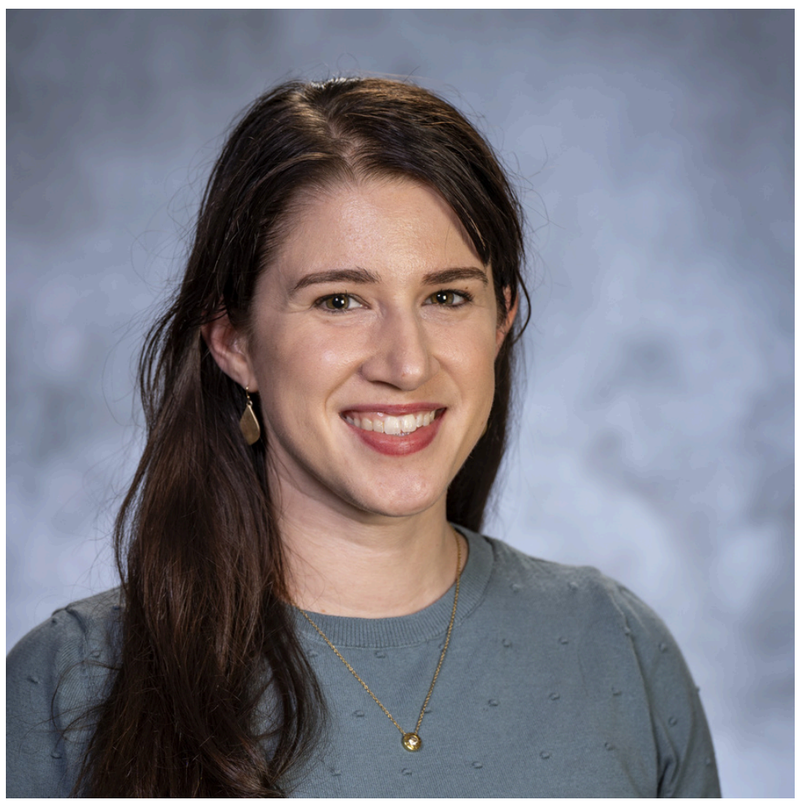
GEO-
INSTITUTE
National Capital Chapter

September 2025
VOLUME 2-25

LETTER FROM THE PRESIDENT

September was a busy month for the ASCE GI National Capital Chapter. We saw the kickoff of our technical lunch presentations with Dr. Jeffrey Evans. He introduced slurry walls and various construction methods of vertical barriers, including cutter soil mixing, deep soil mixing, and trenching. We thank Dr. Evans for a great presentation, and look forward to more great lunch events coming this year, including hearing from Dr. Ashly Cabas of NC State next month. Read more about that upcoming event below!

September also marked a milestone for the chapter with our participation in the Dulles Day Plane Pull. This event benefits the Special Olympics Virginia and reflects our chapter's commitment to supporting the local community. Thanks to the generosity of our sponsors (Geostructures, Inc. and American Geotechnical and Environmental Services, Inc.), team, and other donors, we raised $2500. With over 20 geotech professionals and family, were able to compete in the plane pull competition!



Sharon Hartley

President

It was a beautiful day and an awesome opportunity to connect with some of our members while contributing to a great cause. Read more about the event in our summary below, and check out our recap video on LinkedIn.

We look forward to more in store this coming year. Hope to see you at an event soon!

UPCOMING EVENTS AND LECTURES

Geology Matters: Incorporating Geologic Data into Assessments of Ground Motion and Deformation

ABSTRACT

Efforts toward improving resiliency of urban environments to seismic hazards are challenged by highly variable ground motions and deformations over large scales. Geologic structures near the ground surface can exert a significant influence on earthquake ground motions and on the spatial extent of ground deformations. Our team aims to understand the spatial variability of ground shaking and deformation by incorporating geologic data into geospatial analytics frameworks. This presentation will (1) demonstrate the incorporation of geologic data into the characterization of ground-motion in the Atlantic and Gulf Coastal Plains, and (2) provide examples of how we interrogate geotechnical, geological and seismological data to assess liquefaction-induced ground deformations at multiple scales in Christchurch, New Zealand. The Atlantic and Gulf coastal plains host the areas of largest seismic hazard to the Central and Eastern United States and consist of nearly flat, soft, unconsolidated sediments and sedimentary rock that extend laterally hundreds of kilometers. We developed a geology-informed seismic velocity model that can inform future efforts of ground-motion characterization in the region. In New Zealand, we quantitatively assessed the relationship between depositional environment-specific geologic factors and lateral spreading by means of simple fluvial geomorphic facies models.

