services AEG and its members provide.

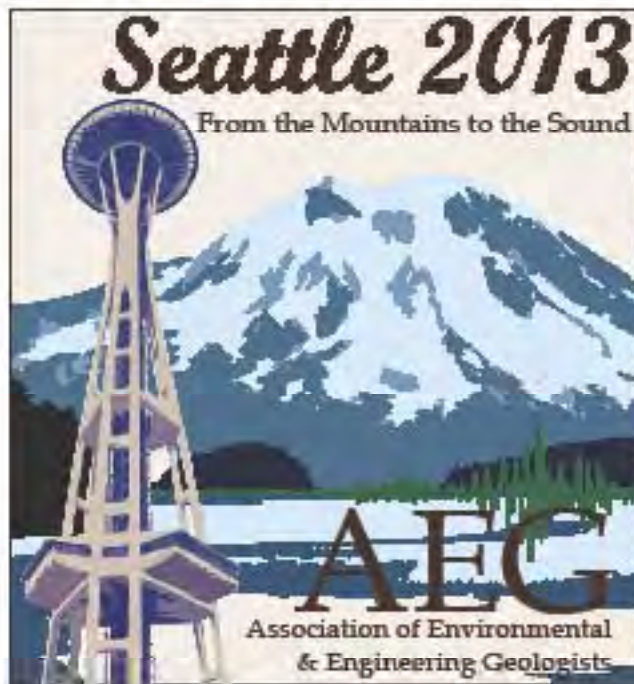
Contact Nate Saraceno ([nrsaraceno@gmail.com](mailto:nrsaraceno@gmail.com)) to learn more about the VPP and how an hour of your time can help promote the exciting career that is environmental and engineering geology.

Join us at the 56<sup>th</sup> Annual Meeting in 2013,  
as the Washington Section celebrates its 50th Anniversary!



**SEPTEMBER 8<sup>TH</sup>-15<sup>TH</sup>, 2013**

*The Westin Hotel in the Heart of Seattle*



- **Field Trips:** Engineering Geology of Seattle, Pleistocene Power in the North Cascades (one-day) and Methow Valley via Mountain Bike (two-day option), Mt. Rainier, New Paleoseismic Evidence for the AD 900-930 Seattle Fault Earthquake, Whidbey Island: Hands-on Laboratory of Glacial and Periglacial Stratigraphy and Geomorphology, Central Washington Columbia River Basalt, and Nile Valley Landslide and I-90 Rock Slope Engineering.
- **Symposia:** Tunnel Projects, Modern Engineering Geology, Pacific Northwest Volcanic Hazards, Pacific Northwest Seismic Hazards, Fisheries Improvement Projects, Geological Engineering of Transportation Projects, Environmental Geology of Energy Development, Climate Change Impacts on Rivers and Infrastructure Management, and Lessons Learned for Western U.S. from Recent Tsunamis.
- **Technical Sessions:** Groundwater and Karst, Landslides, Rock Mechanics, Seismic Hazards, Mine Reclamation and Waste Management, Subsidence, Engineering Geology and Forestry, Engineering Geology of Dams, Environmental Site Characterization and Remediation, Flooding and Coastal Hazards, Licensure and Professional Practice, Geologic Resource Management, and Geophysics.
- **Guest Tours:** 1) Boeing Museum of Flight and South Seattle, 2) Olympic Sculpture Park, Ballard Locks and Theo Chocolate, and 3) Washington State Ferry, Bainbridge Island and Bloedel Reserve.
- **Special Event:** A reception/dinner at one of Seattle's unique museums.
- **Short Courses including:** "Challenges of Peat: Characterization, Significance, and Settlement"
- **Walk to Pike Place Market, and enjoy Museums, Restaurants, Shopping, the Space Needle and the new Wheel on the Waterfront.**

For more information, registration and abstract submittal visit: [www.aegweb.org](http://www.aegweb.org)







AEG 56<sup>th</sup> Annual Meeting

## INSTRUCTIONS FOR WRITING AND SUBMITTING YOUR ABSTRACT

**FONT:** Type abstract in 10 point Times New Roman font.

**TITLE:** Bold your title. Your title may not be more than 120 characters in length, including spaces.

**AUTHOR(S):** Type last name first in capital letters, followed by first name in regular case, followed Company or Affiliation and email address. All co-authors should be listed as first name, last name only and email address. No more than 4 authors may be listed on a paper. Group names will not be accepted as an author. Please see example below.

