Vol. 67, No. 5 – Winter 2024

AEG News

AEG 2024 PHILADELPHIA MEETING RECAP

AEG 68TH ANNUAL MEETING

Association of Environmental & Engineering Geologists

Chicago is one of the top tourist destinations in the United States for a reason. It's a welcoming city with plenty of world-class attractions. Located on Lake Michigan in Illinois, Chicago is famed for its bold architecture. In addition to engineering geology, the AEG 2025 Annual Meeting will focus on sustainability, health, climate change, and environmental geology.

The Meeting Hotel - Located in the heart of downtown Chicago in the prestigious River North neighborhood of the city, the Westin Chicago River North's location makes it a perfect base to explore the historic and energetic Windy City with nearby attractions including Millennium Park, Chicago theatre district, and the vibrant Chicago Riverwalk. Refreshed in early 2020, the flexible event space offers the perfect setting for meetings. Recharge in your choice of accommodations, from traditional rooms to luxury suites, all with a view of the Chicago River or the downtown skyline. Maintain your health goals with the delicious and healthy on-site dining at 320 RiverBar and the state-of-the-art WestinWorkout fitness studio. Enjoy complimentary fitness classes as well as Rise + Ride with Westin and Peloton.

AEG 2025 Chicago
Windy City Geology

September 23-27, 2025
Chicago, Illinois | Westin Chicago River North

SAVE THE DATE

September 13-19, 2026 | Westin Chattanooga

Association of Environmental & Engineering Geologists 69th Annual Meeting in the "Scenic City" of Chattanooga, Tennessee

The Westin is located in the middle of downtown and walking distance to local restaurants, attractions, boutique shops, and local breweries. After a day of sessions, enjoy southern cuisine at the hotel restaurant or the rooftop restaurant and bar. All rooms include large windows with views of the mountains or downtown.

The 2026 Annual Meeting will be filled with outstanding technical sessions, exciting field courses, and fun networking events.

SPECIAL EVENT

Tennessee River dinner cruise on the Southern Belle Riverboat. The highlight will be locking through Chickamauga Dam.

RIVERS, RAILS, ROADS & ROCKS 2026

AEG | Chattanooga, TN
Moving Environmental & Engineering Geology Forward

AEG News

Vol. 67, No. 5 – Winter 2024

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Submission Information

1. Send files via email, preferably as attachments, to both email addresses above. Optimum file format is MSWord. Users of other software programs should convert their file to ASCII or text only. Photos and other images, charts, graphs, etc. should be sent as separate images but may be included in the Word.doc for placement purposes.
2. Images should be sent as high-resolution (250 dpi at 4" wide or larger) jpeg or tiff files and should be named with a strong identifier such as HF-Texas-John Jones —*NOT* P204679.jpg. Corresponding photo captions should be included in the text along with an attribution of the source/photographer.
3. The policy of *AEG News* editorial staff is to limit the credentials of an individual to two. No effort will be made by the *AEG News* editorial staff to determine whether individuals whose credentials are missing from the submitted copy actually have academic or professional credentials, nor will the staff verify the existence or correctness of the credentials submitted.

For detailed guidelines visit:
https://aeg.memberclicks.net/assets/docs/aeg_news_style_guide_0713.pdf

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Submission Deadlines

https://www.aegweb.org/aeg-news-2

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On the Cover

Philadelphia skyline photographed by Dan Mall

Table of Contents

The Association

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AEG Foundation: Acting President Anna Saindon, rmsain@gmail.com

Acquisitions Editor's Pen

MARTHA WHITNEY, *AEG NEWS* ACQUISITIONS EDITOR

Welcome to the Winter Edition of *AEG News*. It has been a while since I've written in this space, and I find it difficult to find words. I believe that many of you may share my sentiment that this year has been long and full of heavy losses, and has led to a prevailing sense of unease. For me, quiet reflection is vital to the process of grieving. I hope that those of you who also lost friends and loved ones this year are able to make time to reflect on your memories and also to make time to nurture activities and relationships that bring warmth and happiness to your life.

Speaking of warmth, it is mighty cold on the North Sea in November. It seems that I am almost always writing in this space from a vessel with about 50 meters of drill string in the water and a drill bit and sampler pulling sediment cores from deep below the seafloor. The technology never ceases to amaze me. Today I am in the Norwegian sector of the North Sea. Over the summer I was in the UK sector (also very cold) collecting geological data for windfarm design. There are offshore wind farms in various stages of planning and construction along the east and west coasts of the U.S. and I hope to return for some U.S. projects in 2025 to continue supporting the transition to renewable energy.

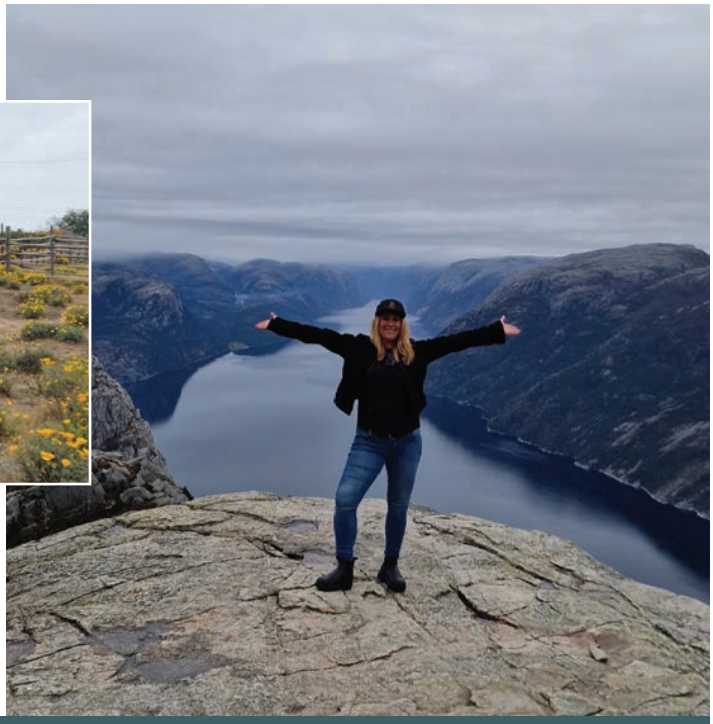
The New York-Philadelphia Chapter recently hosted Dr. Kenneth Miller, distinguished professor from Rutgers University, to give a talk on Coastal Plain glauconites and their significance for foundation design of offshore wind farms. The event was well attended and it's no surprise given the importance of offshore wind development in the region. Perhaps by next winter there will be enough interest to start an Offshore Renewables Technical Working Group. . . .

For this winter, let us focus on cozy reflections, cooking meals for friends and loved ones, and reading a good book by the fire. And what could be better than a book with an engineering geologist as the hero? Our longtime AEG member, Deb Green (writing as D. J. Green) has written her award-winning debut novel *No More Empty Spaces*. I absolutely loved it and have interviewed Deb for a feature in the next issue of *AEG News*. But why wait for the feature when you can read the book now! There is an opportunity to purchase this amazing novel and support the AEG Foundation at the same time. Just donate $25 or more to the Tilford Fund of the AEG Foundation and you'll get a signed copy (while supplies last) of *No More Empty Spaces*. It's also available wherever you like to buy books, or you can ask for it at your local library.

AEG Foundation Page: **https://aegfoundation.app.neoncrm.com/forms/donate**

Deb's website: **https://www.geologistwriter.com/**

Finally, I want to thank Bill Roman, Deb Green, Allie Boman, and Evelyn Neale for carrying me during a difficult time leading up to this edition of the *News.* I relied heavily on their support, and they carried out many of my responsibilities with love and compassion, and it just reminds me again what a wonderful organization and community we have here at AEG. Thanks y'all, and have a lovely winter.



LEFT: ALEIGHA DOLLENS AND MARTHA WHITNEY AT THE INQUA PATA DAYS CONGRESS NEAR VALPARAISO, CHILE. RIGHT: MARTHA AT THE TOP OF PREIKESTOLEN AKA PULPIT'S CLIFF, ROGALAND, NORWAY.

Volunteers Are AEG'S Future Leaders

Renee Wawczak, 2024-25 AEG President

Another Annual Meeting has come and gone, but this past year's will always remain at the top of my memories. At our Corporate Business Meeting in Philadelphia, PA, the torch was passed, and I officially entered into the role of AEG President. I am honored to be serving in this role and extremely thankful to our membership for trusting me to look over the Association. I only hope that I can be successful in representing all of you this year, as I continue working to advance the goals of the Association.

This year was also a milestone year for me as I just rolled into my 15th year as a member, as well as my 15th year as a volunteer, of the Association. I know this is a drop in the bucket compared to the experience and depth of knowledge of so many of our long-standing members and valuable volunteers, but it was an honor for me to hit this milestone, nonetheless. So, it should come as no surprise that one of my goals as President is to continue to support our many volunteers. In order to make AEG as strong as possible, I firmly believe that we need to support our volunteers as they are the ones who shape the organization and become our future leaders. I hope to encourage our volunteers to "train up" those who are just starting out on our committees and work on their long-term succession planning so that we have many generations of AEG leaders. I want our volunteers to understand the resources that are available to them and how to best leverage them. If the appropriate resources are not available, I want our volunteers to feel empowered to voice their needs, so that we can work together towards solutions that make sense for the Association. And my biggest hope is that volunteers continue to present new initiatives that will continue to help AEG evolve.

This year the Strategic Planning Team, during their 2024 Workshop, focused heavily on goals surrounding membership, communications, and how to best leverage the strengths of our new association management company, Arden Solutions, to reach some of our high-level goals. The Strategic Planning Team believes this is an excellent opportunity to approach some of these goals with fresh eyes and new resources. The goals were outlined and presented at the Annual Board Meeting, and with the blessing of our Board of Directors, the team hit the ground running following the Annual Meeting to begin implementing this year's goals.

Something I'm looking forward to the most as Association President is chapter visits. I look forward to seeing old friends and making new ones, seeing what happens in your neck of the woods, hearing about your local geology, and seeing some of your favorite sites! If you have room for me (in person or virtually) in your meetings calendar, please reach out to me at president@aegweb.org, and hopefully we can get something set up. I'm also looking forward to helping build (or rebuild!) chapters where we have enough membership to support one. If you think your locality could start a chapter, please reach out so that we can assist you. I hope to connect with many of you over the year and to see you next year at our 2025 Annual Meeting in Chicago!

Thanks for a Memorable Year

Sarah Kalika, 2024-25 AEG Past President

As I step into the role of Immediate Past-President, I want to thank all of the members of the Executive Council and Board of Directors that I worked with over the past year. As you know, this year was challenged with unexpected obstacles that I like to say were "not on my Bingo card" for my year as President. I truly appreciate all of the committee and technical working group chairs, chapter officers, and student chapter leaders who collectively keep AEG moving forward, as you all are often the first impression that a potential member has of AEG.

To the surprise of nobody, I have already begun this year with a running start. As Immediate Past-President, my main responsibilities are to coordinate the Technical Working Groups (TWGs), encourage Professional Forums, coordinate webinars and blogs, and chair the Nominations Committee to obtain a new Association Secretary for the Executive Council (EC). Please reach out to me if you're interested in finding out about the EC, as we will be interviewing and vetting a candidate for the ballot between now and April 2025.

We have some exciting events coming up in 2025: the **Geologic and Seismic Hazards TWG** will be hosting a Geologic and Seismic Hazards Virtual Symposium in April 2025 and the **Dams and Levees TWG** is planning a risk workshop to be held in Denver in November 2025. Be on the lookout for more information on these as we get closer!

Throughout this year, I had the privilege of visiting many of our chapters and representing AEG at the **Geoprofessional Business Association** conference in Anaheim, CA; **American Institute of Professional Geologists** in Durango, CO; and **Geological Society of America** in Anaheim, CA (at the enormous Anaheim Convention Center).

I recently wrapped up my official visits with a tour of North and South Carolina, which needed last-minute itinerary revisions because of the devastating landslides that continue to impact western North Carolina and eastern Tennessee as a result of Hurricane Helene, which impacted the region approximately three weeks before my scheduled visit. I hope to visit sometime when cleanup and rebuilding have progressed further. During my October visit, I attended the **Carolinas Chapter** meeting in Greensboro and met with students at **Clemson University**, **University of North Carolina at Charlotte**, **NC State in Raleigh, Wake Tech Community College** in Raleigh, and **University of North Carolina at Chapel Hill**. Students at all of these universities were excited to learn about the opportunities AEG has for students to be involved in leadership, connect with professionals in their efforts to build careers, and obtain scholarship funding to complete their educations. During each visit, I explained the importance of professional licensure and the many benefits to ASBOG reciprocity among member states. More information about that can be found on AEG's website under "Students and Educators" at https://www.aegweb.org/students-and-educators. This webpage was improved over the summer to provide additional information for students, K–12 teachers, and college and university educators. Let us know if you are interested in adding further details to this portion of our website!

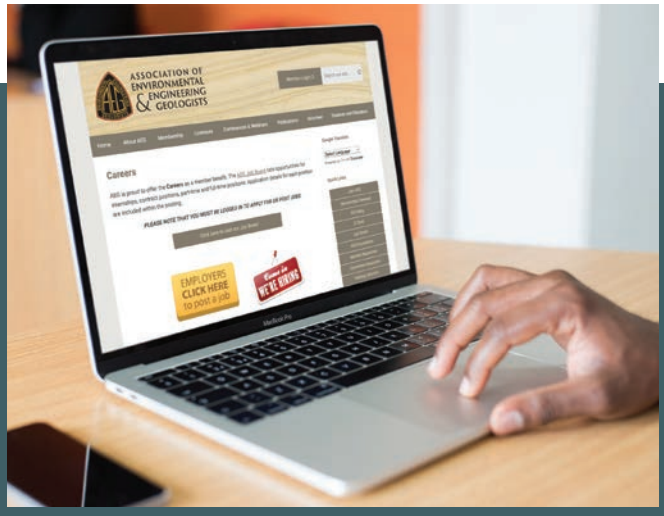
I hope you attended our outstanding **67th Annual Meeting in Philadelphia** in September! We were truly in the center of history—our meeting was conducted a few blocks away from the Philadelphia presidential debate on September 10th; we opened the Technical Sessions on the 23rd Anniversary of the September 11th attacks on our country; and we ended our meeting on Friday, the 13th of September. The Young @Heart Happy Hour was held on the legendary **Moshulu** which is the world's oldest and largest square-rigged sailing vessel still afloat, and our Special Event was held at **Carpenters' Hall**, which was the location of the First Continental Congress, Benjamin Franklin's library, and Alexander Hamilton's first bank. It was amazing to have dinner in such a historic location. The meeting was well attended. We hope to see you next year in **Chicago, IL**! The Call for Abstracts will be posted in January, and more details can be found at https://www.aegannualmeeting.org.

Thank you so much to our Philadelphia Annual Meeting exhibitors and sponsors, meeting attendees, and speakers! Many thanks to our 2024 Meeting Planning Committee from the **New York-Philadelphia Chapter** who made it all happen; thanks as well to **Heather Clark**, AEG's Meeting Manager, who worked her magic to manage all the details, while helping to get our new Association Management company up to speed.

If you have any questions about AEG or if you're interested in getting involved with our Technical Working Groups, hosting a webinar, or writing a blog post, contact me at pp@aegweb.org. I'll see you in Chicago!

DEIC CO-CHAIR MINDA MOE, PAST PRESIDENT SARAH KALIKA, AND PAST PRESIDENT / JAHNS LECTURER CYNTHIA PALOMARES AT OUR BOOTH AT GSA IN ANAHEIM CALIFORNIA

FROM TOP: AEG'S EXHIBITOR BOOTH; SARAH KALIKA ON HER VISIT TO CLEMSON UNIVERSITY IN SOUTH CAROLINA; STUDENTS FROM APPALACHIAN STATE AND UNC CHARLOTTE AT THE PROFESSIONAL CHAPTER MEETING IN GREENSBORO



AEG Members are invited to access our online job board.

Post a position if you need high-quality, well-prepared workers. And job seekers can search the board for career advancement opportunities. This is a major perk of AEG membership.

→ Visit https://www.aegweb.org/job-board

Index to Advertisers

Grow Your Career as a Committee Volunteer

Paul Weaver, 2024–25 Vice President

As I write this article, I am about two months into my term as Vice President of AEG. For those of you who may be new to AEG or are just not aware of how AEG leadership is structured, AEG's volunteer leadership consists of the Executive Council (EC) (President, Vice President/President-Elect, Treasurer, Secretary, and Past-President) and the Board of Directors (BOD). The BOD comprises each of the 11 elected Regional Directors. Each EC member commits to serving one year in each EC position, resulting in a total commitment of five years on the EC, while each Regional Director commits to at least one term of three years.

As your 2024–2025 Vice President, my responsibilities include:

- In the absence or disability of the President, performing the duties of the President.
- Performing such other duties as from time to time may be prescribed for him or her by the Board, the Executive Council (EC), or the President.
- Serving as the liaison between AEG's operational committees and the EC/BOD. This includes attending as many operational committee meetings as possible and sharing information between the various committees as needed.
- Serving as communications director for AEG publications (*Insider*, *AEG News*).
- Preparing *Insider* content and reviewing weekly *Insider* issues.
- Coordinating and leading town hall meetings of committee chairs twice a year.

