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**Delaware Valley
Chapter**

DELAWARE VALLEY GEO-INSTITUTE

DVGI September 2024

Volume 24 Issue 6

Inside this issue:

Sept 2024 1
 May 2024.....2
 Announcements3-13
 Corporate Sponsors14-16
 Universities17

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September 2024 DVGI Dinner Meeting

SPEAKER: Eli Brinker, E.I.T. and Elisabetta Iannetti, E.I.T. of Pennoni Associates

TOPIC: 2023-2024 DVGI Project of the Year Winner "SPARK – Gene Therapy Innovation Center

DATE: Tuesday September 17, 2024 – 5:30 PM to 8:30 PM EST

WHERE: Valley Forge Casino– Parkview Ballroom, 1160 1st Ave, King of Prussia, PA 19406

COST: \$60 Standard, \$30 Government/Retired, \$10 Students

MEETING ABSTRACT:

Pennoni Associates is proud to lead the engineering efforts for Spark’s groundbreaking \$575M Innovation Center in Philadelphia’s University City, adjacent to Drexel University and the Schuylkill River. This state-of-the-art facility, spanning over 90,000 square feet, will house six stories of advanced manufacturing and research laboratories, along with below-grade parking. The center, set to become a global flagship for Roche Pharmaceuticals, is designed to enhance gene therapy production and expand into various disease categories. Scheduled for completion in 2026, it will be a landmark of scientific innovation, emphasizing sustainability and latest technology.

The project presented significant geotechnical challenges due to its proximity to the 100-year floodplain and complex subsurface conditions. Pennoni’s team conducted a comprehensive investigation, revealing the complex geology characterized by sporadic alluvial deposits on the eastern side and shallow decomposed rock to the west. The findings revealed a 25-foot dip in rock elevation from east to west. To address these challenges, drilled piers were selected for their capacity to manage axial and tension loads, and a seepage analysis using pump test data was performed to optimize design against hydraulic uplift pressures, leading to a cost-effective design modification with varied floor slab thicknesses across the site. Additional geotechnical solutions included underpinning a retaining wall along Chestnut Street to support the wall during excavation and installing an underground stormwater basin with rock anchors to provide uplift support without stressing the basement slab.

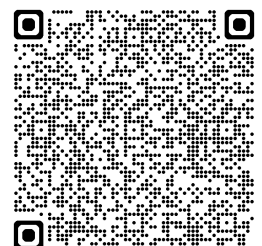
These geotechnical solutions not only mitigated the risks associated with the site's complex environment but also ensured the long-term stability and functionality of Spark’s Innovation Center, positioning it as a cornerstone of scientific and technological advancement.

ABOUT THE SPEAKER:

Mr. Brinker is an Associate Engineer in the Pennoni Geotechnical Group in Philadelphia. Mr. Brinker is affiliated with ASCE and DFI.

Ms. Iannetti serves as a Staff Engineer in the Pennoni Geotechnical Group in Philadelphia. Ms. Iannetti is affiliated with ASCE, DFI, and ACE Mentor Program.

Please register with QR code by Sept 10th :





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2024 May DVGI - Dinner Meeting

Speaker : Jeffrey C. Evans, Ph.D., P.E., F.ASCE, Professor Emeritus at Bucknell University
Topic: Slurry Walls and In Situ Mixing for Construction of Vertical Barriers

MEETING ABSTRACT:

Slurry trench cutoff walls for the construction of low-permeability vertical barriers have been in use for over 50 years in the US. Our understanding of both soil-bentonite (SB) and cement-bentonite (CB) slurry walls has advanced significantly since they first came into common usage as groundwater barriers for dewatering and barriers for control of contaminant migration. Developments such as the addition of Portland Cement to SB mixtures and granulated ground blast furnace slag to CB mixtures are now common. At the same time, developments in methods to construct in situ mixed vertical barriers have led to a wide variety of options in terms of construction techniques. These include chain mixers such as Keller's Trench Remixing and Deep wall (TRD) and Dewind's One Pass Trenching (OPT) methods, cutter soil mixers (CSM), and mixing with vertical augers. Each of these newer techniques offers both advantages and disadvantages as a means to construct a low permeability cutoff wall. This talk will present current developments in our understanding and implementation of the various means and methods of constructing a subsurface vertical barrier of low permeability.

ABOUT THE SPEAKER:

Dr. Evans is Professor Emeritus of Civil and Environmental Engineering at Bucknell University, Lewisburg, PA. He earned BSCE, MSCE and Ph.D. degrees in Civil Engineering from Clarkson University, Purdue University, and Lehigh University, respectively. Before joining Bucknell, he spent over 10 years as a consultant with Woodward-Clyde Consultants (now AECOM) where he was named "Young Professional of the Year" in 1984. His experience also includes the U.S. Army Corps of Engineers Reserves where he served as a 2nd Lieutenant, 1st Lieutenant, where he attained the rank of Captain. He has also authored or co-authored over 100 publications in the areas of geotechnical, ground improvement and geoenvironmental engineering. He has also co-authored three books (Hazardous Waste Management, Fundamentals of Ground Improvement and Slurry Trenching: History, Uses, Fundamentals and Construction) along with Chapters in eight other books. He is currently a Principal Geotechnical Engineer at Parsons





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DVGI Project of the Year 2023-24

**CONGRATULATIONS TO OUR 2023-2024 PROJECT OF THE YEAR AWARD
TO PENNONI!**

This months dinner meeting will include a presentation on this project.