**ABSTRACT:** Your abstract is limited to 300 words or less (not including spaces). Tables or photos may be added to your abstract for a fee of \$150.00 each; however, you may not exceed the spacing requirement of 300 words or less (not including spaces).

**INDICATE YOUR PREFERRED MODE OF PRESENTATION:** Oral, Poster, or Either (meaning no preference).

**Please have a backup author prepared to give your presentation should you not be able to attend. Rescheduling presentations after July 1, 2013 is extremely difficult for the Technical Program committee and we would really appreciate your commitment to attending the Annual Meeting for your presentation. Please do not submit an abstract if you do not plan to attend the 2013 Annual Meeting for your presentation.**

Your abstract will be reviewed for subject and format appropriateness; notifications of acceptance/rejection will be sent by June 1, 2013. Please click on the following link to submit your abstract: <http://72.16.203.230/aegpapers/>.

**Username is AEG, Password is Seattle2013 (DO NOT USE YOUR MEMBERSHIP LOGIN)**

**DEADLINE FOR SUBMITTAL IS MAY 1, 2013.**

Sample abstract available at [aegweb.org](http://aegweb.org)

### PRELIMINARY TECHNICAL PROGRAM (Updated January 2013)

#### Symposia

- Tunnel Projects
- Modern Engineering Geology
- Pacific Northwest Volcanic Hazards
- Pacific Northwest Seismic Hazards
- Fisheries Improvement Projects
- Geological Engineering of Transportation Projects
- Environmental Geology of Energy Development
- Climate Change Impacts on Rivers and Infrastructure Management
- Lessons Learned for Western U.S. from Recent Tsunamis

#### Technical Sessions

- Groundwater and Karst
- Landslides
- Rock Mechanics
- Seismic Hazards
- Mine Reclamation and Waste Management
- Subsidence
- Engineering Geology and Forestry
- Engineering Geology of Dams
- Environmental Site Characterization and Remediation
- Flooding and Coastal Hazards
- Licensure and Professional Practice
- Geologic Resource Management
- Geophysics



### Young Professional Travel Grant Application

The intent of the Young Professional Travel Grant is to help defer the cost of attending the AEG Annual Meeting for young professionals when an employer is unable to support their attendance. This is a competitive \$500 grant, and will be awarded based on availability of funds and quality of applications. The application is due on August 1<sup>st</sup>, and the award notification(s) will be sent by August 15<sup>th</sup> of the annual meeting year.

Requirements: ~Applicant must be a Professional Member of AEG with less than 5 years at this membership level.  
~This must be the first year attending the AEG Annual Meeting as a Professional Member

Please Answer the Following Questions:

Name: \_\_\_\_\_ Email Address: \_\_\_\_\_  
Phone Number: \_\_\_\_\_ Mailing Address: \_\_\_\_\_  
\_\_\_\_\_

Will you be registering for the whole meeting? If not, how many days will you be attending? \_\_\_\_\_

Will you be presenting at the meeting, if so an oral or poster presentation? \_\_\_\_\_

Were you a Student Member of AEG? \_\_\_\_\_

When did you graduate from undergraduate, graduate school? \_\_\_\_\_

How many years have you been a Professional Member of AEG? \_\_\_\_\_

Will this be your first annual meeting as a Professional Member? \_\_\_\_\_

What distance will you need to travel to attend the Annual Meeting? \_\_\_\_\_

Why do you want to attend the Annual Meeting? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Are you involved in your Section (attend meetings, hold a position, visiting professionals program? If not, please explain. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Are you receiving any support from your employer or external funding sources? If so, how much support will you receive? \_\_\_\_\_

AEG would like to thank your supervisor for letting you attend the Annual Meeting. Please submit your Supervisor's contact information (Name, company, mailing address, phone number).  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Please submit this application to [aeq@aeqweb.org](mailto:aeq@aeqweb.org) by August 1<sup>st</sup>. Notification of grant will be sent by August 15<sup>th</sup>.  
Upon submittal of expense report (form to be provided by AEG with notification), the treasurer will mail the recipient a check.



# Shlemon Specialty Conference Dam Foundations Failures and Incidents



Teton Dam Core Trench and Foundation, Idaho, USA from USBR

Hyatt Tech Center  
Denver, Colorado  
May 16-17, 2013



Fontenelle Dam Incident, Wyoming, USA from USBR

For complete details and sponsorship/exhibitor forms  
please visit [www.aegweb.org/ShlemonDams](http://www.aegweb.org/ShlemonDams).