The third bullet above regarding AEG's operational committees is the focus of this article. We currently have nine active operational committees:

- **Communications Committee** — Responsible for the publication of *AEG News*, AEG/GSA's journal *Environmental & Engineering Geoscience* (*E&EG* Journal), and special publications
- **Chapter Support Committee** — Coordinates with the leadership of AEG's chapters to keep them up-to-date on AEG news and activities affecting the chapters and assist chapter leadership by sharing information/best practices to strengthen their chapters
- **Diversity, Equity, & Inclusion Committee** — Provides AEG with ideas, guidance, symposia, etc., to assure that AEG is a welcoming organization to all geoprofessionals
- **Finance Committee** — Keeps tabs on AEG's fiscal health by reviewing financial statements and by providing finance-related recommendations to the EC/BOD
- **Governance Committee** — Reviews AEG governance documents (bylaws and operating policies) to keep them up to date and provides recommendations to the EC/BOD for revisions to bylaws/policies as warranted
- **Meetings Advisory Committee** — Reviews proposals and makes recommendations to the EC/BOD for future Annual Meeting locations, advises planning committees of upcoming Annual Meetings to assist in their meeting planning, conducts speaker and moderator training for Annual Meeting technical sessions/symposia, and solicits and reviews proposals for potential Professional Forums
- **Membership Committee** — Makes recommendations for membership renewal/new member outreach, coordinates with the AEG Manager for member outreach initiatives, and investigates and performs outreach for the formation of potential new Chapters
- **Student & Young Professional Support Committee (SYPSC)** — Prepares the SYPSC and Early Career Ambassador newsletter, coordinates webinars to prepare for the Association of State Boards of Geology exam, coordinates Career Panel webinars, coordinates the SYPSC event(s) at the Annual Meeting, and oversees student travel grants for the Annual Meeting
- **Strategic Initiatives Coordinator(s)** — Develops initiatives to assist AEG in meeting its strategic planning goals and coordinates the implantation of these initiatives

We also have two operational committees that are currently mostly dormant because of lack of a leader to take up the mantle of heading the committee and to help solicit others to assist on the committee:

- **K–12 Committee** — Generates and oversees the implementation of initiatives for outreach to those in kindergarten through 12th grade to get them interested in pursuing the geosciences for their postsecondary education and career.
- **Licensure Committee** — Keeps tabs on potential and/or ongoing threats to professional geoscience licensure across the country and coordinates AEG's response through the use of the various resources at our disposal (including the use of contributions from our Licensure Fund).

We are always looking for volunteers to participate on our operational committees. We would also love to find that enthusiastic someone willing to restart the K–12 Committee or Licensure Committee. If you would like to participate on any of these committees and/or are willing to help lead and/or restart the two dormant committees, please feel free to contact me at pmweaver187@gmail.com.

Thanks as always to all the dedicated volunteers who keep AEG functioning as a vibrant professional organization. We could not exist without you!

AEG Remains Financially Strong

Mark Swank, 2024-25 AEG Treasurer

As we move on from our Annual Meeting in Philadelphia and towards our 2025 meeting in Chicago, I have transitioned from AEG Secretary to AEG Treasurer—the next step in the five-year progression through the Executive Council (EC). I am excited to take on these new responsibilities, especially at a time with such strong organization finances and diligent fellow EC members. We are also greatly benefiting from the stability of our new Association Manager, Arden Solutions.

Despite our recent loss due to embezzlement by our former association management company, AEG continues to remain financially strong and has taken several steps to further protect our accounts and wisely invest our existing assets moving forward. Once again, we have essentially a balanced budget for 2024–25 year. Over the last few years, we have built up our Treasurer's Reserve account, which was established to ensure that AEG has at least one year's worth of expenses put aside in case of a catastrophe, to the amount required to meet that goal, plus a bit extra. We are now looking at opportunities to use this "bit extra" for the betterment of the organization and our members.

The Annual Meeting held in Philadelphia this past September was a great success. We had many enthusiastic attendees, terrific field courses, and an enthralling Special Event. We exceeded our required hotel room block and exceeded our goals for sponsorships and exhibitors. We are projecting a surplus for the meeting (total meeting accounting will most likely not be accomplished until the end of the year when all invoices have been received). The Annual Meeting is crucial to providing the funds needed for AEG to continue being financially stable. Please plan to attend the 2025 Annual Meeting in Chicago to help continue our successes. Looking even further ahead, our 2026 Annual Meeting will be in the scenic city of Chattanooga, and in 2027, we will convene in Sacramento, the birthplace of our organization. If your chapter would be interested in hosting a future Annual Meeting, please let your Regional Director or any EC member know.

AEG's membership numbers continue to be strong, with a total membership of 2,802 as of the end of August. Of these, 1,169 are Full Members who provide approximately 90 percent of AEG's income from paid dues. As is typical, we expect these membership numbers to increase in September due to the Annual Meeting. If you have not renewed your membership for 2025, please do so as soon as possible. Renewal is easy on AEG's membership renewal webpage at https://www.aegweb.org/membership-renewal.

In addition to the revenue from the Annual Meeting, AEG relies on income from AEG-hosted webinars and specialty conferences/professional forums to help maintain our fiscal strength. AEG's goal is to have at least two specialty conferences/forums each year; these can be in person or virtual. If you have ideas for a conference or forum and/or are willing to take the lead in putting on a conference or forum, please reach out to anyone on the EC, and we will be happy to assist you in the steps involved and put you in touch with the people who can help "get the ball rolling."

Finally, let me provide a friendly reminder to all Chapter Treasurers that chapter financial statements are to be submitted to headquarters at the end of each quarter. Especially important is the timely submittal of year-end chapter financial statements as soon as possible after the end of the year since these are used as part of the year-end evaluation of AEG's financial health for the year.

Thank you for your continued support of AEG, and I look forward to serving as your Treasurer for the coming year.

Have you renewed your membership for 2025?

If not, please login with your membership credentials on AEG's website.
Need assistance with your login? Contact our office at contact@aegweb.org or (727) 940-2658 X 2004.

Attention students!

Student membership is free and renewed automatically this year.
If you have questions and/or updates for your membership, please email contact@aegweb.org.

Looking Forward

Julia Frazier, 2024-25 AEG Secretary

I am excited to have joined the AEG Executive Council this year. I consider myself fortunate to be surrounded by a supportive and dedicated team of experienced professionals who also value the act of volunteerism and industry stewardship, and have a passion for applied sciences. I began my role as AEG Secretary this past September at the Board of Directors meeting following the 2024 Annual Meeting in Philadelphia, and I look forward to the years that will follow.

I am also excited about this position for other reasons. I have been an active member of AEG for 19 years now, with various positions leading to this one, but I learned to appreciate the association before that as a young geology student at California State University, Long Beach. That appreciation followed me to Colorado as an early professional in 2006, when, at a local meeting at the Colorado School of Mines campus, the then chapter chair asked if anyone would be interested in volunteering. I raised my hand.

Through my experiences with AEG, I have learned new things from other professionals during chapter meetings, field trips, and annual conferences. I have been mentored and inspired (by some who probably didn't realize they were on the spot). I have made professional connections that have given me a sense of job security and have supported my career path. I have gained new friends and cherished comrades, and I have had many opportunities to challenge myself to push past certain boundaries that have made me stronger. I believe there is value in getting involved in the things you are passionate about and things that can make a positive difference, speaking up and having a voice, and being a part of decision-making. As AEG Secretary and in the roles that follow, I will strive to represent the profession and our membership with integrity and reliability.

AEG offers many opportunities to get involved and have an impact—reasons that keep me engaged. There are technical working groups that advance the industry and the sciences and keep our membership informed and on the leading edge, operational committees that keep the association ticking and valid to the profession, and opportunities to interact with industry leaders and be a support and guide for the next generation of earth scientists. We are in an awesome place!

AEG Headquarters Is Up and Running

Evelyn Neale, Association Manager

The new HQ staff hit the ground running at the AEG 2024 Annual Meeting in Philadelphia. We welcomed over 300 attendees at registration. It was wonderful to meet and connect with so many of you in person. A shout out to the student volunteers who helped at registration, it was great to work with you!

It has been a pleasure getting to know the committees. AEG is an active group with many dedicated volunteers. Since the Annual Meeting, HQ has set up the operational committee Zoom meetings for the next year, worked on projects for the Membership Committee; worked with the Diversity, Equity, and Inclusion Committee to support the new Mentorship Program; helped to support the Student and Young Professional Support and Chapter Support committees; and more. If you are interested in joining a committee or need support, please contact me at manager@aegweb.org.

Membership renewal began in mid-October. We thank you for your patience in getting it launched. As with any transition, there have been some glitches along the way. If you have any questions or problems with renewing your membership, please don't hesitate to reach out to contact@ageweb.org.

AEG Foundation — Supporting Students

The AEG Foundation is proud to select seven students with Lemke Awards. This scholarship was established in 2007 in memory of June and Richard Lemke and provides supporting funds to AEG student members presenting at professional meetings at which AEG plays a substantial role.

The 2024 Lemke Awardees

Claire Anovick
University of Alaska Fairbanks

Elise Chan
Middlebury College,
Colorado School of Mines

Aleigha Dollens
University of Missouri–Kansas City

Carla Maria Farris
The College of New Jersey

Jessica Hiatt
Colorado School of Mines

Sydney Maguire
Columbia University

Margi Smith
University of Missouri

The AEG Foundation is delighted to announce that the application process for **2025 scholarships** is now open! Visit https://aegfoundation.org/grant-scholarships. Applications are due January 15, 2025.

BEARDSLEY-KUPER FUND: Provides support for field camp tuition and expenses.

CAROLINAS SCHOLARSHIP FUND: Provides support for geologic studies by undergraduate students enrolled in a geology or geoscience program at an accredited university in North Carolina or South Carolina.

DIVERSITY SCHOLARSHIP FUND: In mid-2020, AEG established the Diversity, Inclusion, and Equity Committee (DEIC). Leaders and members of the DEIC established the AEG Foundation Diversity Scholarship Fund to support academic scholarships for qualified college/university students.

DIVERSITY FIELD TRIPS GRANT: Supports geoscience enrichment field trips for junior-high-school (or middle-school) and high-school students and academic scholarships for college/university students.

LEMKE FUND: Provides support to AEG Student Members presenting at professional meetings in which AEG plays a substantial role.

MARLIAVE FUND: Provides support to graduate and undergraduate scholarships in engineering geology and geological engineering.

MATHEWSON FUND: Provides support to AEG Student Members studying in Texas.

ROBERT J. WATTERS GREAT BASIN CHAPTER SCHOLARSHIP FUND: Provides support for geoscience studies by students at the undergraduate and graduate levels.

SHLEMON QUATERNARY ENGINEERING GEOLOGY FUND: Provides support for geologic studies by students at the graduate level.

STOUT FUND: Provides support to graduate and undergraduate students in environmental and engineering geology.

SUSAN STEELE WEIR SCHOLARSHIP FUND (WOMEN OF "STEELE"): Provides support for the continued development and advancement of women in the profession of engineering geology.

JOHN MOYLAN STUDENT CHAPTER GRANT: Provides support to AEG Student Chapters for field trips, visiting professionals, and other program needs through small grants.

TILFORD FUND: Provides support to graduate and undergraduates

WEST-GRAY SCHOLARSHIP FUND: Provides support to undergraduate and graduate geology students in the eastern half of the United States.

Field Camp: A Rocking Way to End a Geology Degree

Aleigha Dollens, University of Missouri–Kansas City

Beardsley-Kuper Geology Field Camp Scholarship Winner

As a geology student at the end of her bachelor's degree, I had heard rumors and stories about field camp. I had looked forward to the experience throughout my undergraduate degree. I felt nervous and excited as I packed my bags with my favorite field gear and prepared to jump into the back of a big red Illinois State University (ISU) Geology van at a roadside stop in northern Missouri. As I hopped into one of the vans transporting 20 strangers, I began to rethink my decisions entirely. I nervously began to question if missing five weeks of the summer for hiking and mapping Wyoming with a bunch of students was worth it. Nonetheless, there I was in the back of a van introducing myself to a group of strangers, headed down the interstate and shaking in my field boots.

The first week of ISU field camp might've been one of the most humbling weeks of my undergraduate degree. We were hiking the Bighorn Mountains with professors who seemed to know much more about the region than I thought possible. I was still learning the names of the new students that I met 24 hours prior, trying to decide if the outcrop I was staring at was a packstone or a wackestone (it depends on who you ask, by the way). I was working late into the evening on stratigraphic sections and waking up at 5:30 a.m. to put my boots on and get back into the field. All my studies could never have prepared me for this. I even had previous field experience under my belt, but still felt like I could not keep up with field camp. The first project was one of the most difficult projects I'd worked up to that point, even though I'd done stratigraphic projects in the past. But there was no way that I was going to give up, having worked so hard for a degree that I love.

As we got into our next couple projects, my confidence grew. I began to believe in my ability to adapt, work with strangers in the field, and trust professors that I had never worked with before. The field partners that I was assigned to would start the project as strangers and end the project as close friends. I began to understand how contact mapping and geologic structures appeared in the field. I learned that geology is a mess that can always do something that you don't expect. I looked forward to 6 a.m. black coffee, the drive out to the field sites, and long days with my field partners.

A couple projects, a five-gallon bucket of samples, and a mountain sunburn later, I found myself nearing the end of the five weeks of field camp. Long field days were now followed by dinner and sitting around a campfire with 20 friends who all knew how to tell a geology joke. I still worked late into the evening on my projects, but instead of working alone in my room, I sat with others laughing about the adventures of the day. I felt at home with the strangers and projects that I felt so nervous about at the beginning of camp.

ALEIGHA DOLLENS AT THE SUMMIT OF BEARTOOTH PASS. ALEIGHA DOLLENS AT WORK IN THE FIELD.

Just like that, I was packing my field clothes and my new rock collection into the back of one of the big red vans, ready to head home, leaving with memories and a new confidence in my ability to be a geoscientist. I had started the first week thinking that field camp might last forever—and then it was over. By the end of camp, that was something I was sad about. The other students at camp are some of the kindest and brightest geoscientists I've had the honor to work with and get to know. I am so excited to see where their careers head and to catch up with them at future GSA and AEG meetings.

Reflecting on the experience, I truly believe that ISU has one of the finest geology field camps in the country. Dr. David Malone is not only an incredible geologist but also a phenomenal mentor. It's an honor to be one of the 800+ students he has led in the field. This camp challenged me more than a textbook ever could. It taught me to believe in myself and my abilities to be a scientist. It also taught me to work with others and to keep going up the mountain, even when things get tough. Never has an experience taught me so much in so little time, both about myself and academically. Field camp helped me fully understand the courses I had taken and prepared me to take on the professional geology world. I look forward to telling others my field camp stories, and I hope every student has a field experience as incredible as mine. ISU Field Camp 2024 will forever be one of my favorite memories. Thank you to all who supported my journey, both in and out of the field. Up the mountain!

Going Off Map: The Adventure of Discovery at Geology Field Camp!

Isaac E. Pope, Beardsley-Kuper Geology Field Camp Scholarship Winner

At their core, every scientist and engineer is an explorer and investigator with a deeply embedded drive to seek out what is unknown or unfixed and create some new conceptualization or contraption out of it. They spend years honing their craft, learning the intricate ways of their field. At some point or other, however, it comes time to leave the books behind and discover their field firsthand. In the life of a geologist, that time comes in the form of field camp, the opportunity to head off the maps of well-tread territory to test their skills in the real world. For me, that occasion arrived this summer at the Colorado School of Mines with a five-week adventure mapping geologic features across Colorado, Utah, and New Mexico.

The adventure began in the windswept world of Arches National Park. What many people do not realize about this place is that this portion of Utah holds uncanny similarities to the Gulf of Mexico. Although most picture the majestic spires and natural arches in the area, what hides far beneath the surface is a vast deposit of salt, and this salt is on the move (Trudgill et al., 2004). Salt deposits act a little like an air mattress after a long night of losing air—if you put your weight onto the mattress disproportionately, before you know it you have sunk and the mattress is bulging all around you! Similarly, the salt is buried deep beneath kilometers of sediment, but because of differential loading, the salt will deform in a ductile manner and gradually bulge in places. The sediments above these bulges of salt will then form intricate systems of normal faults, called relay ramps. Oil can be trapped in these environments, as in salt structures in the Gulf of Mexico that help trap oil so famously.

Like wandering sages, we searched for clues. Our week of mapping impressed upon us the importance of firsthand experience. We saw time and again that the smallest detail could affect how complicated a model of oil migration might become. If you want to capture the real world in a computer model, after all, you have to get to know a slice of the real world firsthand. Sometimes those details come in unexpected ways—centimeter-scale bedforms funneling fluid away from your expected target, or surface features formed not from the battling of distant plate margins but by the gradual movement of salt many kilometers below.