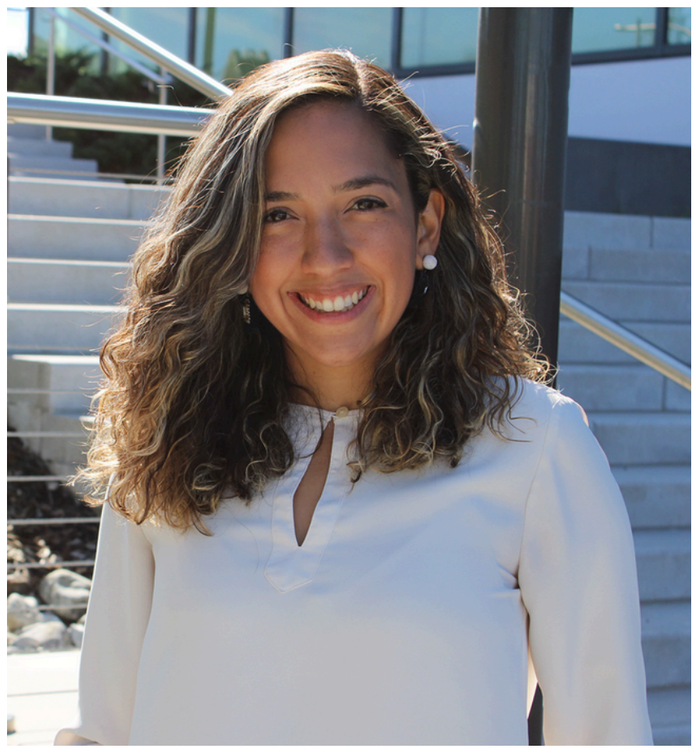
SPEAKER

WHO: Ashly Cabas

WHEN: Thursday, October 16th
11:15 am to 1:15 pm EST

WHERE: NEW LOCATION
Wildfire Steaks, Chops & Seafood
2001 International Drive
McLean, VA 22102

COST: $55



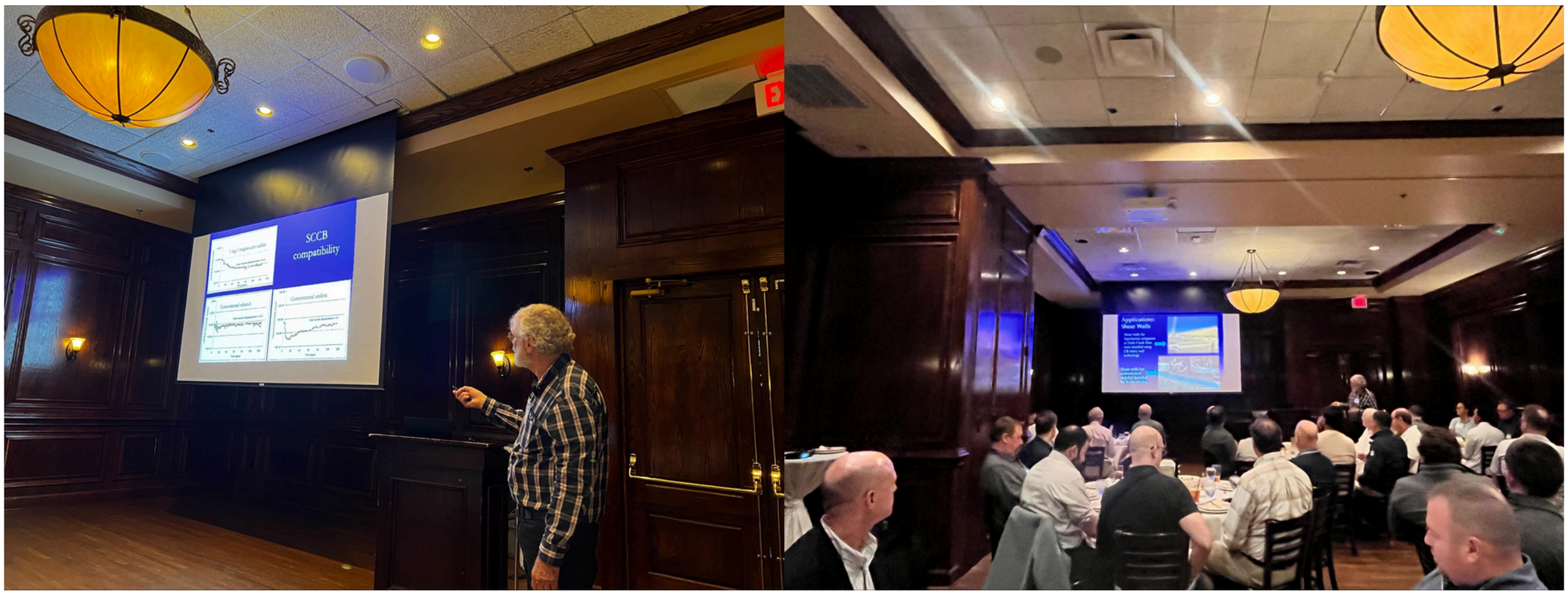
Ashly Cabas, Ph.D.

