Today, the new five-story Staten Island Supreme Courthouse sits prominently atop a hill with a view of New York Harbor. The site has historical significance as home of the 19th century New York Marine Hospital and Quarantine Station, a way station for immigrants who came to the United States between 1799 and 1858. The 30 acre compound was one of the earliest public health institutions in the country. The compound also contained two cemeteries: one still existed within the boundary of the proposed courthouse development. To advance the courthouse design, two intertwined challenges had to be overcome: the sloping topography and the archaeological presentation. The cellar excavation within the existing topography would result in a substantial unbalanced earth pressure. Because typical excavation support systems would have encroached on the historical cemetery, and because a vertical excavation cut had to be made within the sloping site without disturbing that cemetery, a creative design solution was required to preserve the archeologically-sensitive areas while making the 27-ft deep excavation for the new below grade levels. For these reasons, the selected perimeter support was provided by a permanent soil nail wall. This presentation will provide insight regarding the design, construction and performance of the permanent soil nail wall installed at the site.

**ABOUT THE SPEAKER:**

Jared Green, P.E., is originally from southwest Philadelphia. He graduated from Syracuse University’s College of Engineering in 2001 with a B.S. in Civil Engineering and went on to attain his M.S in Civil Engineering (Geotechnical Focus) from the University of Illinois, Urbana-Campaign in 2002. In 2003, he began working in the New York City office of Langan. He has since become a Senior Associate / Vice President and is one of the owners of this international land development engineering consulting firm. After 15 years at Langan, Jared has moved to the Philadelphia Office and is one of the geotechnical practice leaders.

One Professional Development Hour (PDH) will be provided for this dinner meeting.
Innovations in construction equipment over the last two decades, combined with increased load carrying demands for foundation elements have resulted in significantly larger and deeper foundation elements that have tested our abilities in many areas including equipment requirements, materials, and construction means and methods. The Federal Highway Administration (FHWA) is completing a series of research efforts, and policy changes related to design and construction issues, and acceptance standards to address advances occurring with driven pile and drilled shaft foundations. The presentation will address efforts to optimize drilled shaft design, evaluate design methodologies for large diameter open-ended pipe piles, and the update of guidance for acceptance of large diameter foundation elements.

ABOUT THE SPEAKER:
Silas Nichols is the Principal Geotechnical Engineer for the Federal Highway Administration’s Office of Infrastructure. Silas is responsible for providing leadership and direction for the FHWA National Geotechnical Team through policy development, technical guidance development, and coordination with industry and professional groups. Silas has been with the FHWA for 17 years both in Headquarters and with the Resource Center. Silas has a Bachelor’s Degree in Civil Engineering from Syracuse University, and a Master’s Degree in Geotechnical Engineering from Tufts University. Prior to employment with the FHWA, Silas served more than 10 years in private consulting in the Northeastern and Mid-Atlantic United States.
Upcoming Dates for 2018-2019 Dinner Meetings and events are as follows:

- **November 15th Dinner Meeting**: Rick Brinker, Pennoni Associates
- **January 15th Dinner Meeting**: TBA
- **February 19th Dinner Meeting**: TBA
- **March 18th Dinner Meeting (Student Night @ Villanova)**: TBA

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

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

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**Every child should Dream Big**

Together, we can make that possible.

The acclaimed giant-screen documentary _Dream Big: Engineering Our World_ has inspired and delighted audiences in museums around the world.

Now, ASCE with generous support from the United Engineering Foundation (UEF) has set an ambitious goal: to put a copy of the _Dream Big_ film and educational toolkit in every public school in America.

To reach every school, we need your help!

**DONATE TODAY**

https://www.engineersdreambig.org/

$5 will send the school of your choice a Dream Big toolkit

Image courtesy of https://www.engineersdreambig.org/
ANNOUNCEMENTS

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ANNOUNCEMENTS

Upcoming GSI Webinars for 2018
(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

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<td>Disposal of Coal Combustion Residuals (CCRs)</td>
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<td>Soil Consolidation using Wick Drains, aka PVDs</td>
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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 Theresa Loux (tloux@aeroaggregates.com).

DVGI Merchandise Available for Purchase

Coffee mugs ($8) and lapel pins with the DVGI logo ($5) are available for purchase. See Russ Preuss if you are interested in purchasing either of these items.

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

Michael J. Byle, P.E., D.GE, F. ASCE
Tetra Tech

Michael Byle is the National Discipline Lead for Civil and Geotechnical Engineering at Tetra Tech. He has accumulated 40 years of experience working on projects across the United States and around the world. He obtained his Bachelor's and Master's degrees in Civil Engineering with a concentration in soil mechanics and foundations engineering (The term geotechnical did not exist at that time). He began his career after his undergraduate degree doing analysis and design review for offshore oil platforms where he learned soil-structure interaction analysis and developed procedures for iterating between finite difference pile models and finite element structure models. He reached the conclusion that he needed more education and went back to University of Michigan to complete a master's degree.

While originally from Detroit, Michigan, he moved across the country from Michigan to New York City, to the mountains of Colorado, to Texas, to Maryland, to Virginia, to Pennsylvania, to New Jersey and finally back to Pennsylvania where he has lived with his wife and three children for the past nine years. Though he has been working in Langhorne, Pennsylvania with Tetra Tech for nearly 14 years. The variety of locations, enabled him to see many different local practices and developed his understanding of the role of geology and geomorphology play in defining soil conditions.

