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**Delaware Valley  
Chapter**

# DELAWARE VALLEY GEO-INSTITUTE

DVGI November 2023

Volume 23 Issue 8

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## November DFI Traveling Lecture Meeting 2023

**SPEAKER:** Jesús E. Gómez, Ph.D., P.E., D.GE

**TOPIC:** Dos and Don'ts in Lateral Stabilization of Soils Using Deep Foundation Elements

**DATE:** Tuesday November 21, 2023 – 5:30 PM to 8:30 PM

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

**COST:** \$55 Standard, \$20 Government/Retired, \$10 Students

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## November DVGI Dinner Meeting 2023

**MEETING ABSTRACT:**

Besides their main application to support vertical and lateral loading from a superstructure, deep foundation elements are often subject to lateral loading from the soil itself. In some cases, the foundation elements may need to resist lateral movement of the soil during a potential lateral spreading event in a seismic area, or they may potentially be subject to lateral movement when installed near or below a slope.

This presentation discusses potential situations where deep foundation elements may be required to withstand lateral soil movements. A theoretical, simple slope instability case will be used to illustrate the various steps of analysis, including assessment of movement profile, development of the foundation reaction-displacement function, evaluation of the slope and foundation stability. This example depicts suitable methods of analysis of these systems and will be used to highlight analysis flaws that are often seen in practice.

Several case histories will also be presented that include lateral "squeezing" of soft soils located under or near the edge of an embankment and its effect on driven piles; mitigation of lateral squeeze using drilled foundations; design and testing of augered cast-in-place piles to withstand a lateral spreading event; and slope stabilization using micropiles. Design and construction of these systems, most of which were recently completed, will be discussed in some detail.

**ABOUT THE SPEAKER:**

A well-known geotechnical expert, and member of DFI, Gómez will travel and present a series of lectures to university students, professional groups and industry associations. The program promotes the field of geotechnical engineering and deep foundation construction by encouraging students to explore a career in the deep foundations industry, providing information on topics of interest to members of the industry and raising awareness of how DFI and its activities support the industry.

**Please register with QR code by November 14, 2023 :**





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## October Meeting 2023

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**Speaker : James Gardner, PE, WSP**

### **Topic : Geotechnical Investigations and Monitoring of MSE Perimeter Berms for Land Containment**

#### **MEETING ABSTRACT:**

Two municipal solid waste landfills were designed and constructed in eastern Pennsylvania utilizing mechanically stabilized earth (MSE) as the entire landfill perimeter berm. These MSE berms vary in height from approximately 15 to 95 feet. Significant portions of the MSE berm and landfill footprint are underlain by low shear strength, compressible soils and fill materials.

The first site is a former sand and clay mine. A portion of the site contains an appreciable thickness of mine spoils, which were placed in an "un-engineered" manner. Instrumented test fills were constructed over two areas of the mine spoil to evaluate both the amount and rate of strength gain of these materials under load due to consolidation. The second site is a former steel manufacturing facility. Portions of the site are underlain by a paleochannel containing approximately 1 to 4 feet of compressible organic silt. Other portions of the site were formerly used as open borrow pits. These borrow pits were backfilled in an uncontrolled manner using slag, debris, and other fill materials, and more recently in a controlled manner using submerged fill with granular materials resulting in variable density of the backfill. Instrumentation was used during construction and subsequent landfill operations to monitor for horizontal displacements of the MSE berm and to measure pore pressures of the foundation soils. Data collected indicate that movements of the MSE berm and pore pressures have been within anticipated ranges.

#### **ABOUT THE SPEAKER:**

Jim is a Lead Consultant at WSP USA Inc, formerly Golder Associates Inc. He holds a B.S. in civil engineering and an M.S. in geotechnical engineering from Drexel University. He has 15 years of professional experience in geotechnical engineering for waste containment including municipal waste landfills and environmental remediation and capping projects. His expertise is in slope stability, geosynthetic design, and geotechnical instrumentation and monitoring.





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## 2024 DVGI Scholarship Award

### 2024 DVGI Scholarship Applications

Students interested in applying for a 2024 DVGI scholarship can click [here](#) to download the application file. Over \$6,000 in scholarship funds are expected to be distributed with a minimum award of \$500 to the successful applicant(s).

All applications should be e-mailed to Dan Marano at: [dmarano@pennoni.com](mailto:dmarano@pennoni.com) and must be received by **January 19, 2024** for consideration.

#### Eligibility Criteria:

The applicant must be a full-time student enrolled in a college program leading to a bachelor's or master's degree in a program related to civil/geotechnical engineering, environmental engineering, geology, or other related fields.

Preference will be given to students who reside in or are attending school in the Delaware Valley area.

Applicants must submit their most recent college transcripts, including grades for the most recent semester completed. Unofficial copies are acceptable.