Speaker

ABOUT DR. CABAS

Ashly Cabas is an Associate Professor in the Department of Civil, Construction, and Environmental Engineering at North Carolina State University, where she leads the Geohazards and Earthquake Engineering Research Lab (GeoQuake). She completed her undergraduate studies at Universidad Católica Andrés Bello (UCAB) in Caracas, Venezuela, and she earned her M.S. and Ph.D. in Civil Engineering at Virginia Tech. Dr. Cabas' research interests are interdisciplinary with a focus on geotechnical aspects of earthquake engineering. Dr. Cabas was awarded the 2022 NSF Faculty Early Career Development (CAREER) Award and the 2021 EERI Shah Family Innovation Prize. She was recently re-elected as a member of the Board of Directors of the Seismological Society of America (SSA) and has joined NSF-sponsored GEER teams in response to the 2018 Mw 7.1 Alaska, and 2021 Mw 7.2 Haiti earthquakes. Her research program has been funded by the USGS, NSF, PG&E, and the Alaska DOT, while contributing to many international collaborations in Germany, France, Latin America and the Caribbean.

Event Recap: Slurry Walls & In-Situ Mixing for the Construction of Vertical Barriers



On September 18, ASCE hosted an event at Maggiano's in McLean featuring Dr. Jeffrey Evans as the speaker. Dr. Evans is a nationally recognized expert in slurry walls, a Principal Geotechnical Engineer at Parsons, and Professor Emeritus at Bucknell University. About 50 geotechnical engineers from across the DMV attended the program.

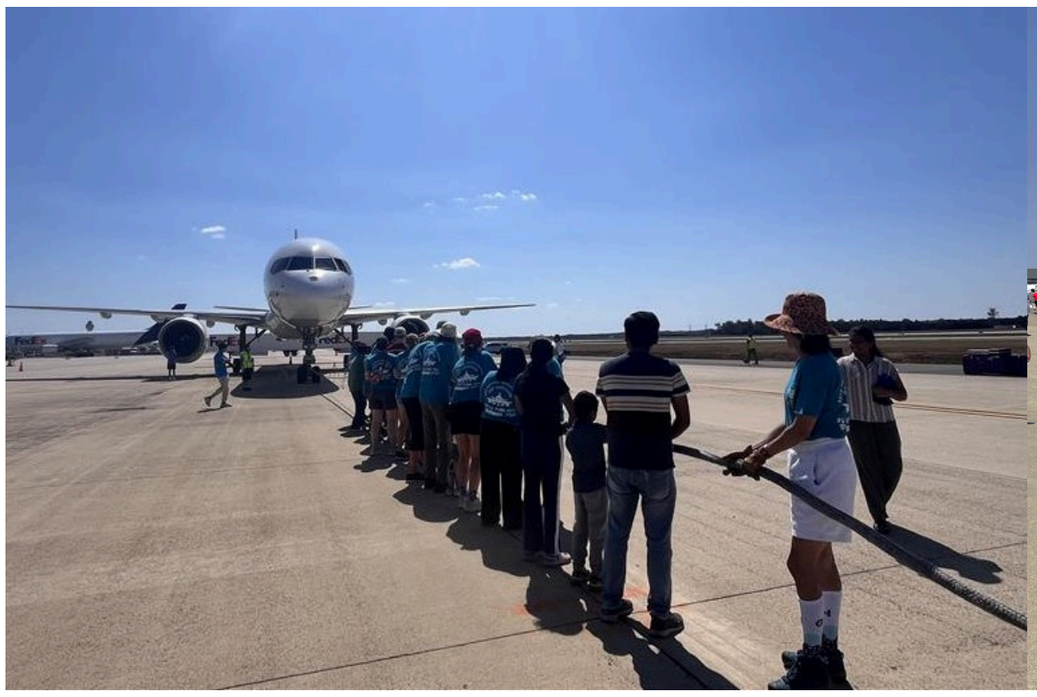
Dr. Evans reviewed the history of slurry trench cutoff walls, which have been in use for more than 50 years, and walked through the different wall types, comparing their pros and cons, including cost and chemical compatibility. He also covered various construction methods currently in use, ranging from trench remixing and one-pass trenching to cutter soil mixing and deep soil mixing.