For our second week, we migrated south to Sipapu in northern New Mexico to map the metamorphics in the Picuris Mountains (Bauer, 2004). There we saw the folding of metasedimentary units that made such twists and turns that looked as if they were made by a master of crafting (Figure 3). As we mapped the many folds in the area, it began to dawn on us that perhaps mathematics does play a role even in field geology. Much like fractals, folds on a sub-meter scale matched the morphology of those having wavelengths of tens of meters and, as our stereonets came together, matched even those spanning tens of *kilometers*! Of course, as a scientist you are supposed to look at everything with a critical eye, but there are some days when we have the joy of realizing just how well these textbook trends can work in the real world.

Structure was the order of Week 3 as we headed deeper into New Mexico (Figure 4). With the normal-fault-bound Sandia Mountains rising across the distant horizon, we studied the intricate tectonics north of Albuquerque, where phases of both compression and extension had been overprinted

FROM LEFT : GAZING OVER THE WINDSWEPT LANDSCAPE OF ARCHES NATIONAL PARK WITH ITS INTRICATE ARRAY OF EXTENSIONAL FAULTS RELATED TO SALT DEPOSITS KILOMETERS BENEATH THE SURFACE; AUTHOR PEERS ACROSS ARCHES NATIONAL PARK.

time and again (Hart and Cooper, 2021). Our skills were further put to the test as we worked to unravel the tangle of threads of one long, yet intricate story into Week 4, when, instead of studying tectonic regimes, we investigated the repeated advancement and recession of glaciers in southwest Colorado near Durango (Figure 5). This week brought a fresh perspective of the uses of geologic mapping as we catalogued glacial deposits and assessed their value for aggregate mining in proposed construction projects. For many, this offered a unique look at potential careers in geologic mapping. Even so, for me, having been raised mainly in a landscape of volcanos, floods, and fire, the best was yet to come.

For the final week, the class split as some ventured off to mining exploration, while myself and others were bound to mapping the geologic hazards of Silverton Mountain in the Colorado Rocky Mountains (Figure 6). After focusing so long on the record of events that happened long ago, it was now time for our eyes to be opened to events that were unfolding before us in the present day. We learned practical lessons about debris flows, avalanches, acid mine drainage, where not to invest in real estate (alright, not quite but the implications are there!), and more as we applied our understanding of geologic hazards to their interfacing with society.

When it was all said and done, we left field camp with far more than we had when we started. Those of us who went in as apprentices found ourselves coming out as novel masters ready to enhance and apply newfound skills. Everything we had learned in the classroom up to that point was put to the test, proving both its value and limitations. It was empowering to leave no longer simply students rummaging about in the dark, but as newly minted geologists equipped with skills for the profession. I will be forever grateful for the legends who taught it and resources like the Beardsley-Kuper Geology Field Camp Scholarship for this opportunity of a lifetime.

FROM TOP : INTRICATE FOLDED METASEDIMENTARY UNITS IN THE PICURIS MOUNTAINS IN NORTHERN NEW MEXICO; MEMBERS OF THE COLORADO SCHOOL OF MINES 2024 FIELD CAMP POSING WITH A REPRESENTATIVE OF OUR GRACIOUS ZIA PUEBLA HOSTS BEFORE EMBARKING ON FIELD MAPPING FOR THE DAY; SCENE OVERLOOKING DURANGO FROM ATOP A GLACIAL OUTWASH TERRACE; THE MINING AREAS AROUND SILVERTON SHOWCASE THE HAZARDS OF GEOLOGIC PROCESSES INTERSECTING WITH SOCIETY. IN THE DISTANCE BARE PATCHES OF HILLSLOPE ARE OFTEN RELATED TO AREAS OF FREQUENT AVALANCHES OR DEBRIS FLOWS.

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The AEG Foundation scholarship and grant applications are now open for 2025.

https://aegfoundation.org/grant-scholarships

Applications, with all supporting materials—including transcripts, letters of recommendation, etc.—must be received by 11:59 PM EST on January 15, 2025.

Each scholarship and grant has different requirements. Verify that you meet the requirements prior to applying.

Receive updates on Facebook by following the AEG Foundation or checking https://www.aegfoundation.org

Field Camp Review

Julia Rudlaff, Beardsley-Kuper Geology Field Camp Scholarship Winner

My field camp experience was challenging, educational, and a whole lot of fun. I spent six weeks exploring the Tobacco Root Mountains in Cardwell, Montana, amid the cacti, lodgepole pines, and many, many cows. I feel lucky to have been able to see such beautiful parts of the country—from Badlands National Park to Yellowstone to Glacier, from the mountain in the field station's backyard (Brownback) to the tallest peak in the range (Hollow Top), from the gullies full of mountain mahogany to the tallest Madison Group ridges. I was immersed in the regional geology, topography, and landscapes of southwest Montana.

One of my favorite aspects of field camp was learning the entire stratigraphic section for the Tobacco Root Mountains, from the Archean crystalline basement through Quaternary unconsolidated sediments. I felt a comforting familiarity by the end of the course—if someone pointed to an outcrop in southwest Montana and asked me what it was, I would likely have an answer. And not just a formation identification, I would be able to describe its relative age, the depositional environment it represents, and several identifying features of its lithology. Knowing the rocks made me feel at home in Montana, like I had been there for years and understood a unique aspect of its history.

My time at field camp was packed with work: long field days, exams, and challenging mapping projects, but also great fun and leisure. I met amazing friends, and we often went on long walks down the road in the evening, talking about the day's geology, appreciating the beautiful scenery, and conversing with the cows. The recreation was a necessary contrast to the tough days in the field. From independent exams to week-long mapping projects and pop quizzes, we all worked tirelessly to improve our field geology skills. At times, it felt like the hills never flattened, the work never receded, and the challenges were insurmountable. But, by the end of each project, exam, and quiz, I felt satisfied with my work and more confident in my abilities for the next one. I improved my score with each project and saw in real time how quickly my field geology skills developed. In the beginning of field camp, I struggled to accurately locate myself on a topographic map, my Brunton skills were rusty, and I knew nothing about the geologic history of the Rocky Mountains. But by the end of the course, I traversed our final mapping area with confidence in my navigational skills, my ability to identify different rock units, and my understanding of how various structural forces interact and disrupt stratigraphic order.

In the middle of field camp, I spent a week in the Sawtooth Mountain Range for the sedimentary geology concentration. There, we created a measured section for the Jefferson Formation and learned what professional field geology trips can look like. I admired stromatoporoid reefs, learned more about carbonate depositional environments, and spent evenings content by the campfire. My professor talked of a geologist who spent his entire career mapping the Sawtooth Mountain Range on horseback. I suppose if I ever had a "dream job," that might be it, though I'd prefer to go about it on foot, traversing the mountains with little more than a backpack full of food, a rock hammer, and a Brunton. There is something very special about learning the geology of a region and being able to go out and map an area based on that knowledge, and it is something I would certainly love to continue doing in the future.

Aside from all the geology skills I learned while at field camp, perhaps the most personally impactful experience was visiting the Berkley Pit and the Granite Mountain Memorial in Butte, Montana. The Berkely Pit was an open-pit copper mine that is now one of the largest superfund sites in the nation. The Granite Mountain Memorial sits above it, overlooking the open pit, and pays tribute to the 168 miners (and thousands of others throughout the mine's history) who lost their lives in

FROM LEFT : JULIA DROPS DILUTED HCL ONTO A ROCK TO ASSIST WITH IDENTIFICATION; JULIA PREPARES TO TAKE THE STRIKE AND DIP OF A ROCK UNIT.

JULIA ON A HIKE IN GLACIER NATIONAL PARK.

Granite Mountain Speculator Mine disaster, one of the worst mining fires in history (for more information, see **https://www.granitemine.org/history**). Reading the letters of the miners to their family members was heart-wrenching, and hearing the voices of those lost souls while looking out onto the ruined landscape that remains was devastating.

More than anything, this memorial invigorated me with a sense of purpose and served as a reminder of our obligation as geologists to make ethical decisions and put our morals and beliefs in environmental conservation above profits. As geologists, we have a duty, both professional and personal, to remember the consequences of our choices. We must act in accordance with our values and remember what happens when we do not—the deaths, the toxic waste, and the contaminated water that will be our legacy if we are flippant about the consequences of mining, drilling, and mineral exploration. I love geology, and I appreciate so much what I have gained from studying the Earth, but it is important to remember the ways in which geology can contribute to harming the environment and exploiting Earth's resources. I hope that the current and future generations of geologists will use their knowledge of this planet to better support it, nurture it, rehabilitate it, and prevent the type of devastation that occurred at the Berkley Pit. The image of this mine, and the knowledge of the lives lost to it, will remain with me forever and will influence the choices I make as a future geologist.

Overall, attending field camp validated my belief that field experience is necessary for any future geologist, and I am very grateful I had the opportunity to learn these skills in such an immersive, challenging, and beautiful environment. Field camp was the perfect capstone to my geology education, and my skills would not be fully developed without it. I grew so much as a geologist and as a person, and I am very grateful for the opportunity to attend such a rigorous course and meet such amazing people, including the professors. I am also incredibly grateful to Dorian and Tom Kuper and the AEG scholarship fund that supported my experience.

2024-25 Jahns Distinguished Lecturer

Dr. John Kemeny

Dr. John Kemeny has been awarded the Dr. Richard H. Jahns Lectureship for 2024-25. AEG established this award in 1988 in co-sponsorship with the Engineering Geology Division of GSA to provide funding for a distinguished engineering geologist to present an annual series of lectures at academic institutions intended to raise students' awareness about careers in engineering geology. Dr. Kemeny succeeds Cynthia Palomares, who was the 2023-24 Jahns Lecturer.

Dr. Kemeny's Biography

Dr. Kemeny has over 40 years of experience in the applied geoscience fields through a career that has included working at a geomechanics consulting company, a post doc at the Lawrence Berkeley National Lab, 33 years as professor at the University of Arizona, and co-founder of a successful startup company that became a world leader in vision-based rock fragmentation measurement software and point cloud–based rock mass characterization software.

He earned BS degrees in geology and math from the University of California, Santa Barbara in 1977, and ME and PhD degrees focusing on rock mechanics from the University of California, Berkeley in 1982 and 1986. He began his career in the Department of Mining and Geological Engineering at the University of Arizona in 1989, retiring as Emeritus Professor in 2022. At the University of Arizona Dr. Kemeny published over 170 papers, gave over 80 invited technical talks and workshops, and graduated 15 PhD and over 50 master's degree students, with research and teaching focused on rock mechanics, slope stability, rock fracture mechanics, numerical simulation in rock mechanics, and developing 3D imaging and sensing technologies for geotechnical applications.

In 1998 he co-founded Split Engineering with three students, a spinoff company focused on new technologies for measuring rock fragmentation and point cloud processing software for slope and underground stability. The company had offices in the U.S., Chile, Peru, South Africa, and Australia and was acquired by Hexagon Mining in 2019. Since retiring from the University of Arizona, Dr. Kemeny has recently started another company involved with integrating AI into the applied geology fields, to help combat the increasing hazards due to climate change.

Dr. Kemeny on His Plans for the Jahns Lectureship

I am honored to have been selected for the AEG/GSA Richard H. Jahns Lectureship for 2024–25, and I will do my best to use the lectureship to inform and inspire students and young professionals on the merits of a career in the applied geosciences, as well as the importance of participating in the AEG and GSA professional societies. In my travels and presentations, I plan to emphasize the importance of innovation and creativity in the applied geoscience fields, which is particularly important given the rapid increase in natural and manmade hazards associated with climate change.

A SUCCESSFUL ENTREPRENEUR, INNOVATOR, AND EDUCATOR, DR. KEMENY HAS TAUGHT FOR MANY YEARS, PUBLISHED EXTENSIVELY, AND FOUNDED COMPANIES. HE NOW FOCUSES ON DEVELOPING AI SOLUTIONS TO ADDRESS GEOLOGICAL HAZARDS ASSOCIATED WITH CLIMATE CHANGE.

Even though incredible new technologies and methods have been developed in the past decade to predict and prevent hazards and to save lives, it is often difficult to export these typically expensive technologies to countries worldwide, where they are often needed the most. Innovation and creativity is needed, including the use of AI, to develop cost-effective approaches, and this will be discussed in some of my Jahns lectures.

In some of the Jahns lectures I will also discuss the concept of "everyday" geo-based technologies and methods, where students, professionals, and hobbyists can now conduct on a casual field trip what 15 years ago would have taken significant field time, geospatial skills, and equipment expense. I also think that entrepreneurship is an important and exciting way to rapidly develop effective geo-technologies for the changing world, and in some of the Jahns lectures I hope to inspire student and young professionals to consider a career path that involves a small business startup.

Finally, I am open and excited to giving Jahns lectures across the country at both large and small colleges and universities, as well as GSA and/or AEG local chapters. In addition to presenting in geo-based departments such as geology and mining and geological engineering, the applied geoscience fields need help from a variety of non-geoscience graduates. I hope to use some of the Jahns lectures to inspire non-geoscience students in departments such as computer science, systems engineering, and business to consider a career in the applied geoscience fields.

Dr. Kemeny's Jahns Lecture Topics

Here are the titles of the lectures that I am preparing for my Jahns lectureship. Note that a specific Jahns talk can be some combination of the topics mentioned below and can also include topics not mentioned but for which I have some experience.

Topic 1: Rock Mechanics, Geomechanics, Rock Engineering: What's It All About (and what are the career opportunities)?

Topic 2: Everyday Geospatial: New Technologies Anyone Can Afford for 3D Field Scanning, Point Cloud Processing, Rock Mass Characterization, and Slope Stability

Topic 3: Why Is That Unstable-Looking Rock Slope Still Standing, and When Can We Expect It to Fail?: An Introduction to Rock Fracturing, Time-Dependent Fracturing, and Rock Bridges

Topic 4: Innovative Monitoring and Characterization Technologies (with the help of AI) for Combatting Geologic/Hydrologic Hazards Associated with Climate Change

Topic 5: Entrepreneurship in Applied Geology: Why Your Next Career Move Could Be an Innovative Small Business Startup

Go to **www.rockswriter.com** for a detailed description of each talk. To schedule a Jahns Lecture, please contact John at **Kemeny@arizona.edu**.

Student & Young Professional Support Committee

Rick Kolb and Francisco Saldana,
Committee Co-Chairs

The SYPSC holds our committee calls on Zoom on the second Tuesday of the month. We have 17 people from across the U.S.—from New York to Texas to Colorado to California to Nigeria. Our committee added six new members this year, and we expect to have added one or two more by the time you read this. Committee Co-Chair Francisco Saldana, PG, is an engineering geologist in California; Rick Kolb, PG, is an environmental geologist in North Carolina. Our membership includes four Early Career members and three Student members. Our newest member is Kate Tuskes, who is also the Young Member Representative of IAEG.

Our committee has several regular activities that target students and young professionals. In the past few months and in the next few months, these have included/will include:

Hold the annual ASBOG FG-preparation webinars.

- The next webinar is January 8, 2025. To sign up, contact manager@aegweb.org.
- Hold the annual career panel webinar. Our committee decided to alternate specialties for these panels each year. The next panel will be in November and will focus on careers in engineering geology, and in 2026 the panel will focus on careers in environmental geology.
- Awarded travel grants of $500 each to Student, Early Career, and Teacher members for Annual Meeting expenses. For this year's meeting in Philadelphia, we awarded 13 Student and one Early Career member grants; eight attended.
- Planned, promoted, and assisted with events during the Annual Meeting in Philadelphia:
  - the Student/Professional Networking Reception
  - the Young @Heart Student/Professional event
  - the Silent Disco event
  - the Annual Meeting Mentor Program, where this year we set up connections between AEG members and 13 Student members and one practicing professional. As is typical, we had many more volunteer to mentor (34) than mentees.
- Prepared the fall student chapter newsletter by the Early Career Advocate, committee member/Early Career member Jacqueline Betancourt. The fall issue will have been sent out by the time you read this article. The next issue is scheduled to go out in December.
- Helped establish new student chapters and maintain the student chapter contact list. This year, we established new student chapters at Appalachian State University (North Carolina); California State University, Los Angeles; Rowan University (New Jersey); Fresno State University; and the University of Missouri–Kansas City.

Guiding Our Future: The Five Strategic Pillars of AEG

Dale Andrews, AEG Strategic Planning Chair

As AEG's Strategic Planning Chair, I am excited to discuss AEG's five strategic pillars. These pillars serve as our compass, guiding each of our strategic goals. They are designed to strengthen our community, enhance our professional impact, and ensure a vibrant future for AEG. Let's delve into each pillar and understand its significance.

1. Membership

AEG and the Membership Committee have been working on developing and implementing new strategies for maintaining and increasing membership. By attracting new members, we can expand our network, share diverse perspectives, and foster a more dynamic community. Key initiatives include:

- **Establish Key Dates for Engagement:** Collaborating with the association management team to identify key dates to encourage renewal for those with lapsed memberships following the renewal deadline.
- **Improve the Member Onboarding Process:** Reviewing and refining the current member onboarding process to ensure a seamless and positive experience for new members.
- **Develop Initiatives for Retaining Members:** Designing and implementing targeted initiatives for enhancing member satisfaction and retention rates.
- **Implement Strategies for Growing Membership:** Expand our communication channels to increase awareness of AEG to nonmembers through targeted campaigns, publication advertisements, and social media.