Evaluation: Each applicant will be evaluated on a point system as follows:

25 points – Grades and Academic Performance

75 points – Career Questions (5 questions, 15 points each)

**E-mail Dan Marano ([dmarano@pennoni.com](mailto:dmarano@pennoni.com)) with any questions related to the application or to request an electronic version of the application.**

Please encourage any local student meeting the above criteria to submit an application.

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### 2024 DVGI Student Night Presentation Applications

Students interested in either delivering a presentation or presenting a poster at the March 2024 DVGI Student Night can [click here](#) to download the application file.

All applications should be e-mailed to Dan Marano at: [dmarano@pennoni.com](mailto:dmarano@pennoni.com) and must be received by January 19, 2024 for consideration.

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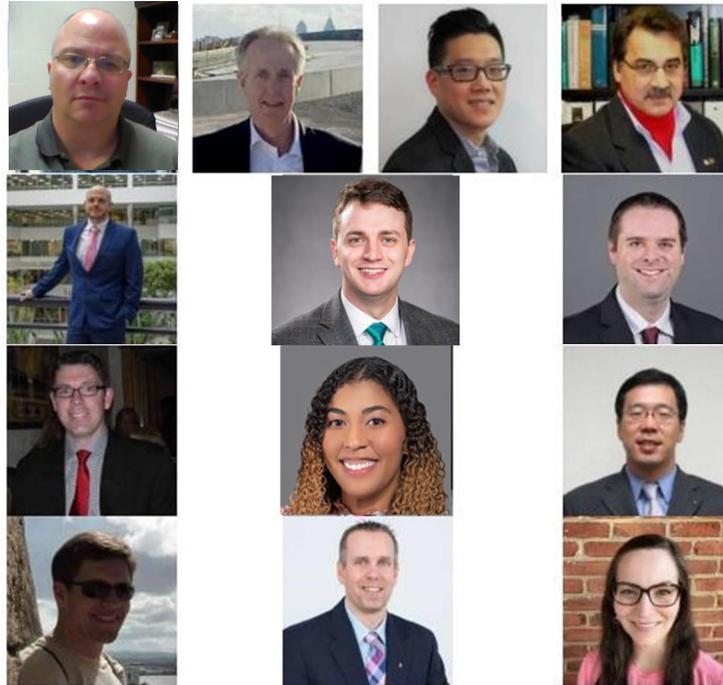
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**Social Media**

Kayla Nelson  
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## ANNOUNCEMENTS

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## Geosynthetic Institute

### GSI RECORDED WEBINARS

- Topics, and Registration at [www.geosynthetic-institute.org/webinar.htm](http://www.geosynthetic-institute.org/webinar.htm)
  - Each Webinar Carries 1.5 Professional Development Hours Upon Completion of a 10-Question Multiple Choice Test
    - Each presentation lasts approximately 90 minutes

#### Upcoming GSI Webinars for 2023

15-Nov	W-34	<a href="#">Geosynthetics in Roadways- Description</a>
13-Dec	W-6	<a href="#">Geosynthetics in Heap Leach Mining - Description</a>

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ALL WEBINARS WILL BE RECORDED AND CAN BE PURCHASED FOR VIEWING AT YOUR CONVENIENCE

**GSI/GMA Members \$200.00 USD per each Webinar**

ASCE/G-I Members:  
Read past and present issues of Geo-Strata magazine online at [www.asce.org](http://www.asce.org)

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## ANNOUNCEMENTS

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Upcoming Dates for 2023-24 Dinner Meetings and events are as follows:

11/21/2023 – DFI Lecture- Jesus Gomez

12/12/2023 – Special Webinar with Dan Brown

01/16/2024 – Kimberly Martin, Keller

02/20/2024 – Joint Meeting with SEI

*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.*

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### *On Director's Cut*

Geo-Institute Director Brad Keelor interviews G-I members about anything and everything. You might hear about their favorite geotechnical project, their favorite music, or their favorite pie. In Episode 18 of Season 3, Brad speaks with Theresa Andrejack Loux of Aero Aggregates!

See the video here: <https://youtu.be/Gn-aDAHfCXg>

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ASCE/G-I Members:  
Read past and present issues of Geo-Strata magazine online at [www.asce.org](http://www.asce.org)

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## ANNOUNCEMENTS

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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@acem.com](mailto:neil.scafonas@acem.com)).

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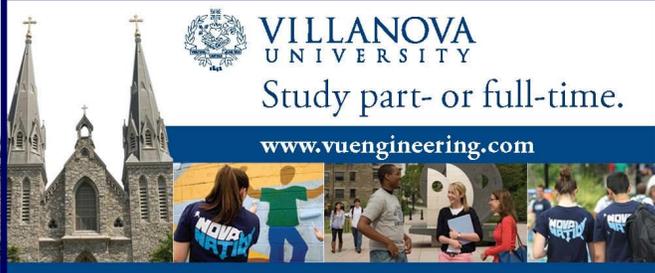
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