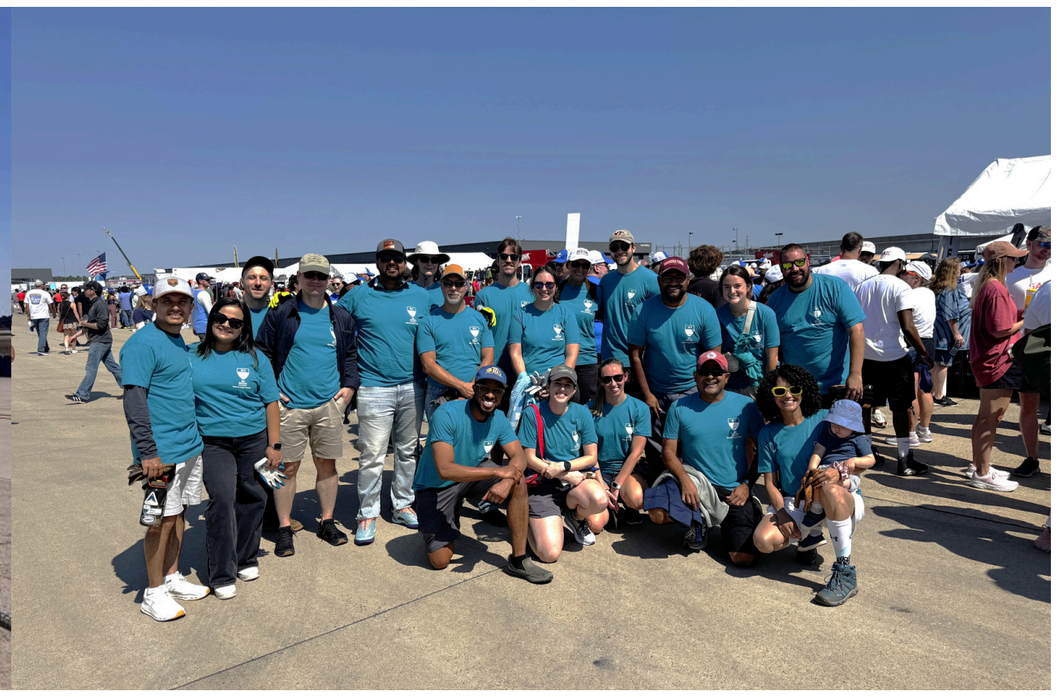
One of the important points was the discussion of chemical compatibility. Slag–cement–bentonite walls have been shown to perform better than traditional bentonite walls, and recent research explains why. Within a month or two of curing, the bentonite is no longer present as a distinct material because it is consumed in the chemical reaction. This reaction helps explain why these mixes show greater compatibility in practice.

Another key point was how we think about stress levels in laboratory testing. It is common to use geostatic stress when running compatibility tests, but the actual stresses inside slurry wall backfill are lower due to arching and sidewall friction. This means geostatic stress is not conservative and can make lab results look more favorable than what may actually occur in the field.

The program offered attendees valuable insights into both the science and the practice of slurry wall design and construction, connecting research results with how walls truly perform over time.