2. Strengthen Financial Standing

Financial stability is crucial for the sustainability of our association. We are exploring how to expand and grow our revenue sources beyond membership fees. This includes building on the success of our in-person and remote specialized training courses, adding strategic partnerships with industry leaders and academic institutions, offering consulting services, and expanding our sponsorship offerings. We aim to create a financially robust association that can continue to support its members, host impactful events, and advance the profession of environmental and engineering geology.

3. Communication

We recognize that effective communication is the lifeblood of a thriving organization. It's not just about transmitting information; it's about fostering engagement, building relationships, and ensuring everyone feels connected. We recommend continuing to expand and improve our digital newsletter to provide association updates, videos, podcasts, and event information. We also recommend establishing a protocol for each of our communication channels. For example, using emails for major announcements and instant messaging for nonurgent updates, and considering phone calls for critical matters. Lastly, we may survey members to better understand their communication mode of choice.

4. Advancement of Our Profession

Our next pillar is dedicated to advancing the profession of environmental and engineering geology. We provide our members with professional development opportunities, advocate for the profession and professional licensure, and promote to the public the importance of our field. Through collaborative partnerships with leading professionals and universities, we offer certifications, webinars, workshops, field trips, and conferences to equip our members with the latest knowledge and skills.

5. Diversity, Equity, and Inclusion

Diversity, equity, and inclusion (DEI) serves as a foundational pillar within AEG. Just as a central pillar provides stability to a structure, our commitment to DEI strengthens membership, financial standing, communication, and professional advancement. By fostering a diverse and inclusive environment, we enhance our ability to attract and retain members, improve communication, and advance our profession. This inclusivity encourages professionals to join and contribute unique perspectives, enriching our association. Our current DEI initiatives include mentorship programs, diversity training, outreach, and policies that support equal opportunities.

Conclusion

These five strategic pillars are the foundation of our future growth and success. By working together and embracing these goals, we can ensure that AEG remains a leading organization in the field of environmental and engineering geology.

I encourage all members to get involved, share your ideas, and support these initiatives as we move forward. There are ample opportunities for your involvement to support our committees and the numerous objectives identified to strengthen these pillars. Please reach out to AEG should you desire to learn more.

Thank you for your continued dedication to AEG.

Membership Committee

Dr. Visty Dalal and Rick Kolb,
Committee Co-Chairs

AEG Membership Committee (MemCom) member, Curt Schmidt, along with Niall Henshaw co-organized the 2024 AEG Annual Meeting in Philadelphia. They did a wonderful job of putting together great technical talks, field trips, and social events throughout the week. The Annual Meeting was a success because of their hard work and diligence. In addition, other MemCom members—Dr. Visty Dalal, Rick Kolb, and newly installed member, Steven Tapanes, also attended the Annual Meeting. They prepared to meet and greet all AEG members and non-members and share the word about increasing membership in AEG. Throughout the week, some committee members were involved in outdoor activities, such as leading tours of the Conowingo Hydroelectric Power Dam and the Valley Forge Historical Site.

At one such occasion, when MemCom Co-Chair Dr. Visty Dalal was socializing with several members at an event, he met Steven Tapanes who had recently joined AEG. After a brief conversation, Steven was delighted to join the MemCom team. MemCom is happy to have Steven as he brings fresh ideas and input to our work. Steven has already started to work with Visty on several ongoing MemCom projects. Welcome aboard, Steven!

My name is Steven E. Tapanes. I am an engineering geologist with the New Jersey Department of Transportation. I graduated from Stockton University in Galloway, NJ, with a Bachelor of Science in Geology. My passion lies in understanding, preventing, and mitigating mass movements. As I continue to grow in my professional career, I look forward to collaborating with fellow professionals and contributing to impactful projects, further expanding my knowledge and skills while uncovering even more areas of interest within the field of geology.

Due to the absence of an association management company (hereafter, AEG Manager) for a few months, MemCom was handicapped as a lot of our work depends on obtaining membership data from the Manager. However, with the installation of Arden Solutions as AEG Manager in July, MemCom is gradually getting back on track on the following projects:

Membership Renewal Emails

Just like last year, MemCom has started working with the AEG Manager to review and revise emails to all AEG members regarding renewing their membership. Reminder emails will be forthcoming in the fall months of 2024. Starting in January 2025, another salvo of emails will caution existing members about losing their membership if they don't renew.

Revisions to AEG's Membership Brochure

Last year, MemCom, along with the AEG Manager, worked on reviewing and revising AEG's membership brochure with current pictures, member quotes, updates to the membership fees, etc., as required. Similarly, this year, MemCom will continue to work with the new AEG Manager to revise the membership brochure with events that took place at the 2024 Annual Meeting in Philadelphia.

Exhuming Dormant AEG Chapters and Creating New Ones

Some of the AEG chapters have been dormant for a while due to the lack of leadership, member interest, etc. MemCom, along with AEG President Renee Wawczak and supporting members, are determined to reinvigorate these chapters so that members enjoy learning and meeting with each other again. In addition, AEG members have shown interest in starting a new chapter in some states. AEG will put in effort to start new chapters if there are enough members interested.

Collaboration with International Engineering Geologists

At the Portland and Philadelphia Annual Meetings, a small contingent of engineering geologists from Japan showed interest in collaborating with AEG members in the field of dam engineering. Dr. Visty Dalal has taken the lead in filing papers with IAEG to form the Dams & Levees Commission (DLC) with help from Sarah Kalika, AEG past-president, and Martha Whitney, director, International Region, AEG. MemCom is interested in reaching out to international students and non-members from different countries once DLC is formed to facilitate interaction and collaboration among engineering geologists from different countries in an effort to learn from each other.

2024 Annual Meeting Mentor Program

Rick Kolb, Co-Chair, Student & Young Professional Support Committee

Since at least 2018, the Student & Young Professional Support Committee (SYPSC) has organized the mentor program at AEG's annual meetings. During registration for the meeting, practicing professionals can sign up to be mentors to the students and young professionals ("mentees") can sign up for a mentor when they register. Typically, we have two to four times more mentors than mentees because the majority of registrants at our annual meetings are practicing professionals, commonly with many years of experience, whereas student and young-professional registrants are in a small minority. For the 2024 meeting, we had 34 mentors and 13 mentees, all but one a student member.

Historically, SYPSC has assigned mentors to mentees in a somewhat arbitrary process. For the 2024 meeting, we undertook a different approach and allowed the mentees to pick their mentors. This approach required a little more effort by the planners. We sent each mentor a spreadsheet that included columns with their names organization, and practice type (i.e., environmental or engineering geology), and a column at the end of the spreadsheet where the mentor added some background information about themselves. We sent this spreadsheet to the mentees and asked them to pick their top three choices of mentors. Upon receipt of their choices, we provided the mentees contact information for their three "prospects." After emailing their three prospects, they sent SYPSC their ranked first, second, and third choices. SYPSC then assigned each mentee a mentor and passed that selection on to the mentee with instructions to contact that mentor and make plans to meet at the annual meeting. Typically each mentee got their first choice, but naturally some mentors were more appealing than others, so a few didn't get their first choice. We didn't want any mentee to have more than one mentor since we had 21 mentors who would not be selected. Of the 34 mentors, 18 were selected by the mentees.

After the meeting, we asked mentors and mentees for some comments on their interactions. Only one mentee replied, and she wrote that she didn't connect with her mentor at the meeting. Lesson learned: Provide the mentees with instructions to contact a SYPSC representative prior to or at the annual meeting if they cannot get set up with a mentor. With the surplus of mentors, we can accommodate those that don't connect with their chosen mentor.

Six mentors provided comments:

Luke Ducey, WSP

I think it was a great program, and I'm happy to say that Mariam and I were able to connect, chat and are continuing our mentor/mentee program moving forward. It was a great match for her to be local and near St. Louis, we even saw each other last night at the first St. Louis Chapter meeting of the fall and have scheduled check ins for the coming months.

I will say the initial set up was a little disorganized because I had three people select me and they directly reached out to me and not you but that might have been them jumping the gun a little bit. Glad it all worked out though!

Joe Krupansky, Gannett Fleming / TranSystems

I think the meeting with my mentee (Kaela Brunner) went well. We got together for conversation early in the conference, shortly after Kaela arrived. I believe this was beneficial to ease Kaela's nerves a little about being in the professional environment and not knowing anyone or what to expect. Meeting early also provided the opportunity to introduce Kaela to professionals I am familiar with throughout the conference. Kaela and I plan to keep our relationship going beyond the AEG meeting.

I like the informal format, as it would be tough to fit a specific timeline into the program. I'd keep the program the way it is. Perhaps a brief suggested guidelines document would be beneficial for the mentors. Potential items could include:

- Expectations on communication (email, text, other)
- What timeframe would be best to meet
- Potential topics to discuss (just spit-balling here)
    - Mentor's & mentee's backgrounds
    - Fields of interest
    - Benefits of a professional association
    - Potential interview questions and what to expect in an interview
    - Knowledge of companies and employers practicing fields of mentee's interest and within their geographic region
    - What to expect during your early career (field work, office work, travel, etc.)

Thanks for putting this program together. It's important for both the mentor and mentee. I'm glad I was able to be a part of it.



Cynthia Palomares, Palomares Consulting

I met with my mentee once during the AM, we set a time via email and found the committee room to visit in. We spent maybe 40 minutes together. I discussed my background, how I became a geologist and the positions I held. She then shared her background, why she enjoyed geology and what careers she was interested in. I discussed the pros and cons of careers in government, consulting, industry and academia and the different types of careers available (i.e. geohazards vs environmental).

Joshua Shinpaugh, Tennessee Valley Authority

My experience with the program went very well! I was partnered with Yesenia Rivera, who had just started with the US Corps of Engineers at their Engineer Research & Development office in Vicksburg, MS. We had a great discussion about her career paths of interest, some of which mirrored my own professional journey. I was able to introduce her to several of her colleagues from various USACE Districts which helped her strike up conversations regarding opportunities across the Corps. I enjoyed getting to know Yesenia and was very impressed with her eagerness to learn from the experience. I look forward to volunteering again next year!

Minda Moe, Arcadis

This was my first year as an AM mentor and I thought it was a good experience, overall! My mentee was great, she was only able to attend about a day and a half or two days of the conference due to working and being a student, but we had good conversations at the Young at Heart event and brief conversations a couple of times in the hallways.

I recently attended the GSA meeting in Anaheim and got into their conference mentoring program. They have a very spiffy online portal that basically does the same work y'all did with the spreadsheet (mentors put in their experience, mentees pick someone and are responsible for emailing them) – maybe we can aspire to that in a few years for our recurring program. One thing they did was they set an expectation that mentors/mentees would meet for 30 minutes every day of the conference, or chat virtually if schedules didn't align. It's obviously not going to be realistic for everyone, but I do think that additional expectation helped motivate myself and my mentees (I picked up three somehow) to make purposeful time for conversation every day, which I hope helped them get their questions answered.

Kirk Stowers, Broadbent

I feel like AEG's mentor program is a good resource for the mentees, particularly those that may be coming to geological work as a "second chapter" in their career. For my mentee, I felt like I was able to set some expectations for working in our industry, especially as it related to salary and work / life balance. I think I was also able to provide an idea of what day-to-day work as an incoming staff person might look like as an environmental consultant, which is my field. As we discussed on the phone, I recommended this program to the director of the AEHS conference I attended last week as well, as an example of a valuable mentor / mentee program.

From my mentee's perspective, this is the message I got from her after we met:

"I want to thank you so much for meeting with me and sharing your experiences and wisdom. I won't be able to attend the remainder of the conference, but I am happy I was able to attend for the time I did. I really enjoyed speaking with you and attending your presentation earlier today during the mining session.

Your insight and knowledge are incredibly valuable and definitely gave me much to think about as I finish my final semesters toward my BA. I may have additional questions in the future, if you happen to have time of course, but for now I hope you enjoy/ed your trip to Philadelphia. I wish you a safe trip back and much continued success with Broadbent and your future projects!"

Conclusion

SYPSC thinks the revised mentor system worked pretty well. We plan to follow a similar system, with a few tweaks, at next year's annual meeting in Chicago. We hope you will consider volunteering to be a mentor.

AEG Annual Meeting: Fourth Annual Symposium on Land Subsidence

Submitted by Jim Borchers, Co-Chair, AEG Subsidence Working Group

On September 12, 2024, AEG's Land Subsidence Working Group convened the Fourth Annual Symposium on Land Subsidence at the Annual Meeting in Philadelphia. We received a lot of positive feedback from the audience attending this geographically and topically diverse examination of current land subsidence issues.

Jim Borchers kicked off the symposium presenting photos and videos of recent land subsidence features globally—from catastrophic sinkhole formation in Ireland and Illinois to coastal inundation in Indonesia, to major deltas and urban areas of the world, to Siberian craters and slumps in thawing permafrost, to building damage in England from shrinkage of clay soil during drought. Nearly 25 percent of the world's population lives in areas likely to subside.

Our keynote presenter, Daneille Smilovsky, from the Conrad Blucher Institute at Texas A&M Corpus Christi (TAMCC), discussed the amazing utility of interferometric synthetic aperture radar (InSAR), with examples from the West Texas oil fields, where a tremendous increase in production from large, dense hydrocarbon fields has induced seismicity and earthquakes since the advancement of hydraulic fracturing and horizontal drilling during the last decade, and Arizona's Wilcox basin where groundwater mining for agricultural irrigation has deformed the land surface and caused fissuring.

Batu Osmanoglu, NASA Goddard Space Flight Center, detailed the capabilities and data products of the U.S./India NISAR satellite that will launch winter 2025. The satellite will collect L-band (or 24-cm wavelength) and S-band (10-cm wavelength) synthetic aperture radar data twice every 12 days with near global land and ice coverage enabling new and innovative research applications, including measuring human-induced land subsidence; understanding seismic, volcanic, and landslide hazards; and tracking icesheet and glacier motion. Extensive data products will be available at https://nisar.jpl.nasa.gov/ and https://asf.alaska.edu/.

Manoochehr Shirzaei of the Earth Observation and Innovation Lab at Virginia Tech, where coastal subsidence has been studied globally, presented an analysis of coastal subsidence, which increases the damaging effects of sea level rise. The frequency of flooding is expected to double with just 20–30 cm of local sea level rise. Many coastal wetlands will be drowned, and runways at 15 major airports in the U.S. will be exposed to subsidence at high to very high damage risk. Xin Zhou, Morgan State University, determined relative sea level rise from 15 long-term tide gauge records in the Chesapeake Bay area. Using these measurements, estimates of absolute sea level rise, and basement rock subsidence resulting from glacial isostatic adjustment, she determined

that aquifer compaction of 0.15–0.87 mm/yr results from groundwater extraction in the area.

Tianxing Chu, Conrad Blucher Institute at TAMCC, used multiple geodetic techniques—continuous GPS, tide gauges, satellite altimetry, InSAR, extensometry, LiDAR, and gravimetry to monitor vertical land motion (VLM) and sea level changes along the Texas coast to support coastal resilience and sustainable development efforts. Ashley Greuter, Harris-Galveston Subsidence District, summarized the history of subsidence from hydrocarbon and groundwater extraction in the greater Houston area and compared results from the 2022 Global Navigation Satellite System Survey that spent 1,660 hours making static observations at 154 benchmarks to groundwater level changes. Groundwater level decline and subsidence were greatest in northern and northwestern Houston area in areas of current development. Former AEG president, Bill Godwin, expanded on the environmental issues of coastal subsidence and sea level rise by evaluating risks to coastal contaminated soils at Hunters Point Naval Shipyard in San Francisco Bay; landfills and soil contaminants in the Baytown area near Houston, TX; and contaminated sites and landfills in the New Jersey Meadowlands.