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ANNOUNCEMENTS—GOLF OUTING REVIEW

On June 13th, 54 DVGI members and friends participated in the Annual DVGI Golf Outing at Kimberton Golf Club in Phoenixville. Engineers, Contractors, and Suppliers took time out of their busy schedules to support the DVGI scholarship fund. The weather was perfect, and the refreshments were cold for the shotgun start at 9 am at the beautiful venue. The outing was a scramble format inviting all levels of golf skill. Shout out to Keith Merl (DuroTerra) and Rick Smith (Aero Aggregate) for staffing the registration table and roaming the course with refreshments.

The Access Limited Construction team took home the overall best team score (61), while the Kleinfelder/ Weston & Sampson/HNTB team had the dubious honor of the worst or “most honest” team score. After the round of golf, participants gathered for lunch and drinks on the patio. Perren Palpant of GeoStructures, Inc. won the longest drive hole while Mike Culbertson of Keller won the closest to the pin prize (8’). Andy Donaghy of Menard mastered the Shortest Driver. Also thanks DuroTerra and Junttan for providing raffle ticket prizes and Archie Filshill for donating all his cash prize from 50/50 raffle to the Scholarship fund. It was a great event to get to socialize with DVGI members and friends at a more informal gathering. Special thanks to our 18 sponsors which made the event a huge success, providing over \$4,300 for the DVGI Scholarship fund given out to students during the annual March Student Night dinner meeting. Looking forward to next year’s outing!

Annual DVGI Golf Outing
June 13, 2024
Thanks to Our Generous Sponsors



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ANNOUNCEMENTS—GOLF OUTING PHOTOS ALBUM





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Upcoming Dates for 2024-25 Dinner Meetings and events are as follows:

10/17/2024– Thursday– To Be Announced

11/12/2024 – Tuesday– To Be Announced

01/21/2025 – Tuesday– To Be Announced

One PDH will be awarded for most meetings that you attend.

If you are interested in presenting at one of our monthly meetings or have ideas about potential speakers, please get in touch with a DVGI board member.

MEMBER SPOTLIGHT

AJ METZ

DVGI's A.J. Metz, P.E. of GEI Consultants, Inc. was recently featured in the Aug/Sept 2024 issue of GeoStrata magazine as a New Face in G-I. New Faces is an endeavor by the G-I Outreach and Engagement Committee to make readers aware of members under 40 years of age who are available to deliver engaging technical presentations to G-I Chapters and other professional groups. Get to know more about A.J. at the link here: https://www.readgeo.com/geostrata/august_september_2024/MobilePagedArticle.action?articleId=1999148#articleId1999148

AILIE VUPER

Ailie Vuper of Langan Engineering & Environmental Services was recently recognized by the DFI Educational Trust as a recipient of the Women in Deep Foundations (WiDF) Professional Development Grant. The recipients are invited to attend the DFI 49th Annual Conference on Deep Foundation in Aurora, Colorado, October 7 –10. The grant includes complimentary conference registration and covers related expenses for attending the conference. The grants are being presented during the Annual Conference at the Women in Deep Foundations (WiDF) Committee's 8th annual networking event on Monday, October 7, from 7:00 p.m. – 8:30 p.m. More information can be found at the link here: <https://dfi.org/news/dfi-educational-trust-awards-women-in-deep-foundations-professional-development-grants-3/>



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SAVE THE DATE FOR GETT 2024!

The Girls Exploring Tomorrow's Technology[®] (GETT) Expo is an annual event for girls in grades 4-10, along with their parents and educators, to learn more about career opportunities in a broad scope of STEM related industries. The day is filled with exciting and enlightening experiences including hands-on activities lead by successful women in STEM fields.

Registration opens Wednesday September 4th. Due to the generous donations and support from our sponsors, we are able offer GETT as a free event to all students.

Adults will be charged a fee of \$10 to attend, to help us offset event costs and keep this event free for the girls! Pre-registration is required for admittance. Tickets will not be available at the door on the day of the event. Pre-registration is required in order to ensure that we do not exceed building capacity in efforts to create the most safe, comfortable and successful experience for everyone in attendance. Remember, you will only be admitted to GETT at the time designated on your ticket (as per your selection in your registration).

GETT 2024 is taking place at the The Greater Philadelphia Expo Center at Oaks, PA. Saturday, October 26, 2024. See the webpage for more details at <https://gettpa.org/>





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HAVE DVGI PUBLISH YOUR ARTICLE, ADVERTISEMENT, OR JOB POSTING

- Do you have an interesting article on a project or individual in your organization that you would like to have published in the DVGI newsletter?
- Would you like to get the word out about a job opening, new venture, etc. to our membership via the newsletter?

Please submit your articles or news items for consideration in the next edition of the newsletter or get in touch about our reasonably priced advertising by contacting Neil Scafonas (neil.scafonas@aecom.com).

Member Spotlight

See link below for an interview of one of our newest DVGI Board Members, Michael Bennett, P.E. (NJ, PA), in the most recent issue of GeoStrata Magazine. Congratulations Michael!

https://www.readgeo.com/geostrata/april_may_2024/MobilePagedArticle.action?articleId=1967377#articleId1967377.

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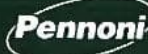
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