Event Recap: Dulles Plane Pull





The ASCE National Capital Section (NCS) Geo-Institute traded soil samples for jet engines at this year's Dulles Plane Pull — and somehow didn't break any equipment (or backs). On Saturday, September 13th, the NCS Geo-Institute team joined dozens of others at Dulles International Airport to take on the challenge of pulling a 164,000-pound aircraft. With over 20 team members in attendance, we successfully pulled the plane 12 feet in just over 10 seconds. The event, which raises money for the Virginia Special Olympics, was a huge success. The NCS Geo-Institute proudly raised $2,500 toward the cause, contributing to the event's impressive total of $600,000. We're incredibly grateful to all the members and their families who participated, donated, or cheered from the sidelines. A special thank-you goes out to our company sponsors, Geostructures, Inc. and American Geotechnical and Environmental Services, Inc., for their support. For event results and photos, visit https://www.specialolympicsva.org/plane-pull. We hope to make the Dulles Plane Pull a tradition — and grow both our team and donations next year!

GEO SUCCESS

In each edition of our new newsletter, we'll be highlighting the incredible accomplishments of our members. Have you or someone on your team recently received an award, earned a promotion, or reached a professional milestone? Are you presenting at an upcoming conference or event? We want to celebrate with you!

Please send your success stories to ascencsgec@gmail.com with the subject line "Geo-Success" so we can share them in an upcoming issue. Let's inspire and uplift each other by spotlighting the great work happening in our community!

Annual Lunch Series Sponsorship

Thank You to Our 2024–2025 Annual Lunch Series Sponsors!

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As a valued sponsor, your logo will be prominently featured in this newsletter and displayed in the pre-meeting slideshow at a minimum of six lunch events throughout the series.

Interested in becoming a sponsor? Reach out to Anna Kotas or Sharon Hartley today to secure your spot and elevate your visibility within our community!

Sign up to sponsor:
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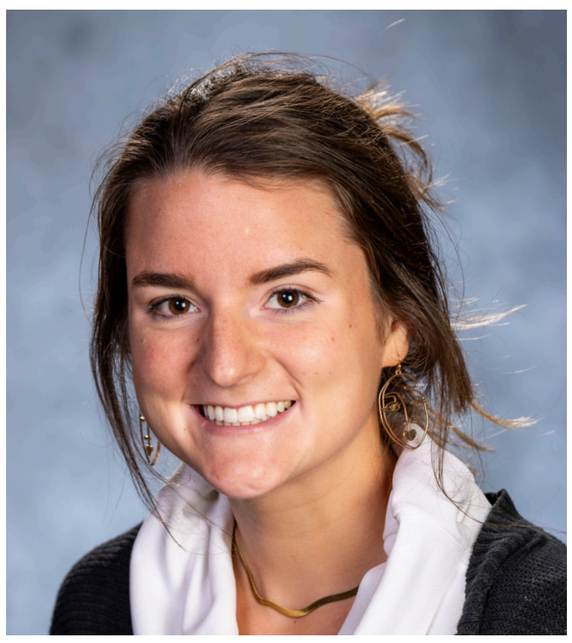
Meet Your Board



Morgan Berger, MS, EIT

Geotechnical Specialist
A.G.E.S., Inc.

What is your role on the board, and how long have you served?

Young Member Director - 2 years.

What inspired you to get involved with the ASCE NCS Geo-Institute?

When I started at A.G.E.S., a few of my coworkers were already involved with the Geo-Institute, and it seemed like a great way to connect with others who were also new to the field or fresh out of college like me. It felt like a natural step to get more engaged in the geotechnical community.

What's your favorite part of being on the board?

I really enjoy having the chance to plan events and bring new ideas to the table. It's exciting to be part of something where creativity and initiative are welcomed.

What do you hope to contribute during your board term?

One of my goals is to establish a tradition of community service and charity work within the organization—things like volunteering at the D.C. Food Assistance Center or participating in the Dulles Plane Pull. I'd love to see these kinds of events become a lasting part of our culture.

What's one goal the board is working toward that you're especially excited about?

We're in the final stages of launching our new website, and it's coming together really well! I'm excited for everyone to see it—it's going to be a great resource for members.

How do you see the board supporting members or advancing the profession?

