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Delaware Valley
Chapter

DELAWARE VALLEY GEO-INSTITUTE

DVGI November 2019

Volume 19, Issue 8

November 2019 DVGI Dinner Meeting

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SPEAKER:

Brandon T. Buschmeier, P.E., Director of Engineering & Regional Sales Manager, Menard USA

TOPIC:

Design, Installation & Analysis of Column Supported Embankment Systems at I-295/I-76/Route 42 Direct Connection Contracts 1 & 2

DATE:

Tuesday, November 19, 2019

LOCATION:

Valley Forge Casino, Parkview Ballroom, 1160 First Ave., King of Prussia, PA

TIME:

5:30 PM Social Hour, 6:30 PM Dinner and
 7:15 PM Presentation

This presentation will present the project background, site challenges, ground improvement design, analysis of load test data and quality control measures implemented on the I-295/I-76/Route 42 Direct Connection Project. Column supported embankments systems (CSES) were used to limit settlement and accelerate construction of large embankments bearing on compressible soils at the I-295/I-76/Route 42 Direct Connection project in Camden and Gloucester Counties in New Jersey. Due to the project size, traffic size, traffic flow, and safety concerns, expedited reconstruction of the existing roadway system is necessary and because of the soft soils present on site, the use of CSES allows for the schedule and performance criteria to be met. Due to traffic staging, the project has been split into multiple contracts, each of which contains various design areas.

ABOUT THE SPEAKER:

Brandon T. Buschmeier, P.E. is the Director of Engineering / Regional Sales Manager at Menard USA, a company that is part of a global network of geotechnical resources and expertise. Mr. Buschmeier has designed inclusion-based foundation systems for a variety of projects including warehouses, roadway widenings and abutments, industrial and commercial buildings, and multi-family residences. He is a registered professional engineer in NJ, VA, MD, DE, DC, and PA and has more than 10 years of experience in geotechnical engineering and contracting. Mr. Buschmeier is a graduate of Carnegie Mellon University with a BS in Civil Engineering, and is based out of Menard USA's regional office in Philadelphia, Pennsylvania.

We anticipate 1 PDH will be awarded for attendance.



October 2019 DVGI Dinner Meeting

Philly Load Test Delivers Knockout Punch

**Martin McDermott, PG, Moretrench, Rockaway, NJ &
Jeffrey Goodwin, PE, Foundation Test Group, Inc., Owings Mills, MD**

This presentation, entitled “Philly Load Test Delivers Knockout Punch,” showed the drilled shaft load test design and execution results that more than doubled the allowable drilled shaft end bearing value to 200 ksf. in the Wissahickon Formation. Historically, the differentially weathered character of this rock mass results in the assignment of low allowable end bearing values of 50 to 60 ksf. Experience has shown us that most load tests on drilled shafts are only a “proof” test confirming conservative design values. For a load test to maximize geotechnical success, “failure” is the best option. The irony in that truth is clearly quantified in the results of The Philly Knockout Punch load test.

ABOUT THE SPEAKERS:

Martin McDermott, PG, received his Bachelor’s degree in Geology from LaSalle University and Master’s degree in Engineering Geology from Drexel University. He spent the first 13 years of his career as a geotechnical consultant, the majority with Woodward Clyde. Over the past 23 years, Martin has worked as a deep foundation contractor predominantly with the Keller companies of McKinney Drilling and Moretrench.

Jeffrey Goodwin, PE, Chief Engineer of Foundation Test Group, was contracted by Moretrench to be the geotechnical and structural design engineer for the load test and final foundation redesign recommendations. Jeff will be a co-presenter with Martin.

Langan is also recognized as the geotechnical design engineer for the owner and a valuable contributor in the success of the redesign process.



Martin McDermott and Jeffrey Goodwin (Image Source: Russ Preuss)



ANNOUNCEMENTS

Upcoming Dates for 2019-2020 Dinner Meetings and events are as follows:

- ◆ **November 19 Dinner Meeting:** Brandon Buschmeier, Menard: Route 295 Ground Improvement
- ◆ **January 21, 2020 Dinner Meeting:** Dan Marano, Pennoni: Comcast Center
- ◆ **February 18, 2020 Dinner Meeting:** DVGI/SEI Joint Meeting—Speaker TBD
- ◆ **March 11, 2020 Dinner Meeting:** Student Night
- ◆ **April 2020 Dinner Meeting:** ASCE Joint Meeting Date TBD
- ◆ **May 19, 2020 Dinner Meeting:** Willie NeSmith, Berkel—DFI Traveling Lecture

One PDH will be awarded for most dinner 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.