NAME: (LAST) (FIRST) (MI)		MEETING STATUS	
NAME FOR BADGE:		Attendee	
COMPANY/INSTITUTION:		Speaker	
ADDRESS:		Sponsor	
CITY/STATE/ZIP		Exhibitor	
PHONE NUMBERS:		Student	
OFFICE ( ) FAX ( )		<b>MEMBERSHIP</b>	
EMAIL ADDRESS:		Member	
CONFERENCE REGISTRATION:		Non-member	
Member:	#	Before 3/1/13	Amount
Non-Member:		\$325.00	\$375.00
		\$440.00	\$490.00
<b>ICEBREAKER (MUST REGISTER)</b>			
Complimentary			
SPONSORSHIPS:	#	Before 3/1/13	Amount
Igneous		\$800.00	\$850.00
Metamorphic		\$500.00	\$550.00
Program		\$750.00	\$800.00
Student		\$300.00	\$300.00
KIMBERLITE EXHIBITOR:		\$1000.00	\$1050.00
<b>TOTAL AMOUNT:</b>			
SPECIAL NEEDS:			
Breakfasts and refreshments during breaks will be provided Thursday and Friday along with lunch on Thursday.			
Prefer Vegetarian Meals			
Diabetic			
Other			

Please indicate method of payment (check one): Make Checks Payable to "AEG"

Check  MasterCard  Discover  VISA  American Express

Amount of \$ \_\_\_\_\_

Account Number for charge card (include all digits): \_\_\_\_\_

Expiration Date: \_\_\_\_\_ CVD Code: \_\_\_\_\_

Signature: \_\_\_\_\_

Name on Card (PLEASE PRINT): \_\_\_\_\_

Address for Credit Card Billing: \_\_\_\_\_

**If you have any questions, contact:**  
**Heather Clark, Meetings Manager**  
 303-757-2976 Office  
 303-757-2976 Cell  
[heather@aegevents.org](mailto:heather@aegevents.org)

**Send registration form to:**  
 AEG  
 Engineering Geologists  
 PO Box 460518, Denver, CO 80246  
 Fax: 720-230-4846

**Hotel rooms at the Hyatt Tech Center can be reserved at the following website:** [hms://resweb.possible.com/go/AEG2013](http://hms://resweb.possible.com/go/AEG2013), or call 1-888-421-1442 (Group Rate is \$139.00 night and includes parking and guest room internet)



## RENEW YOUR AEG MEMBERSHIP!

Don't let your AEG membership lapse!

### Annual Dues Rates by membership class:

- Professional ----- \$140/yr
- First-time professionals -----1<sup>st</sup> year only \$75!!!
- Affiliate ----- \$100/yr
- Teacher ----- \$35/yr
- Students ----- **FREE!!!**
- Recent Graduates -----1<sup>st</sup> year of professional membership **FREE!!!**

Renew now and see membership class descriptions by visiting the membership page on the AEG website: <http://aegweb.org/join>

Contact Nate Saraceno ([nrsaraceno@gmail.com](mailto:nrsaraceno@gmail.com)) with questions.

## 2013 AO Section Calendar

- April 17 (Wed), 11<sup>th</sup> Annual Student Night, Foster's Restaurant
- May 1 (Wed), Abstract Submittal Deadline for Annual Meeting
- May 16-17, Shlemon Specialty Conference: Dam Foundations, Failures & Incidents in Denver
- Sept 8-15, AEG 56<sup>th</sup> Annual Meeting , Seattle, WA

### CALL FOR MEMBER NEWS

*If you would like to submit member news for the AEG News: The Homefront,*

*please email Nate Saraceno at [nrsaraceno@gmail.com](mailto:nrsaraceno@gmail.com)*



### Your Section Officers:

**Chair:** Kristen Enzweiler

**Co-Vice Chair:** David Plas

**Co-Vice Chair:** Alex Prvanovic

**Treasurer:** Nichole Wendlandt

**Secretary:** Nate Saraceno

### Other Section Positions:

**Student Liaison:** Brian Greene

**Short Course Director:** Terry Downs

**VP Liaison:** Vacant

**Past Chair:** Nichole Wendlandt



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[Association of Environmental & Engineering Geologists - AEG](http://www.aegweb.org)