At our monthly lunch meetings, we offer opportunities for members to come together and learn through technical presentations. We create space for networking and professional growth while learning about the latest industry developments.

What's your day job, and what does your typical work involve?

I'm a geotechnical specialist at A.G.E.S., Inc. Some days I'm out in the field inspecting borings, and other days I'm in the office designing foundations. I really enjoy the variety—it keeps things interesting!

How has your involvement in this organization impacted your professional life?

Being involved has helped me build a network of peers and mentors that I wouldn't have had access to otherwise. It's incredibly valuable to have people I can reach out to for advice, feedback, or support.

Are there any skills from your job that help you in your board role — or vice versa?

Definitely. As the Young Member Director, I plan events and stay on top of logistics, which has sharpened my organizational skills. Those same skills help me stay efficient when I'm doing calculations or writing reports at work.

What advice would you give to someone thinking about getting involved?

Get involved at whatever level works for you—it can be as big or as small of a commitment as you want it to be. There's room for everyone.

What's a misconception people may have about board service?

People often think it's a huge time commitment or a lot of work. While it does take some effort to plan events and attend meetings, I genuinely enjoy it—so it doesn't feel like work at all.

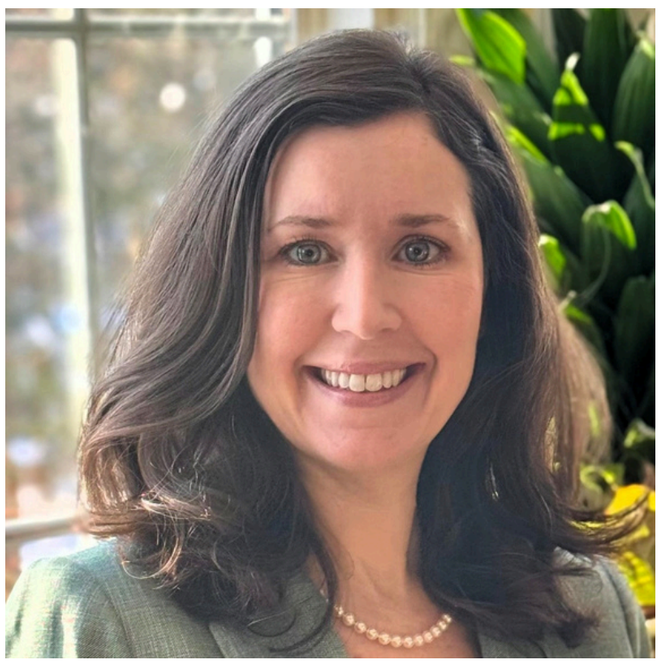
What do you wish more members knew about the work the board does?

We really do take everyone's ideas seriously. For example, Shana suggested starting a newsletter a few months ago, and now you're reading it! I love that the board encourages creativity and collaboration—your ideas matter here.

What is the most useful thing on your desk right now?

A pack of sticky notes—can't live without them!

Field Foundations



Rebecca Smith-Zakowicz, PG, PE

Vice President | Sr. Principal Director of Regional Operations
Terracon Consultants, Inc.

What's your current role, and what does a typical day look like for you?

As the Director of Regional Operations, my responsibilities encompass guiding my teams in risk management for various projects, conducting technical reviews of proposals and geotechnical engineering reports, facilitating safety meetings, and attending training sessions to support our teams through transitions. Additionally, I oversee the financial performance of my region to ensure continued growth and success. Furthermore, I am actively involved with the ACEC GeoCoalition Executive Committee as the Chair-Elect, the Reston Planning & Zoning Committee, and serve as the co-chair of the CREW DC Governance and Finance Committee.

How did you get started in this field?

During my school years, I excelled in math and science. In high school, I attended Governor's School for part of the day, where I was introduced to practical applications and potential career opportunities. James Madison University (JMU) had just launched their Integrated Science and Technology (ISAT) program, and representatives discussed the opportunities it offered. Initially, I planned to pursue pre-med, but after starting the ISAT coursework, I was captivated by the potential for advancement through innovation and technology, using math and science as the foundation. My environmental coursework particularly appealed to me, and during a college fair, I visited Radford University's booth. I spoke with a professor involved in their Environmental and Engineering GeoSciences Master's program and was intrigued. He mentioned that they were looking for students with my background. Shortly after beginning my coursework, I discovered a passion for understanding the story beneath the surface and pursued geology, eventually earning my Professional Engineer (PE) license in geotechnical engineering. While still in graduate school, an alumnus reached out to me about potential internships for the summer. I applied and was given the opportunity to intern with GeoConcepts Engineering, Inc. That was in 2002, and I have been with the same firm since then. GeoConcepts was acquired by Terracon Consultants in 2017.