DVGI PROJECT OF THE YEAR

Inaugural DVGI Geotechnical Project of the Year Competition

Submissions accepted now through April 1, 2020

Project of the Year to be selected in May 2020

Projects to be featured in DVGI Newsletters

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(joseph.coe@temple.edu)

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Geosynthetic Institute

***Upcoming GSI Webinars for 2019
(1.5 PDH each / upon completion of exam)***

11:30 AM—1:00 PM (Eastern Time)

Topics, Dates and Registration at www.geosynthetic-institute.org/webinar.htm

Cost: GSI Members \$200; Nonmembers \$250

November 27	W-25	Soil Consolidation using Wick Drains, aka PVDs
December 11	W-22	Geosynthetic Reinforced MSE Walls; Overview, Failures and Items for Improvement

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 Theresa Loux (tloux@aeroaggregates.com).

**ASCE/G-I Members:
Read past and present issues of Geo-Strata magazine online at www.asce.org**



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MEMBER SPOTLIGHT

Russ Preuss, P.E.

Gannett Fleming

Russ is a Principal Geotechnical Engineer at Gannett Fleming's Valley Forge, PA office with over 20 years' experience on geotechnical projects across the east coast. He currently serves as Chair of the Delaware Valley Geo-Institute (DVGI). Russ has extensive experience and interest in design, construction, and loading testing of deep foundations. Russ earned his Bachelor's degree in Civil Engineering from Villanova University and completed his Master's degree in Civil Engineering with a focus on Geotechnical Engineering at Drexel University. Russ lives in Collegetown with his wife, Kajal and two children, Kareena (12) and Owen (10). In his free time, Russ enjoys traveling, eating at new restaurants, biking, watching his kid play sports, and spending quality time with his family.

Q & A with Russ:

Q: What got you first interested in the geo-world?

A: I had an internship the summer before my senior year in college at Testwell Craig Laboratories in Ossining, New York. I was exposed to test boring investigations, construction inspection and materials testing peaking my interest in geotechnical engineering.

Q: What is your favorite thing about your Alma Mater?

A: The basketball team is still my favorite thing about Villanova University – that and the College of Engineering. It was a close-knit group of students working together, many of whom I remain in contact with to this day.

Q: What is something about yourself that would surprise us?

A: My kids think it's a little dorky, but I collect beach sand samples from various family vacations we have



Russ Preuss

been on along the east coast, west coast, and various Caribbean islands. I have them on display in split spoon sample jars in my basement bar. Surprisingly a plastic water bottle filled with sand makes it through TSA at the airport.

Q: What advice would you give to students studying a geo-profession?

A: Apply for a summer job at a local geotechnical engineering firm. Attend professional society meetings such as DVGI to network and learn from others within the industry and profession. For new hires, don't get deterred if you are running from field job to field job early on. Field experience is invaluable in geotechnical engineering, you can't learn/understand this stuff from a textbook or by sitting in your cubicle. Avoid spinning

Continued on the following page...

We will continue to feature DVGI members in upcoming issues of the Newsletter. Please feel free to contact any of the board members with any general comments or member spotlight suggestions. Board member email addresses can be found on Page 5.



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MEMBER SPOTLIGHT

Con't Russ Preuss, P.E. Gannett Fleming

your wheels if you are unsure of how to proceed. Don't be afraid to ask lots of questions. Mentorship is key, even if your company doesn't have a formal mentorship program, latch on to a senior engineer to pick their brain. They have a lot of experience and information to share.

Q: What are some career lessons you've learned thus far?

A: Keep up with new trends by reading professional publications and attending meetings both inside and outside geotechnical engineering. Strive to learn a new thing on a daily basis or at least once a week. Don't be afraid to go outside your comfort zone, it helps if you have a good mentor to nudge you. And finally keep it simple, a lot of times engineers suffer from paralysis by analysis and an overload of data. You must have a gut feel for what is going to work and be able to back it up with analysis.

Q: What are your hopes for our industry?

A: I hope engineers get more recognition for the valuable services we provide. We make bridges and buildings safe for others to use but often these designs are taken for granted by those outside our profession. It partially comes from a lack of self-promotion as engineers tend to be a humble group.

Q: What is your favorite thing to do in Philadelphia?

A: I enjoy biking along the Schuylkill River trail, eating at different restaurants, and sampling beers at the ever-expanding microbrewery scene.



Russ Preuss and His Family

Q: What aspect of your job do you enjoy the most?