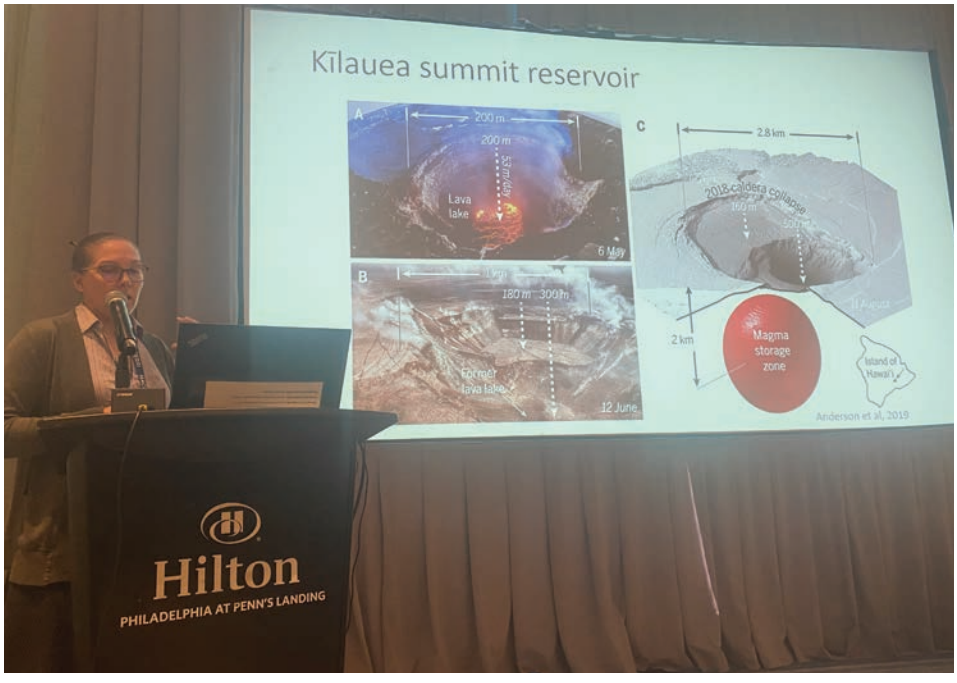
Jeane Sauber, Goddard Center, compared subsidence processes in tectonically active coastal areas in American Samoa (where relaxation from the 2009 Samoa-Tonga earthquake increased subsidence and coastal flooding) with the East Coast of the United States (where a thicker and more viscous lithosphere contributes to relative sea level rise by glacial isostatic adjustment). Emily Montgomery-Brown, USGS Cascades Volcano Observatory, reviewed the

deformation styles and mechanisms of U.S. volcanoes—Lassen, Three Sisters, St. Helens, Edgecumbe, Long Valley, and Kilauea. Volcanoes both subside and uplift substantially from millimeters to hundreds of meters. They can deform at a wide range of rates, from nearly instantaneously to relatively long-term (decades). Deformation sources include magmatic, tectonic, hydrologic, thermal, etc.; analysis may require many types of data to disentangle these sources.

Sean Culkin of Upland Hydrogeo, linked groundwater level drawdown mechanisms during construction dewatering to subsidence mechanisms at the settling Millenium Tower in San Francisco. Anthony Rana presented work by Ira Sasowsky and others, evaluating collapse features that formed due to episodic water-table lowering during dewatering of a limestone quarry in Bucks County, PA. Sarah Missenda, U.S. Army Corps of Engineers, reported on complex repairs to a failed stone arch–lined culvert that formed a 40-ft sinkhole in Blairsville, PA.

Michiel van der Meulen, AEG Holdredge Award recipient, described how peatland cultivation, water management, gas and salt mining, and surface loading have resulted in as much as 8 meters of subsidence in the Netherlands. Pepijn van Elderen, Utrecht Univ., described the importance of consolidation, creep, and peat decomposition to successful modeling of shallow compaction and subsidence modeling in the Netherlands. He also presented Esther Stouthamer's, Utrecht Univ., description of the interaction of shallow land subsidence mechanisms—organic matter decomposition, shrinkage, and creep. Jennifer Welch, Univ. of Houston, used GPS-instrumented benchmarks at various depths to study shallow subsidence on the Texas Gulf Coast, finding substantial subsidence during extended dry seasons in clayey soils and no subsidence in sandy soils.

AEG's Fifth Annual Land Subsidence Symposium will be convened September 25, 2025, at the 68th Annual Meeting in Chicago, IL. Watch for the call for abstracts coming in January 2025.



In Memoriam

Allen Vaughan Shaw

1940–2024

Allen passed away suddenly on October 16, 2024, in Rockville, MD. He was born May 19, 1940, in Haverhill, MA, and grew up at the family homestead in Groveland. As a teenager, he worked on a local dairy farm, which he reminisced about frequently.

Allen was educated at Williston Northampton School, graduating in 1957. He played varsity football and was a member of the varsity track team. Allen also participated in the school glee club and student council, and was sports editor of the school paper. Allen earned a Bachelor of Science in geology at Tufts University, where he ran intercollegiate cross-country and track and was a teaching assistant in the geology labs. He received his master's degree from Michigan State University, where he was a graduate teaching assistant in optical mineralogy and petrology. He continued his formal education at the University of Arizona, the University of Oklahoma, and The University of Texas at Dallas.

Allen began his professional career in oil exploration, working for Conoco in the western U.S. He lived in the Rocky Mountain region for many years before moving to Arizona and then to Texas to work as an exploration geologist for Sun Exploration. In the early 90s, he moved back to the East Coast and transitioned to environmental geology, working for Dames & Moore/URS Corporation as a principal geologist and Bechtel Power Corporation as a senior engineering specialist. Prior to his retirement, he was a licensed professional geologist in Arizona, Delaware, Pennsylvania, and Virginia. Allen was active in AEG and served as editor of *AEG News* from 2005 to late 2012.

> "Allen lived a life of service and spent countless hours volunteering."

During his time in Wyoming, Allen met Dorsey Winchester. They were married in 1970, becoming an instant family with Dorsey's children Lynne, Shannon, Casey, and Marty, before adding two more daughters, Ryan and Morgan. At the time of his death, he was living with his companion of 19 years, Christine (Tina) Chisena and their kitties, Frank and Lola, in Maryland.

Allen lived a life of service and spent countless hours volunteering for many organizations, big and small. He generously supported many organizations with monetary donations when he was unable to support them with his time and personal service. He was a faithful friend of the geology department at Tufts, his beloved alma mater, and made it a priority to support the department with a gift each year. His sense of humor and wit and the mischievous twinkle in his eyes will be greatly missed.

Based on an obituary published by "The Tribute Archive": *https://www.tributearchive.com/obituaries/33450834/allen-vaughan-shaw*

In Memoriam

Michael O. Cook

1951–2024

Michael passed away on November 2, 2024, in San Bernadino, CA, doing one of the things he loved most—running. He was born August 24, 1951, in Reedley, CA, and grew up in Kingsburg, CA, graduating from Kingsburg High School in 1970. He married Jean Marie (Jeannie) Schweitzer in Long Beach on October 7, 1978.

Michael graduated from California State University, Los Angeles in 1982 with a Bachelor of Applied Science in geological and earth sciences/geosciences. He worked as a geologist for 42 years, with the last 24 years at Kleinfelder, where he was still employed as a senior engineering geologist. Michael was a founding member of AEG's Inland Empire Chapter and was currently serving as Co-Vice Chair.

Michael was heavily involved in the San Bernardino Pacers running club and completed over 20 half-marathons and two full marathons. Michael was given many recognitions from various associations and local schools for his community service. Over the years, he volunteered as a foster father, boy scout leader, baseball coach, and mentor. Michael was an incredible person and a great friend to all. His vibrant spirit touched the lives of many, and his presence and that ever-present smile and enthusiasm will be sincerely missed.

> "Michael's vibrant spirit touched the lives of many"

Based on an obituary posted on Dignity Memorials: *https://www.dignitymemorial.com/obituaries/san-bernardino-ca/michael-cook-12060985*

Field Trip

From Flooding to Faulting: The Dynamic Geology of Coastal Orange County

Geological Society of America (GSA) Connects Annual Meeting, Anaheim, CA

By William Godwin

AEG members Brian Olson, PG, CEG (trip leader); William Godwin, PG, CEG (co-leader); and Paul Burgess, PG, CEG (co-leader) led an interesting geology field trip as part of the September 2024 GSA Connects Meeting held in Anaheim, CA. The one-day field trip (September 21st) was designed for On To the Future (OTF) students and young professionals, who are typically unrepresented in the geosciences or may be nontraditional students.

The field trip featured seven stops at locations reflecting either topographic high points (mesas) or low points (gaps) along the Orange County coastline (see Figure 1). The field trip was inspired by the dynamic forces that created the mesas (the Newport–Inglewood Fault) and eroded the gaps (the Santa Ana River). The field trip explored the interplay between hydrogeology, seismic hazards, and fluvial geomorphology and examined their influence on the natural and human development of the area.

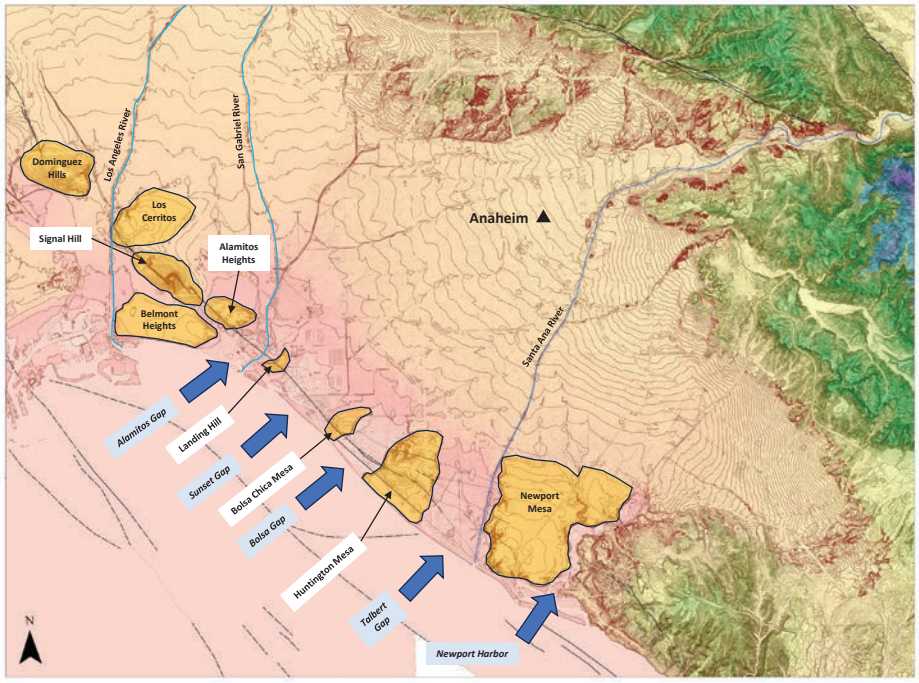


FIGURE 1. THE NEWPORT-INGLEWOOD FAULT AND HOW IT CONTRIBUTED TO DEVELOPMENT ALONG WITH RIVERS OF THE MESA AND GAP GEOMORPHOLOGY OF COASTAL ORANGE COUNTY.

Summary of stops:

Stop 1 – Visit to the Orange County Water District (OCWD) facility in Fountain Valley to learn about subsurface hydrogeology, causes of seawater intrusion, and the injection barriers used by OCWD to protect the groundwater basin (see Figure 2).

Stop 2 – Overlook Park (Huntington Beach): The Newport–Inglewood Fault Zone (NIFZ) passes through the neighboring development, as evidenced by the lack of houses along a diagonal greenbelt (see Figure 3). California's Alquist-Priolo Fault Zoning Act forbids construction over active surface fault traces, so the greenbelt represents the fault's surface trace.

Stop 3 – Bolsa Chica State Ecological Reserve: This natural salt marsh was planned for development, including a marina and housing tracts in the 1970s, but local groups fought and won to have it protected. This natural wetlands preserves what each of the coastal gaps looked like prior to 20th-century development in this area. Contrast this stop with the next, at Huntington Harbor, which was developed with a marina and housing tracts in the 1960s and looked exactly like the Bolsa Chica wetlands prior to that.

Stop 4 – Huntington Harbor development in former Sunset Bay: Robert Leeper shared the results of a 2017 study he did on coastal marsh subsidence from large earthquakes on the NIFZ (see Figure 4). He found evidence of three major subsidence events that suggest three major earthquakes on the NIFZ in the past 2,100 years. We discussed how the Huntington Harbor homes and infrastructure are built on highly liquefiable sediments, with the NIFZ running right underfoot, and the damage that could happen from a significant regional earthquake. We also discussed the concerns for coastal marina developments like this with ongoing sea level rise connected to human-induced climate change.

Stop 5 – Dwyer Middle School and City Gym (Huntington Beach): This stop focused on the 1933 Long Beach Earthquake, which damaged the Central Grammar School such that it had to be torn down. The current Ethel Dwyer Middle School building was built in its place and opened in 1935. The City Gym was built in 1931; it survived the

earthquake because it was built with reinforced concrete, not brick (see Figure 5).

Stop 6 – The mouth of the Santa Ana River at the beach: Here we discussed the major flooding history of the Santa Ana River and its impacts on local history, flood control improvements that were constructed beginning in 1941, and the future of flood control along the river.

FIGURE 2, STOP # 1. OCWD HYDROLOGIST JOHN BONSANGUE SHOWING ONE OF SEVERAL INJECTION WELLS. OCWD HAS ONE OF THE LARGEST WATER INJECTION SYSTEMS IN THE U.S. USED FOR COMBATING COASTAL SALTWATER INTRUSION.

FIGURE 3, STOP #2. AT OVERLOOK PARK, ATTENDEES VIEWED THE BOLSA CHICA WETLAND, AND CALIFORNIA GEOLOGICAL SURVEY ENGINEERING GEOLOGIST BRIAN OHLSEN DISCUSSED THE FAULT RUPTURE HAZARD OF THE ADJACENT NIFZ.

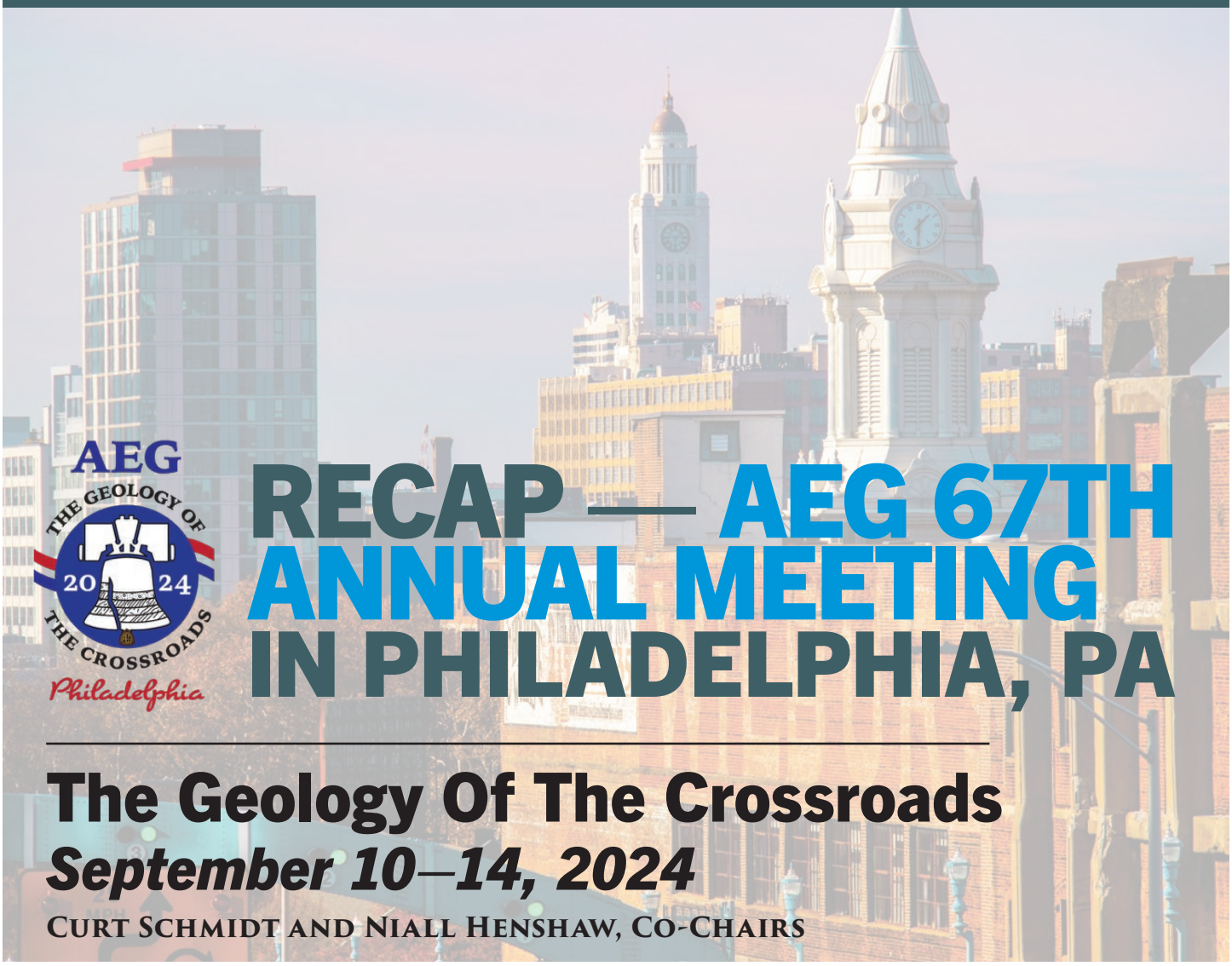
FIGURE 4, STOP #4. AT THE DAVENPORT MARINA, ROBERT LEEPER OF MT. SAN ANTONIO COLLEGE DISCUSSED PALEO-TSUNAMI RESEARCH AND THE INFLUENCE OF THE NEWPORT–INGLEWOOD RELEASING BEND ON THE STRUCTURAL GEOLOGIC SETTING.