Was there a defining moment or project early in your career that shaped your path?

As a woman in our industry, I have often found myself in the minority, both in the field and in meetings. My firm has been incredibly supportive of my involvement with CREW Northern Virginia since 2006, even when I was still an emerging professional and spent most of my time in the field. Through CREW, and with the training and guidance I received, I developed confidence and a strong sense of self-worth. After completing the multipart leadership training course offered by Joan Fletcher of Winning Ways through CREW, I gained the tools to advocate for myself. I approached the owner of my firm with a detailed list of my accomplishments and career aspirations, seeking his guidance on how to advance to the next level. Within six months, I earned the promotion I had previously been too shy to request, hoping that my hard work would be recognized and rewarded.

Can you share a project you're especially proud of? What made it meaningful?

Two of my most meaningful projects have been at James Madison University (JMU), my alma mater. The first project involved the construction of a new biotechnology building on the ISAT campus, where I spent a significant portion of my undergraduate years and met my future husband. This project was particularly unique due to the underlying karst terrain. It was fascinating to run the Electrical Resistivity Imaging (ERI) lines and develop a foundation system capable of supporting this large academic building. We ultimately decided on using micropiles, and the building remains standing to this day.

What's the most challenging field condition or site constraint you've worked with?

Some of the most challenging projects I have worked on have been at the National Zoo. The Elephant Exhibit required meticulous coordination with zoo personnel to rotate the elephants, ensuring they were not in the yard during drilling operations. Additionally, we had to undergo decontamination before entering the yard to prevent our scents from disturbing the elephants.

How do you approach troubleshooting or unexpected conditions in the field?

Effective communication is imperative for every project. To troubleshoot unexpected conditions, it is essential to perform thorough pre-task planning with the client and the project team. This includes visiting the site or having a call with the client prior to mobilization to review planned access, discuss onsite restrictions, and examine existing information such as utility drawings. These steps have been instrumental in avoiding unforeseen conditions. Additionally, during pre-task planning with the team, we can review publicly available information to identify potential issues such as contamination, shallow depth to bedrock, or water presence before mobilization. When unexpected conditions still arise after careful pre-task planning, we have a system in place to determine who needs to be contacted for various types of situations. Our project team consists of project support, project management, and project reviewers. We also have a robust team of SMEs to consult if it's a situation we have not previously encountered. The client will be involved throughout the entire troubleshooting process until a resolution is achieved.

What's one lesson you wish you'd learned earlier in your career?

One lesson I wish I had learned when I first started in the industry is to always speak up for myself and not be afraid to fail. Advocating for oneself is crucial in expressing ideas, concerns, and career aspirations confidently. It's important to voice opinions during meetings, seek opportunities for growth, and ask for the resources needed to achieve goals. Additionally, embracing the possibility of failure as a stepping stone to success is essential. Taking calculated risks, experimenting with new approaches, and viewing setbacks as valuable learning experiences can lead to significant personal and professional growth. Failure should be seen not as a reflection of one's abilities but as an opportunity to gain insights, refine strategies, and ultimately achieve better outcomes.

How has your perspective changed from your first few years in the profession to now?

My perspective has evolved significantly since my early years in the industry. I now deeply value the time I spent in the field, often quite literally in the trenches. These experiences have been instrumental in shaping me into a more effective project manager and operations manager. Today, I embrace the challenges I encounter daily, as I believe each experience contributes to my growth as a leader.

What advice would you give to someone just starting out in the industry?

My advice to someone just starting out in the industry is to embrace every opportunity with enthusiasm and courage. When an opportunity arises within your firm, set aside any fear of failure and seize the moment. Taking on new challenges, even if they seem daunting, is a crucial part of professional growth. Everyone makes mistakes, but it is through these experiences that we learn and become stronger. Embrace the journey, learn from your failures, and let them be the stepping stones to your success.