A: I tend to have a short attention span, so the variety of different concurrent projects I am able to work on keeps me on my toes. I enjoy being able to go out in the field and observe a design being constructed as it is very satisfying. There's something to be said about driving past a project and boasting about your involvement.

Q: What is the most challenging aspect of your job?

A: The most challenging thing about my job is to ensure the projects are done in a timely and efficient manner. I feel like Contractor's are much more profit driven

Continued on the following page...



MEMBER SPOTLIGHT

Con't

Russ Preuss, P.E.

Gannett Fleming

compared to Engineers that strive to do a thorough design sometimes without regard for budget constraints and the financial health of the company.

Q: What do you like most about Gannett Fleming?

A: Being able to be involved in large scale projects and the various other engineering disciplines that are available in house. We often call on experts from other offices when specific assistance is needed on a project.

Q: What has been your favorite project at Langan that you have been a part of?

A: The Portal Bridge replacement project for New Jersey Transit is a 100-year-old swing bridge that oftentimes gets stuck delaying commuters into NYC. It was a very challenging project that had contaminated soils on top of deep deposits of soft varved clay. Lots of high-end laboratory testing and a design foundation load test program. Let's hope state and federal funding is secured for the construction phase.

(All images courtesy of R. Preuss)



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You are invited to participate in RamJack's L&L seminar. The presentation includes discussion of principles and the underlying assumptions, and explanations of the theories behind geotechnical analyses of helical (Screw) piles/anchors. References to sources of uncertainties in geotechnical analyses will be made to avoid a false sense of accuracy. The application of engineering principles to practical problems will be illustrated using Case Histories. The presentation touches on the use of computer software.

For more information, please contact Taylor Rizzotte – taylor@ramjacktri.com or Cindy MacKay – cindy@ramjacktri.com to schedule your L&L seminar.



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Mid-Level Geotechnical Engineer

Kleinfelder's Exton office is seeking a creative, highly talented, experienced Midlevel Geotechnical Engineer to join our growing company. Our Exton office offers a wide range of challenging project work and a great opportunity to develop professionally.



In this role, the ideal candidate will have the opportunity to work as part of a solid team while helping mentor more junior level team members. The position includes trouble shooting field issues, working on geotechnical calculations and analysis and report writing. To be successful in this role, it is crucial that the chosen candidate have the ability to organize priorities and multi-task effectively, a thirst to learn and achieve continuous improvement in a team environment, and a can-do attitude and problem-solving mindset.

Daily activities include but are not limited to the basic components of the delivery of a fundamental geotechnical investigation including:

- organization and performance of the field investigation
- assignment of the appropriate lab testing
- performance of the associated engineering analyses under the PE's guidance
- preparation of the geotechnical report
- ability to work with design teams to incorporate geotechnical aspects into site designs
- demonstrate experience with, or the ability to readily learn earthwork and foundation construction observation

Basic requirements:

- BS in Civil Engineering with EIT
- 5+ years of engineering consulting experience with a focus in geotechnical engineering (including site grading, erosion / sedimentation control or stormwater management)
- 2+ field experience (drilling, boring sampling, data collections)
- Strong verbal and written communication skills
- Regional geotechnical experience
- Ability to travel up to 25% to project sites and Kleinfelder offices

Preferred requirements:

- Professional Engineer (PE) licensure
- MS in Geotechnical Engineering
- Construction experience
- Experience with CAD, gINT, Lpile, and SlopeW software

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Please contact Jim Beideman, jbeideman@kleinfelder.com or 610-594-1444 extension 109, for more information and to submit a resume.



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Dr. Jesús Gómez, P.E., D.GE
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484.872.7001 cell: 610.656.5667
jgomez@geiconsultants.com



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o | +1 610.594.1444
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James M. Beideman, PE
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Department of Civil & Environmental Engineering
Rowan Hall
201 Mullica Hill Road
Glassboro, NJ 08028

Beena Sukumaran, PhD
Chairperson
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856-256-5324
856-256-5242 fax
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Joseph P. Martin, Ph.D., P.E.
Professor

Department of Civil, Architectural and Environmental Engineering
3141 Chestnut Street
Philadelphia, PA 19104

TEL 215.895.2363
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Department of Civil & Environmental Engineering

Christopher L. Meehan, Ph.D., P.E., FASCE
Associate Professor
Director, Delaware Center for Transportation

355 Du Pont Hall
Newark, DE 19716
<http://udel.edu/~cmeehan/>

Phone: 302-831-6074
Fax: 302-831-3640
Email: cmeehan@udel.edu