Stop 7 – Castaways Park (Newport Beach): Overlook area of Newport Harbor, discussion of the geologic forces that created the bay and upper channel (which are related to global sea level changes in the late Pleistocene), and the manmade islands that are home to some of the most valuable real estate in southern California and sit on highly liquefiable sediments; these are beginning to be affected by rising sea levels and higher-than-normal tides (see Figure 6).

The field trip utilized experts in the public and private sectors to explore three distinct yet interconnected facets: surface water flooding, subsurface groundwater dynamics, and earthquake hazards. They described and demonstrated the historical influences of the Santa Ana River's meandering course and destructive flooding events, which have shaped the surface water landscape over the centuries. John Bonsangue described the intricate coastal aquifer systems, where historic sea level changes and tectonic uplift have given rise to vital water resources, while also posing threats of seawater intrusion as global sea levels rise into the next several decades. Lastly, Brian Ohlsen and Bob Leeper spoke at several stops about the seismic landscape, where the NIFZ creates both a helpful groundwater barrier and a potential earthquake risk, as demonstrated by the historic 1933 M6.4 Long Beach Earthquake.

FIGURE 5, STOP #5. APPROACHING THE DWYER SCHOOL GYMNASIUM, ONE OF THE FEW STRUCTURES THAT SURVIVED THE 1933 M6.4 LONG BEACH EARTHQUAKE BECAUSE IT USED REINFORCED CONCRETE INSTEAD OF THE MASONRY CONSTRUCTION TYPICAL OF THE TIME.

FIGURE 6, STOP #7. VIEW TO THE NORTHEAST FROM CASTAWAYS PARK, SHOWING NEWPORT HARBOR BACK BAY, THE REMNANT OF AN ANTECEDENT RIVER CHANNEL (NEWPORT RIVER) FORMED DURING THE SANGAMON INTERGLACIAL STAGE.



RECAP — AEG 67TH ANNUAL MEETING IN PHILADELPHIA, PA

The Geology Of The Crossroads

September 10–14, 2024

CURT SCHMIDT AND NIALL HENSHAW, CO-CHAIRS

It is hard to believe that it has been over five years since the Executive Council approached me, Curt, as the Northeast Regional Director, about hosting an Annual Meeting in the Northeast Region! The last Annual Meeting held in the Northeast was in Boston in 2006. I recruited Niall Henshaw to be my "partner-in-crime," and we started to look for the best location for AEG's Grand Return to the Northeast. During our preparation, COVID hit, and the 2020 Annual Meeting in Portland was moved to 2023, so our original 2023 timeline was pushed to 2024! After looking at several cities, with a lot of hard work from Heather Clark, our esteemed Meeting Manager, we settled on the Philadelphia Hilton at Penn's Landing, and wow, what a find! The Hilton was within walking distance of downtown Philadelphia, Independence Hall, and other historical sites. There was an authentic tall ship the *Moshulu* docked a couple hundred yards from the hotel, along with the WWII submarine *Becuna*, and the *USS Olympia*, a historic cruiser of the Spanish-American War. When Heather, Niall, and I visited Penn's Landing, we discovered the *Moshulu* had a restaurant, and we started thinking about how to incorporate it and the historic areas within walking distance of the Hilton. Niall and I walked to Carpenters' Hall, the site of the First Continental Congress, and ideas for special events started to form!

If you did not make it to this year's conference at Penn's Landing, directly on the Delaware River, you missed a great event filled with opportunities to interact with over 340 attendees.

The meeting kicked off on Monday, September 9, with a great "2024 Virtual Day" with 69 attendees.

On Tuesday, September 10, we held three field courses: 1) the Conowingo Dam in Maryland led by Dr. Visty Dalal of the Maryland Department of the Environment; 2) the Wissahickon Schist at Wissahickon Park, Philadelphia, Pennsylvania, led by Dr. Natalie Flynn of Temple University; and 3) the Coastal Erosion and Accretion on Absecon Island & Brigantine Island, near Atlantic City, New Jersey, led by Dr. Kimberly McKenna of Stockton University Coastal Research Center. The weather was perfect: sunny and in the 70s! Great times were had by all!

Later that evening, the Exhibitors hosted the Icebreaker, welcoming attendees; this was followed by the Young @Heart Student/Professional gathering on the deck of the *Moshulu* under beautiful starry skies and a view across the Delaware

River of the illuminated battleship *USS New Jersey*, the most decorated of the great U.S. dreadnoughts. The *Moshulu* was a short walk from the Hilton, so it was a great opportunity for the many students and young professionals to mingle. Can you think of a more conducive environment for students, young professionals, and seasoned professionals to interact than on the main deck of a square-rigged tall ship? A wonderful evening!

This year we continued an adjusted approach to Guest Tours, which have seen a general decline in attendance over the past decade-plus of Annual Meetings, and instead provided resources and help to coordinate and familiarize guests with the popular local attractions, especially the many famous historical sites and museums in the city, including the Philadelphia Museum of Art with its "Rocky Steps," Independence Hall, and the Liberty Bell. Based on feedback, the guests appreciated the flexibility and options of the more self-guided tours.

The Opening Session on Wednesday morning started with welcomes from AEG President Sarah Kalika and the meeting co-chairs, Curt Schmidt and Niall Henshaw. We followed with the presentation of AEG Volunteer Recognition Awards to Gerry Stirewalt and Courtney Johnson, co-chairs of the GASH Technical Working Group. Then we recognized the esteemed Pulitzer Prize–winning author John McPhee with the Advocacy Award. Mr. McPhee, who is 93 years old, thanked AEG remotely from his home in Princeton, NJ. AEG Foundation President Dr. Anna Saindon then presented the Foundation's awards to recipients.

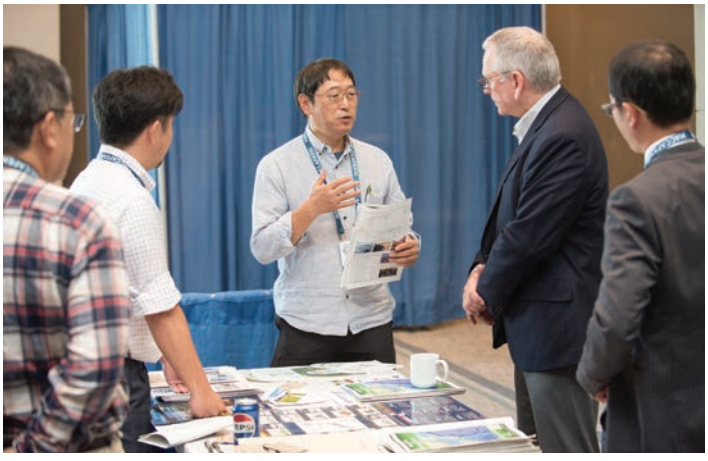
We had two notable keynote speakers: Dr. Gale Blackmer, Pennsylvania State Geologist, and David E. Haymes, Assistant Commissioner, Contaminated Site Remediation & Redevelopment, New Jersey Department of Environmental Protection. They provided excellent summaries of progress in environmental and engineering geology in Pennsylvania and New Jersey.

After a mid-morning break, we learned about the Paw Paw Slope Stabilization Project at the Chesapeake & Ohio Canal National Historic Park, which won the 2024 AEG Outstanding Environmental & Engineering Geologic Project Award. Following that excellent presentation, we heard from Cynthia Palomares, the 2023-24 AEG/GSA Richard H. Jahns Distinguished Lecturer in Applied Geology, followed by Dr. John Kemeny, the incoming 2024-25 Jahns Lecturer.

Following a buffet lunch with the Exhibitors, the technical presentations began and proceeded through Friday. The technical program featured 19 sessions with a total of 127 oral and 20 poster presentations. The technical sessions

MASAI LAWSON ADDRESSING ATTENDEES OF THE DIVERSITY, EQUITY, AND INCLUSION SYMPOSIUM.

MEETING CO-CHAIRS CURT SCHMIDT, NIALL HENSHAW, WITH PAST PRESIDENT SARAH KALIKA



A DELEGATION FROM JAPAN REPRESENTED THE SOCIETY OF ENGINEERING GEOLOGY.

AEG'S PAST PRESIDENTS GATHERED TO WELCOME INCOMING PRESIDENT, RENEE WAWCZAK

SARAH KALIKA (RIGHT) PASSES THE PRESIDENTIAL GAVEL TO RENEE WAWCZAK

included the AEG DEI Symposium "Shine the Light," as well as symposia on dams and levees, land subsidence, karst, tunneling, and environmental site characteristics, plus technical sessions on the engineering geology of southwest Pennsylvania, geophysical and site investigations, landslides in the eastern U.S./inventories and susceptibility mapping, tectonic studies, coastal hazards, environmental and mining topics, and GASH case histories for evaluation of geologic and seismic hazards.

The 2024 Annual Meeting also had a "first": the screening of two incredible films! We were extremely fortunate to have Producer/Director/Editor Scott Morris to introduce and provide a Q&A on his award-winning documentary feature, *American River*, about a four-day kayak adventure down one of the most beautiful and neglected rivers in the nation, the Passaic River in New Jersey. For those that could not make it to Philadelphia, take a moment to find out more about the film at www.americanriver.film. We then enjoyed a presentation of *Mystery of Mélange* a short-form documentary by students Jonathan C. Renna Reyes and Devon Moore from Fresno State University. The two young filmmakers enjoyed a meeting and discussion with the award-winning Scott Morris about future endeavors.

The highlight of the 2024 Annual Meeting was our special event on Wednesday evening, September 11—"A Night of Geology and American History" at Carpenters' Hall. Carpenters' Hall is a treasure in historic Philadelphia. It hosted the First Continental Congress in 1774 and was home to Franklin's Library Company, the American Philosophical Society, and the First and Second banks of the U.S. The year 2024 rings in the 300th year of The Carpenters' Company of the City and County of Philadelphia. It likewise signals the 250th anniversary of Carpenters' Hall and the First Continental Congress, the historic meeting of representatives of 12 of the original 13 colonies to discuss how the colonies should respond to the British government's actions, including the Boston Tea Party, the Intolerable Acts, and the blockade of Boston Harbor. AEG members and guests enjoyed a delicious buffet meal and presentation by Dr. Dan Barto in the same room where Ben Franklin, John Adams, Sam Adams, John Jay, Patrick Henry, Richard Henry Lee, and George Washington, among others, once sat and discussed the future for the country. It was a truly memorable evening!

We also enjoyed the AEG Annual Banquet, the Inclusion Luncheon, gatherings and meetings of various committees, technical working groups, the Executive Council, and the Board of Directors; some formal, and some informal, around the hotel bar or around a small table in the Exhibit Hall during the morning and mid-afternoon breaks. During the Awards Ceremony and Corporate Business Meeting on Friday, some of AEG's major awards were presented (see Table 2).

The meeting concluded with a field course on the Geoheritage of the Valley Forge National Historic Park, led by Dr. Eric Pyle of James Madison University; Bethany Dhunjisha, park ranger; and Curt Schmidt, PG. The field course wrapped up a great meeting and highlighted the meeting's theme of "The Geology of the Crossroads" by illustrating the geology, geomorphology, geoheritage, and the history of eastern Pennsylvania and New Jersey, known as the Crossroads of the American Revolution.

We need to thank our members who made this meeting happen, including the members of the Planning Committee: Marty Goff, Thomas Cumello, Mia Painter, and Joelle Freeman, and our local New York-Philadelphia Chapter, including Ted Toskos, Rose DeLorenzo, Loren Lasky, and John Robinson. The Executive Council, Meeting Advisory Committee, and our AEG Headquarters gave invaluable assistance.

To all the volunteers and field trip leaders, and to our 14 student volunteers, thank you.

To our sponsors and exhibitors, a heartfelt thank you.

Lastly, to Heather Clark, our Meeting Manger, your help, assistance, and guidance were invaluable, thank you.

Onwards to Chicago in 2025!

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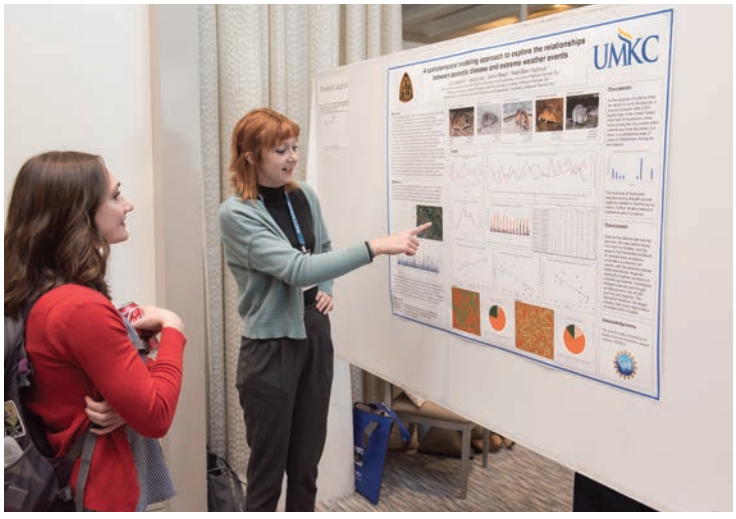
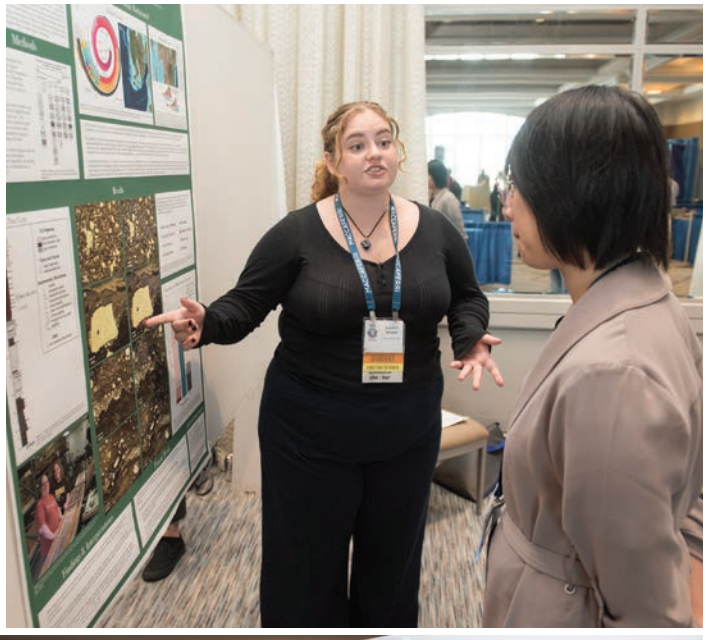
PLENARY SESSIONS

POSTER SESSIONS & RECEPTION





NETWORKING, LEARNING, AND EXPLORING

THE ANNUAL MEETING INCLUDED LOTS OF OPPORTUNITIES TO GET TO KNOW COLLEAGUES, TWO FILM SCREENINGS, EXCURSIONS WITHIN PHILADELPHIA, AND PROFESSIONAL SYMPOSIA

ICEBREAKER RECEPTION

THANKS TO FIELD ENVIRONMENTAL INSTRUMENTS, INC., FOR SPONSORING AN ICEBREAKER IN THE EXHIBIT HALL ON THE FIRST DAY OF THE ANNUAL MEETING.

FOUNDATION RECEPTION

THURSDAY EVENING INCLUDED A RECEPTION FOR DONORS TO THE AEG FOUNDATION.

YOUNG @HEART

THE YOUNG @HEART STUDENT AND YOUNG PROFESSIONAL EVENT ABOARD THE *MOSHULU* TALL SHIP WAS A GREAT WAY TO START THE WEEK IN PHILADELPHIA.