What changes or innovations have you seen in the field in recent years?

In the field of geotechnical engineering, I have witnessed remarkable advancements through the integration of geophysical methods and testing. These innovations have revolutionized our approach to evaluating deep foundations, assessing buried structures on previously developed sites, and analyzing karst formations and shallow bedrock depths. Additionally, we now have the capability to accurately determine the presence of reinforcing steel, measure concrete thicknesses, and identify voids, all of which contribute to more precise and efficient project outcomes.

How do you stay current with new tools, materials, or standards?

Associations such as ASCE, ACEC, and DFI offer a wealth of resources to help professionals stay current in our industry. In addition to these resources, Terracon has several subject matter experts and practice resource groups that ensure we remain up-to-date on new tools, materials, and standards.

What keeps you motivated or inspired in your work?

The people I work with continue to inspire and motivate me. I have had the pleasure of collaborating with some of my team members for over 20 years, and many of my new leadership team have been with me since they were interns 15+ years ago. Being part of a professional family that grows together provides me with a profound sense of pride and fulfillment. Witnessing their development and achievements over the years has been incredibly rewarding, and it reinforces the strong bonds and shared commitment we have towards our collective success.

What do you hope to see more of in the future of the profession?

My hope for the future is to continue being innovative and creating opportunities for the next generation to explore beneath the surface and develop a profound sense of pride in the work they do. By fostering an environment that encourages curiosity and creativity, I aim to inspire future professionals to make meaningful contributions that support our communities and families. Together, we can build a legacy of excellence and innovation that will benefit generations to come.

What's one tool, app, or piece of gear you won't leave the office or job site without?

The one indispensable tool I never leave the office or job site without is my phone. In today's digital age, phones have evolved into powerful personal computers, enabling me to create detailed reports, collaborate seamlessly with my team, and connect with clients instantly. This versatility ensures that I can manage tasks efficiently and maintain constant communication, no matter where I am.

Any favorite off-the-clock hobby or way to recharge after a long day?

My favorite hobby over the past 20 years has been yoga. It is an activity that I can engage in regardless of my mental or physical condition, and I always emerge feeling less stressed and more focused. If my current career were to change, I would pursue becoming a full-time yoga instructor.

Give our emerging leaders one piece of advice as they navigate their geo-careers.

Navigating a career in geotechnical engineering requires a blend of technical expertise, effective communication, and a willingness to embrace challenges. Here are some key pieces of advice:

1. Speak Up and Advocate for Yourself: One lesson I wish I had learned earlier is the importance of advocating for oneself. Confidently express your ideas, concerns, and career aspirations. Don't shy away from voicing your opinions during meetings, seeking opportunities for growth, and asking for the resources you need to achieve your goals.

2. Embrace Failure as a Learning Opportunity: Embracing the possibility of failure is essential for personal and professional growth. Take calculated risks, experiment with new approaches, and view setbacks as valuable learning experiences. Failure should be seen not as a reflection of your abilities but as an opportunity to gain insights, refine strategies, and ultimately achieve better outcomes.

3. Value Field Experience: The time spent in the field is invaluable. These experiences shape you into a more effective project manager and operations manager. Embrace the challenges you encounter daily, as each experience contributes to your growth as a leader.

4. Seize Opportunities with Enthusiasm and Courage: When opportunities arise within your firm, set aside any fear of failure and seize the moment. Taking on new challenges, even if they seem daunting, is a crucial part of professional growth. Everyone makes mistakes, but it is through these experiences that we learn and become stronger.

5. Stay Current with Industry Advancements: The field of geotechnical engineering is constantly evolving. Stay updated with the latest advancements.

6. Leverage Professional Associations and Resources: Associations such as ASCE, ACEC, and DFI offer a wealth of resources to help professionals stay current in the industry.

7. Build Strong Professional Relationships: The people you work with can be a source of inspiration and motivation. Collaborating with colleagues over the years and witnessing their development and achievements can be incredibly rewarding. Foster strong bonds and a shared commitment towards collective success.

8. Foster Innovation and Creativity: Encourage curiosity and creativity within your teams. By fostering an environment that supports exploration and innovation, you can inspire future professionals to make meaningful contributions that benefit communities and families.

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