2024 AEG AWARDS

Honorary Member / *William Cole*

Honorary Member / *Elaine Hanford (accepted by Greg Hempen)*

Schuster Medal / *Dr. Paul Santi*

Floyd T. Johnston Service Award / *Dr. Kerry Cato*

Douglas R. Piteau Award / *Jessie Goodwin*

Richard H. Jahns Distinguished Lecturer in Engineering Geology / *Dr. John Kemeny*

2024 AEG AWARDS

Claire P. Holdredge Award / *Holger Kessler, Dr. Michiel J. van der Meulen, and Keith Turner*

Outstanding Journal Reviewer / *Visty Dalal*

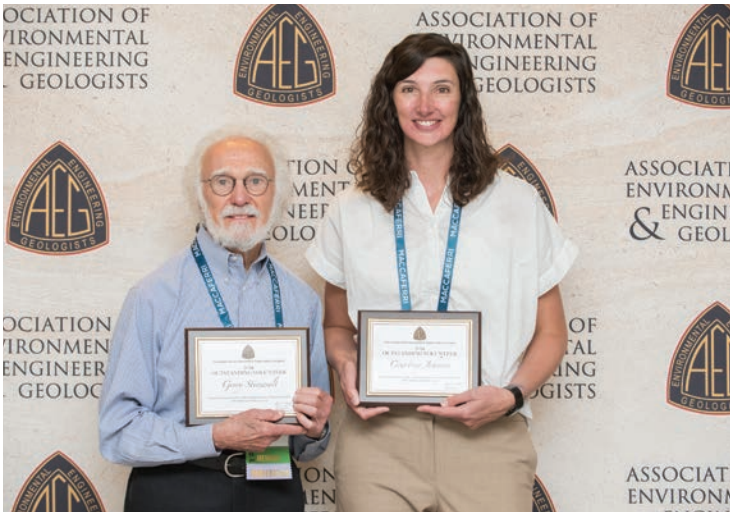
Publication Award / *Dr. Yonathan Admassu and Dr. Trufat Gugsa*

Outstanding Student Chapter Award / *Wake Tech and Portland State University*

Outstanding Chapter Award / *San Francisco Bay Chapter*

Outstanding Chapter Award / *Runner-up: New York-Philadelphia Chapter*

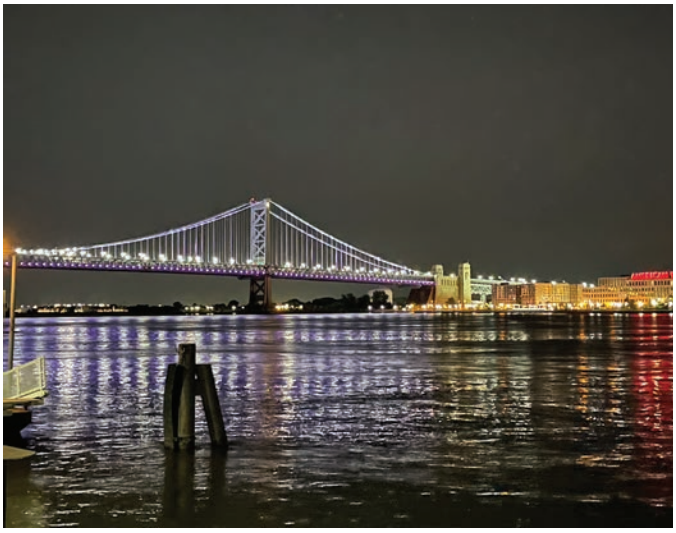
2024 AEG AWARDS

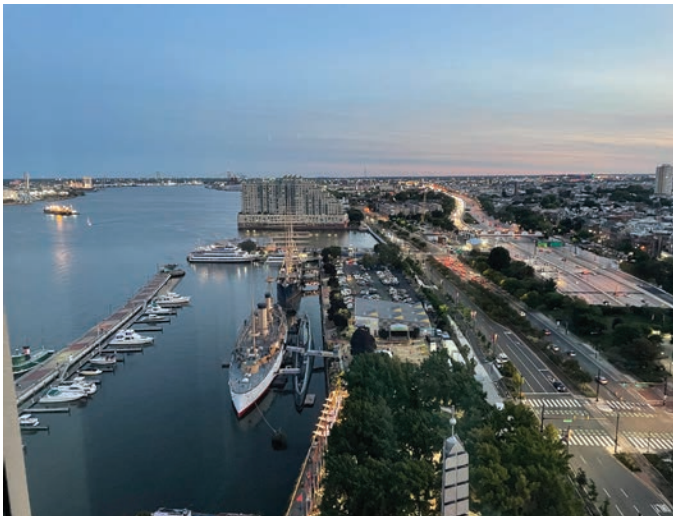


Volunteer Recognition Award / *Courtney Johnson and Gerry Stirewalt*

Outstanding Environmental and Engineering Geology Project Award Team

Karl and Ruth Terzaghi Mentor Award / *Susan Steele Weir*





THAT'S A WRAP, SEE YOU IN CHICAGO!

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DUE JANUARY 31:
Jahns Distinguished Lecturer
Outstanding Environmental and Engineering Geology Project A

Field Course 1

Conowingo Dam, MD

Dr. Visty P. Dalal, Course Leader

Field Course #1 of the 2024 AEG Annual Meeting was held on September 10 at the Conowingo Hydroelectric Power Plant Dam in Maryland, 70 miles west-southwest via I-95 of the meeting location at the Hilton Hotel in Philadelphia, PA. The field course was well attended by 25 geologists and engineering geologists from the U.S., Japan, and other countries.

This course was led by Dr. Visty Dalal, a senior engineering geologist in the Maryland Department of Environment's Dam Safety Program. Located in Baltimore, the Dam Safety Program is the regulatory agency that inspects and issues permits for dam-related projects.

Constellation Energy, the owner of Conowingo Hydroelectric Power Plant Dam, provided access to their engineers and scientists specializing in the mechanical, electrical, environmental, and biological operations of the dam to guide, educate and inform field course participants, with a 3-hour tour of their wonderful facility. After viewing informational and safety videos, the tour began with a visit to the project's museum, which featured archived pictures taken during the construction of the dam. AEG would like to thank Carl Mingioni, Brad Zelonis, PE, and other engineers and scientists from Constellation Energy for their time and hard work in providing an excellent tour of their dam.

All the AEG participants on the tour were impressed with the operation of the turbines, trash collection system, fish elevators, eel bypass system, etc. Lastly, a few bald eagles made their presence known when they glided to the water to snatch a fish or two.

At the culmination of the tour, on behalf of AEG, Dr. Dalal presented a certificate of appreciation to the Constellation Energy staff.

FIELD COURSE GROUP BELOW THE PLANT'S IMPRESSIVE GANTRY CRANE.

ATTENDEES RECEIVED A SAFETY BRIEFING.

COURSE LEADER DR. VISTY DALAL PRESENTED A CERTIFICATE OF APPRECIATION TO THE STAFF OF CONSTELLATION ENERGY.

FIELD COURSE GROUP ON THE DAM CREST AT THE PLANT ENTRANCE.

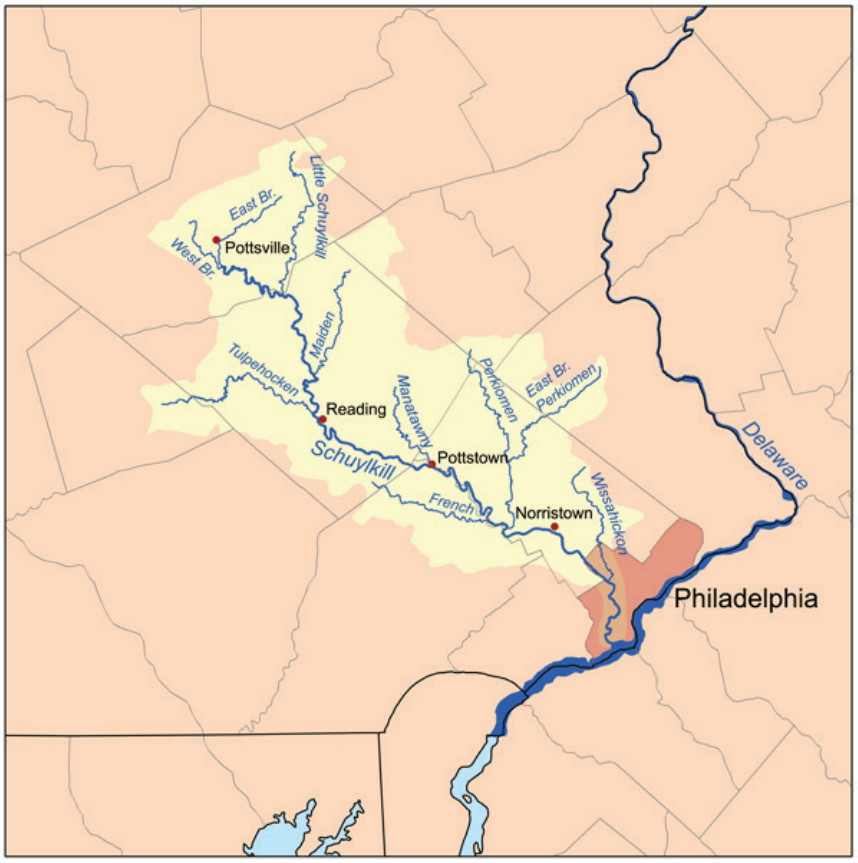
Field Course 2

Wissahickon Valley, Philadelphia, PA

DR. NATALIE P. FLYNN, COURSE LEADER

This field course provided an overview of the geologic setting that formed the Wissahickon Valley, a geologic treasure in Pennsylvania. The Philadelphia portion of the valley is preserved as parkland within the Fairmount Park System and is surrounded by suburban and urban neighborhoods. The Wissahickon area is part of the Piedmont Plateau and consists of metamorphic pre-Cambrian and lower Paleozoic rocks. Field course leader Dr. Natalie P. Flynn, PhD, of Temple University eagerly shared her insight on the complex geology of the Wissahickon Formation, with stops highlighting different types of rocks in the Wissahickon. They generally started at the lowest grade of the Wissahickon and moved up the index mineral zone from mica to garnets, kyanite, tourmaline. Discussions included protolith, index minerals, and isograds.

A SCHIST FOUND IN THE WISSAHICKON VALLEY



FIELD COURSE LEADER DR. NATALIE FLYNN

LOCATION OF SCHUYLKILL AND WISSAHICKON CREEK NEAR PHILADELPHIA, PA

Field Course 3

Brigantine Island, Atlantic City, NJ

KIMBERLY MCKENNA, COURSE LEADER

Led by Kimberly McKenna, MS, PG, of Stockton University's Coastal Research Center, this field course explored portions of Absecon Island and Brigantine Island. It showcased coastal resilience efforts that address coastal storm risk, shorelines, navigation/dredging, and flooding. This region was "on the good side" of Hurricane Sandy as it made landfall north of Atlantic City/Brigantine Island. While this region was spared the large storm waves, overwash occurred in northern Brigantine Island. On Absecon Island, there was limited dune scarping but back barrier flooding was significant.

Field Course #4, Edelman Fossil Park, was canceled.

Field Course 5

Geoheritage of the Valley Forge National Historic Park

DR. ERIC PYLE AND NELSON ABRAMS, COURSE LEADERS

Valley Forge has a prominent bookmark in American history curricula, and while relevant, its deep geologic history is seldom discussed. For instance, how did geology influence the decision to base the Continental Army here over a bitter winter in 1777? The region (a.k.a. the Valley of the Forges) was well known at that time for its economic value from mining and iron production, and from quarrying. This field course was led by experienced Revolutionary War reenactors (who are geologists, too!), national park staff, and local experts, offering a deep dive into the geology and geomorphology of Valley Forge. Participants explored both the distant past as well as the recent past of asbestos disposal and sequestration. Prehistoric elements include extensive karst features, including Bone Cave, noted for its record of Pleistocene life in periglacial terranes. Taken in combination, the geologic, historical, economic, and aesthetic qualities of Valley Forge provide a rich picture of its geoheritage beyond the one dimension of the typical historical narrative.

Dating Geological and Archaeological Samples Using Various Techniques

Dr. Maren Pauly, Scientific Associate, Beta Analytic & Isobar Science

Introduction to Dating Methods

Dating the remains of plants, animals, and artifacts within geological and archaeological records is crucial for understanding historical timelines and environmental changes. These remains are often discovered between layers of rock or sediment or extracted through coring methods. To determine their age, scientists use two general approaches: relative dating and absolute dating (Figure 1).

Absolute vs. Relative Dating

Relative dating estimates the age of a sample by determining whether it is older or younger than adjacent samples or particular geologic events. This method relies on the sequential layering of sediment or rock within the Earth's surface, following the "law of superposition" (Lowe, 2011). According to this principle, lower layers are typically older than those above, assuming no major geological disruptions like tilting or cross-cutting have occurred. Relative dating is crucial in understanding changes in biodiversity over time, helping to reconstruct events like widespread extinctions. Techniques like the identification of index fossils (organisms known to exist only during specific periods) and magnetostratigraphy (correlating rock layers to Earth's magnetic field reversals) enhance the precision of relative dating (Gradstein et al., 2012).

In contrast, absolute dating estimates an approximate age in chronological years using precise chemical methods, often involving radioactive isotopes. The key principle behind radiometric dating, a popular form of absolute dating, is the comparison of the abundance of a radioactive isotope in a sample with its decay products, which infers the time since the sample was formed (Walker, 2005). This method is crucial for developing accurate timelines of historical and prehistoric events.

Radiocarbon Dating

Radiocarbon (carbon-14) dating is one of the most widely used forms of absolute dating, effective for samples up to ~43,500 years old. It measures the decay of carbon-14, a radioactive isotope, in organic material. When an organism dies, it stops absorbing carbon-14, and the isotope begins to decay at a known rate. By measuring the remaining carbon-14 in a sample, scientists can calculate the time since the organism's death (Taylor & Bar-Yosef, 2014).

The raw radiocarbon dates must be calibrated to account for variations in atmospheric carbon-14 levels over time. Calibration curves, constructed from samples of known age (e.g., tree rings), are used to adjust radiocarbon dates to calendar years, improving accuracy (Reimer et al., 2013). Radiocarbon dating assumes that the carbon-

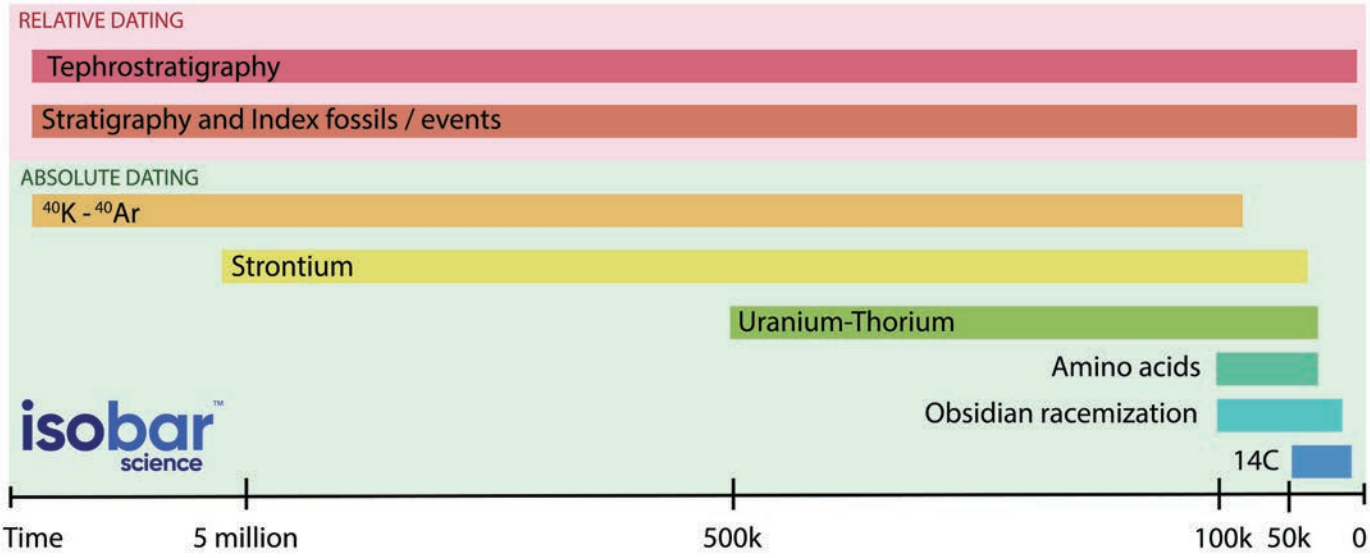


FIGURE 1. COMPARING APPROACHES: RELATIVE AND ABSOLUTE DATING.

14 content of the atmosphere has remained relatively constant over the period being studied, though calibration accounts for known fluctuations. The method is most effective with samples like wood, charcoal, bone, and shell, which contain a sufficient amount of carbon for accurate measurement (Hedges & van Klinken, 1992). Numerous studies have successfully used radiocarbon dating, from dating ancient human remains to determining the age of historical artifacts like the Dead Sea Scrolls. This method has been instrumental in mapping out the history of human civilization and understanding environmental changes (Bowman, 1990).

> To understand chronological age (absolute dating), scientists compare amounts of radioactive isotopes with their decay products.

Uranium-Thorium Dating

Uranium-thorium (U-Th) dating is another radiometric method, particularly useful for dating carbonate materials such as cave deposits (stalagmites and stalactites) and coral. This method relies on the radioactive decay of uranium isotopes into thorium, which is not soluble in water and thus accumulates in the sample (Ivanovich & Harmon, 1992). U-Th dating assumes a closed system, where no thorium has been added or removed from the sample since its formation. This method is effective for samples up to 500,000 years old, providing a useful tool for dating periods beyond the reach of radiocarbon dating. It is most accurate when applied to well-preserved carbonate samples, where the closed system assumption is more likely to hold true (Edwards et al., 2003). U-Th dating has been used to date cave art in Europe, providing insights into the timeline of early human creativity. It has also been used to understand the formation of coral reefs, helping to reconstruct past sea levels and climate conditions (Cheng et al., 2000).

Combination U-Th and Radiocarbon Study

In some cases, combining Uranium-Thorium and radiocarbon dating methods can yield more accurate results. For instance, U-Th dating can be used to date the formation of carbonate layers, while radiocarbon dating can be applied to organic materials within the same stratigraphic layer. This dual approach helps cross-verify dates and improve the precision of chronological models (Hoffmann et al., 2016).

Strontium Dating

Strontium dating is based on the ratio of different strontium isotopes in a sample, particularly useful in studies of migration and diet. Strontium isotopes are absorbed by plants from the soil and then passed on to animals through the food chain. The isotope ratio in an organism reflects the geological region where it lived, which can be compared against a baseline curve (Sr curve) representing regional variations in isotope ratios (Bentley, 2006). The primary assumption in strontium dating is that the organism's strontium isotope ratio reflects the local environment without significant alteration after death. Strontium dating is particularly useful for bioarchaeological studies, where it can help trace the movements of ancient populations or identify the geographic origins of artifacts (Price et al., 2002). Strontium dating has been used to track the migration patterns of ancient human populations, such as the movement of Neolithic farmers into Europe. It has also been applied to identify the geographic origins of Roman gladiators, based on the strontium isotope signatures in their bones (Montgomery, 2010).

Conclusions

Dating methodologies are essential tools in reconstructing the history of the Earth and its inhabitants. Each method—from relative dating techniques like stratigraphy to absolute methods like radiocarbon, uranium-thorium, and strontium dating—offers unique insights.

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Research and Approaches for Identifying and Evaluating Potential Volcanic Hazards

A Virtual International Symposium to be Convened by AEG's Geologic and Seismic Hazards Technical Working Group, April 28–30, 2025

MAUNA LOA FISSURE ERUPTING ON NOVEMBER 29, 2022. SOURCE: HAWAIIAN VOLCANO OBSERVATORY, USGS.

Volcanoes generate hazards capable of impacting the ever-expanding development of critical infrastructure and growth of population centers around the world. As a result, it is extremely important to understand the range of complex geologic processes that operate within volcanic terranes and the potential hazards associated with those processes. Volcanologists around the world develop and apply innovative approaches for identifying and evaluating these processes in their respective study regions that collectively benefit the global community. Government agencies around the globe operate volcano observatories. Staff at those observatories monitor active volcanoes, issue activity warnings and eruption updates, and develop hazard models and maps to help prepare the public for volcanic eruptions through public outreach activities. Forecasting eruptions and determining the hazards remain difficult because of the wide range of potentially hazardous phenomena related to factors such as magma composition, style of eruption, and volcano type in individual volcanic fields. This variability poses unique challenges related to gathering data, developing eruption models, interpreting precursors of an eruption, quantifying the potential hazards that might occur, and determining effects on critical infrastructure and population centers. Considering these challenges, development of practical approaches for efficiently identifying and evaluating volcanic hazards continues to be an open area of active research.

This symposium will provide an opportunity for researchers and practitioners to present their ideas for quantifying volcanic hazards with the express purpose of advancing the science behind identification and evaluation of volcanic hazards. An important goal for the symposium will be to facilitate discussions between national and international geoscientists, including those who operate volcano observatories, to help increase industry and public awareness of the potential impacts that volcanic hazards pose to critical infrastructure and population centers. The symposium will include discussions of guidance for identifying and evaluating volcanic hazards developed by the U.S. Nuclear Regulatory Commission and the International Atomic Energy Agency to ensure the safe operation of nuclear power facilities.

More information coming soon, visit www.aegweb.org for updates.

Preparing for the ASBOG Fundamentals of Geology Exam

Date: January 8, 2025
Time: 4:00–6:00 PM EST

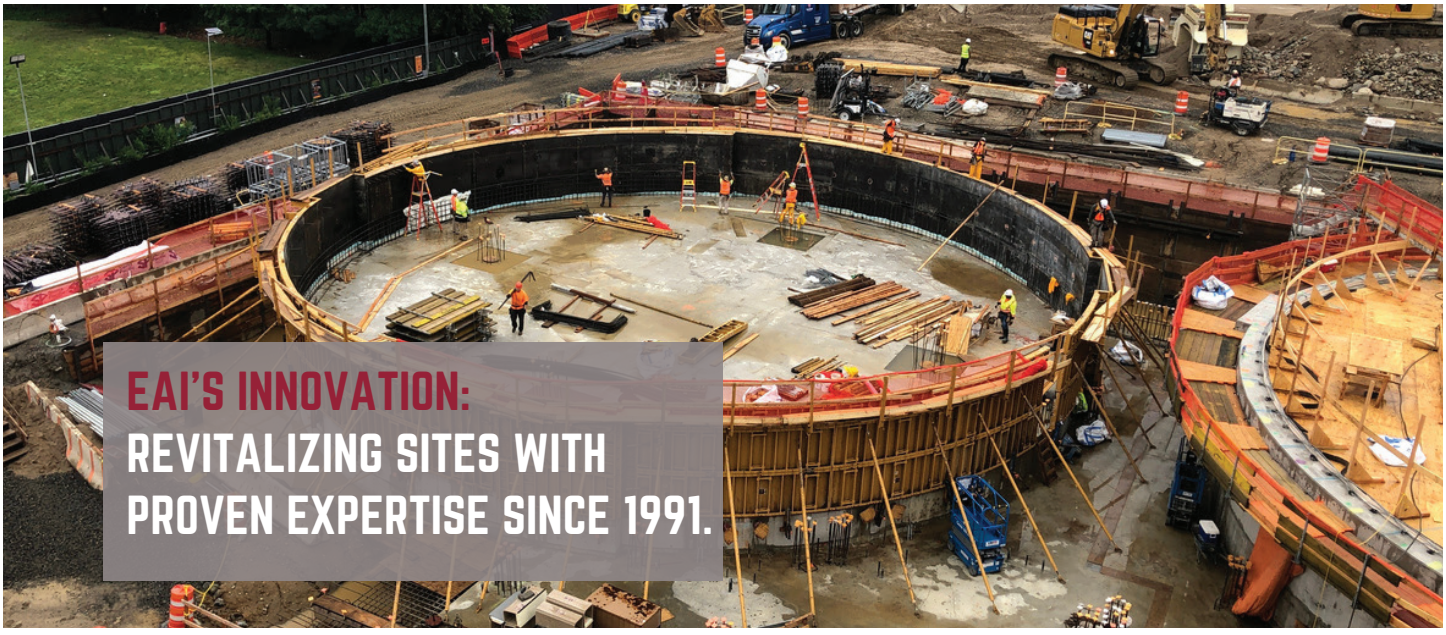
This webinar will provide suggestions on how to prepare for the Association of State Boards of Geology (ASBOG®) Fundamentals of Geology (FG) exam, as well as strategies for taking the exam. Discussions will include:
(1) Recommended study guides and courses to consider acquiring to help prepare for the exam
(2) Regularly collected input from young geologists, college seniors, and graduate students that have recently taken the exam
(3) Suggestions from practicing geologists who went back to their college textbooks and notes to study in preparation for the exam

The 1-hour webinar will be followed by 1 hour of Q&A. Come with questions for the presenters and moderator—three practicing geologists, a geology professor who also represents ASBOG, and a recent retiree.

Presenters: Kate Tuskes, GIT; Emily Herman; Nico Russo, GIT; and Martin Helmke, PhD, PG
Moderated by Rick Kolb, LG

Cost: Free for AEG members / $20 for non-members

Register at https://www.aegweb.org/webinars



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The Homefront

Greater Pittsburgh Chapter

Jim Hamel, Honorary Member and News Wrangler

New Chapter Officers

The new Officers of the Greater Pittsburgh Chapter are:
President – John Malizia
Vice President – Chelsea Lyle
Treasurer – Anthony Null
Past President – Heather Campbell

Meetings

The Greater Pittsburgh Chapter was well represented at the Annual Meeting in Philadelphia by the eighteen members who attended. Papers were presented by Kathleen Bensko, Kevin Furlong, Dick Gray, Brian Greene, Jim Hamel, Brian Heinzl, Dave Knott, Thomas Monaco, and Matt Morris. Titles and abstracts of these papers are in the Annual Meeting program.

No Chapter meetings have been held recently, but several joint meetings with other Pittsburgh technical societies will be held in the winter and spring.

Member News

Brian Greene of Gannett Fleming/TranSystems is working with current and retired U.S. Army Corps of Engineers (USACE) colleagues on foundation parameters for a proposed larger lock at Emsworth, PA. Emsworth Locks and Dams is located at River Mile 6.4 on the Ohio River and is the first navigation structure below the City of Pittsburgh. The locks and dams structure was built in the mid-1930s and is operated by the Pittsburgh District of the USACE.

Dave Knott of Gannett Fleming/TranSystems continues to work on two of the major engineering geology problems of Appalachia—abandoned coal mines and ancient landslides.

Jim and Betsy Hamel of Hamel Geotechnical Consultants traveled to Sicily and Malta from September 24 to October 9. Sicily is on the boundary of the Eurasian and African plates, a retreating subduction zone, with Africa falling away from Eurasia. Tectonic faults, ubiquitous in Sicily and nearby Malta, are generally visible in the topography. One of the highlights in Sicily was a trip to Mt. Etna, the largest active volcano in Europe (see photo).

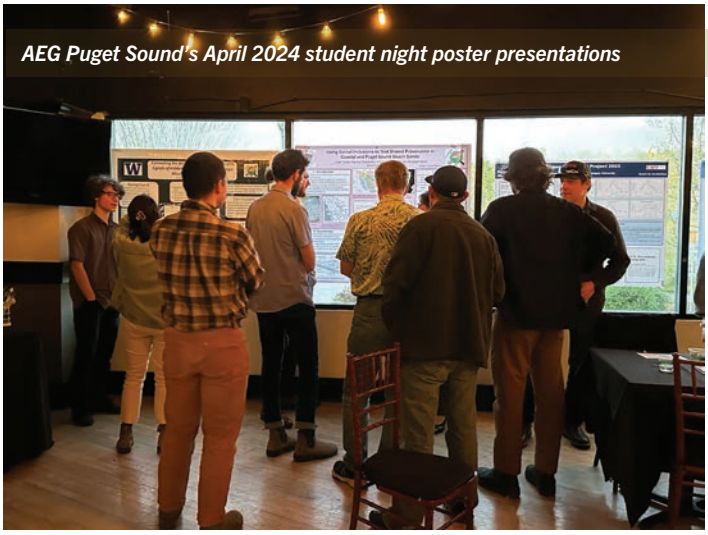
Mile High Chapter, Colorado

Kaitlin L. Reiman, Secretary

The monthly Mile High chapter meetings are back after a summer hiatus that went by so fast! It's been great seeing everyone in our community again and catching up on summer field work. We are adding something exciting this year: live streaming our monthly meetings! If you would like to join us on the stream, please email **meetings@aegmilehigh.org** to request your Teams invite.

We returned to our fantastic location at New Terrain Brewing in Golden, CO, with a presentation from Rachel Hunt, PG, associate engineering geologist, and Benjamin George, PE, CEG, PG, senior associate engineer, both with Landslide Technology in Portland, OR, with their topic, Rockfall Risk Reduction: Investigation, Design, and Construction across Oregon, Washington, Montana, and Alaska. They described their approach to rockfall risk reduction along roadways, highlighting their methods for site reconnaissance, data analysis and modeling, and construction support. We all love a good rockfall project, so this was a great start to our season.

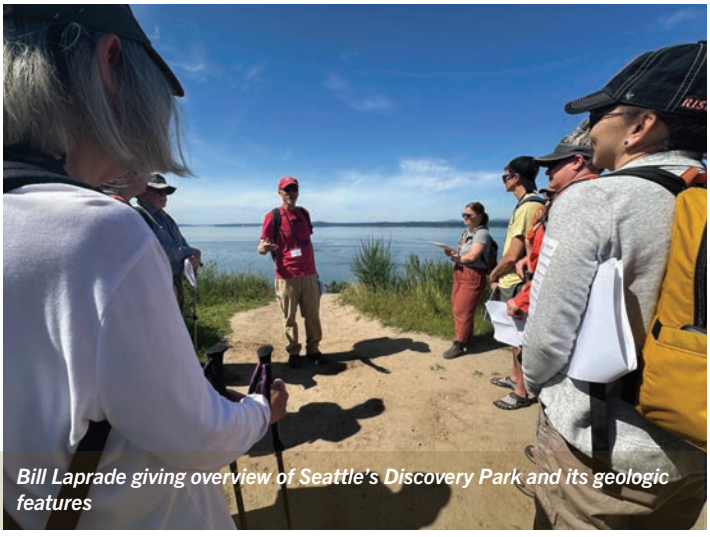
In October, speakers Tony Monasterio with BGC and Todd Roberts with GZA joined us to discuss Instrumentation Data Acquisition, Transmission, Storage, Visualization, and Modeling. Thanks Tony and Todd for keeping us up to date on the latest technologies to advance our work! Check out our website at **https://aegmilehigh.org** to see our upcoming meetings. Join us on the second Tuesday of each month (in person or on the live stream) for great speakers and community!



AEG Puget Sound's April 2024 student night poster presentations

Bill Laprade (in red shirt and red hat) showing glacial advance outwash exposure in head scarp of Discovery Park landslide

AEG group on Discovery Park South Beach, type section of the glacio-lacustrine Lawton Clay, the bad actor in Puget Sound's landslide problems



Bill Laprade giving overview of Seattle's Discovery Park and its geologic features

Puget Sound Chapter

Tom Doe, Chapter Chair

The Puget Sound Chapter had a highly successful student career night in February. The program was online using the "SpatialChat" platform, which creates "rooms" where people can mill about and have conversations with those in proximity to their avatars. Nine companies and two state agencies gave short presentations on their organizations, and each had a table in the virtual room where students could come and talk. Over 60 students from at least six schools attended.

At our March meeting, Jahns Distinguished Lecturer Cynthia Palomares presented "How Climate Change Impacts Infrastructure."

The Puget Sound Chapter ran its traditional student night in April with nine excellent oral and poster presentations. The chapter offers cash prizes for the presentations voted "best" by the attendees. Congratulations to first place winner, Jonathan Gates (University of Washington), for "The 2021 Resurgence in Deformation at the Three Sisters Volcanic Field, Oregon Cascades"; to second place winner, Jasmine James (Western Washington University); and to the shared third place winners, Ashanie Long-Reid (Western Washington University) and Eric Perkins (University of Washington).

In June, the Puget Sound Chapter ran a field trip to Seattle's Discovery Park, guided by Bill Laprade. Bill is retired from Shannon & Wilson, where he was a leader in understanding the slope stability problems of glacial sediments in the Seattle urban environment. Fomrerly, Discovery Park was Fort Lawton, a U.S. Army installation that was part of the shore-based network defending the Sound from naval attack. The guns and soldiers are long gone, but the park preserves large, deep-seated landslides and an outstanding sequence of glacial till and outwash sediments, including the type section of the Lawton Clay, which is the bad actor in many of the region's unstable slopes. In his retirement, Bill has been active with the "Friends of Discovery Park," creating information signage for the public and cutting through park red tape to install monitoring systems on some of the larger landslides.

The Puget Sound Chapter began its 2024–2025 program on October 24 with a presentation by Alec Melone and Bodie McCosby of Aspect Consulting. They discussed the emergency construction of a bridge to replace an embankment that had begun to fail due to subsidence of underlying coal mine entrances from the 1890s.

Bay Area Chapter Field Trip

SUBMITTED BY KATE ZEIGER

On September 15th, AEG's Bay Area Chapter hosted a field trip to the University of California, Berkeley, campus, led by Donald Wells, principal engineering geologist at Fugro, and Dr. Nick Sitar, professor of civil and environmental engineering at UC Berkeley.

UC Berkeley has a unique setting at the foot of the Berkeley Hills. With its stadium straddling the Hayward Fault and its infrastructure at risk in future earthquakes, the university has made a significant effort to upgrade existing buildings and to apply the latest seismic design techniques for new construction. The tour led us through the campus, stopping to admire the dinosaur skeletons in the Valley Life Sciences Building, the seismic retrofit challenge of the Hearst Mining Building, and the memory steel bracing of the new Engineering Center under construction, ending with a tour of the recently retrofitted Cal Memorial Stadium.

The trip leaders have been involved in various aspects of the seismic investigations and design on the UC Berkeley campus for more than two decades and offered great insights and experiences along the way. If you couldn't make the field trip but are interested in visiting the same sites, a very informative guide has been published by Horst Rademacher of the Berkeley Seismographic Station and is highly recommended. See the field trip guide at https://seismo.berkeley.edu/docs/HF_Tour_Stadium-1.1-Protected.pdf

Visiting the T. rex at Cal's Life Sciences building. The T. rex is a cast of a ~30% complete skeleton found on the shores of Fort Peck Lake in Montana in 1988.

Learning about the retrofit of the Hearst Mining Building, home to Cal's Materials Science and Engineering Department.

AEG Southern Nevada Chapter Field Trip

Soil & Groundwater Remediation Site

KEITH STEWART, PRESIDENT, STEWART ENVIRONMENTAL, INC.

The field trip was held on June 19, 2024, at a former truck stop in Las Vegas, NV. The truck stop had operated since the 1950s and had leaking underground gasoline storage tanks. Stewart Environmental, Inc., led the field trip to discuss a full-scale soil and groundwater remediation system recently installed at the site. The soil was being treated using a ventilation system, and the groundwater treatment system consisted of 12 dual-purpose groundwater extraction wells, a groundwater air stripper, carbon treatment, and discharge to an adjacent Nevada Department of Transportation storm drain. Fifteen people, a mixture of AEG professionals and Stewart Environmental staff, attended the field trip, which was held on a very hot day.

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