Michael has worked on and managed projects ranging from basic “boring and bearing” investigations through complex multidisciplinary design build projects, both locally and around the globe. Some recent projects involved conducting site surveys, hydrological studies, geotechnical investigations and site design for projects in Sub-Saharan Africa and developing landslide and sinkhole mitigation plans for over 300 miles of pipeline in Virginia and West Virginia. In working with Tetra Tech’s remediation group, he manages investigations and design for underpinning, excavation support, and treatment facilities. A current major project involves assessment of over 400 structures along over 8 miles of river to be dredged to remediate chemical contamination in the sediments.

Michael has been active in the profession having served as Chair of the Geo-Institute Technical Coordination Council, GI Grouting Committee, Engineering Education Task Force on the national level and was one of the leaders in starting the Delaware Valley Geo Institute, serving as its first Chair. He has also chaired a number of international conferences: three on grouting and one on karst. He has published more than 25 peer-reviewed technical papers. He serves as president of the International Conference Committee for Grouting (ICOG). He has been a mentor through ASCE and has volunteered the Appalachia Service Project to repair homes in Appalachia. He is a Fellow of ASCE and Diplomate Geotechnical Engineer.

In what free time he has he spends working on his model trains. He has quite a collection of 1940’s and 1950’s American Flyer Trains. He has won awards for his restorations at national conventions.

All images courtesy of M. Byle

Continued on the following page...
He lives in Richboro, Pennsylvania with his wife and his youngest daughter who is a senior in high school. His son is in his final year at the University of Alabama and his eldest daughter attends East Stroudsburg University. The soon to be empty-nesters, Mike and his wife are thinking ahead to quieter times.

Q & A with Michael:

Q: What got you first interested in the geoworld?
A: I have always been fascinated by soils, from seeing how moisture changed the behavior of sand at the beach to seeing how freshly plowed furrows stood in the fields. When I was in junior high, my family built a house and I was the guy who dug the foundations. I think that affected me as well. After attempting to find a place in medicine or chemistry at my parents’ insistence, but I found my way to the obscure field of soil mechanics and foundations engineering (listed as a footnote in the engineering catalog) before the end of my junior year. The rest, as they say, is history.

Q: What is your favorite thing about your Alma Mater?
A: If I could narrow it down to one thing, I would have to say the whole environment of campus. The sense of learning was palpable, and the camaraderie and spirit were contagious. The campus of the University of Michigan is integrated into the town of Ann Arbor and incorporates natural areas to have something for everyone. It is a dynamic environment brimming with possibility.

Q: What is something about yourself that would surprise us?
A: I sang with the Aspen Community Chorus in Aspen, Colorado and we appeared on national television with John Denver on Good Morning America.

Q: What advice would you give to students studying a geopression?
A: Learn the concepts and meaning behind the equations and learn to apply these concepts in places the equations do not apply. All engineering analyses are all simplifications limited by the assumptions made. Reality is always more complex than the assumptions necessary for typical analysis methods. Fight the tendency to do work by rote and really try to understand the basis for the behavior to choose appropriate parameters and methods of analysis. Context is always important.

Q: What are three career lessons you’ve learned thus far?
A: 1) Never be a specialist, but have a specialty. Don’t be pigeon-holed. Being versatile is the key to a satisfying and interesting career. 2) Defining the problem is the most important step in problem solving. What you think of as the standard solution may not always be the right one. 3) Human factors control designs as much as engineering principles. Politics, owner preferences, site constraints, and regulatory concerns must be a part of any engineering solution.

Q: What are your hopes for our industry?
A: I would hope that engineers can come together recognize themselves as true professionals and hold each other to principles that command respect, instead of being viewed as providing commodity services. It pains me to see engineers competing with themselves to cut the scope so thin, they can barely do a passable job, just to win a project. We have got to advocate for better solutions and raise our standards of performance and provide better value to our clients.

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 4.
MEMBER SPOTLIGHT

Con’t

Michael J. Byle, P.E., D.GE, F. ASCE
Tetra Tech

Q: What is your favorite thing to do in Philadelphia?
A: My favorite thing to do in Philadelphia is to attend the plays at the Walnut Street Theater. They do an incredible job and it is always entertaining. My wife and I have been season pass holders for a number of years. I also take in an occasional Flyers hockey game.

Q: What aspect of your job do you enjoy the most?
A: I really enjoy problem solving. I am lucky in that I get involved in a wide variety of projects from flood control in New Orleans to solar facilities in Africa, to dams, wind farms, dredging, bulkheads, piers, and lots of rehabilitation of old structures all over the world. This enables me to think creatively to find solutions for complex and diverse problems; not just the technical engineering problems, but the logistical and constructability problems as well. I think that is what I enjoy most, but another big part is that I get to mentor young engineers to expand their vision and capabilities. Seeing them come up with the solutions to sticky problems gives me great joy.

Q: What is the most challenging aspect of your job?
A: The greatest pleasure brings the greatest challenge. Diversity of projects and lack of repetition requires diligence to stay current and be assured of providing the appropriate standard of care. Often during proposal development for these complex projects, we have to come up with solutions that can be used to determine the price and schedule for the work with limited information and time. I find that the most challenging, especially for design-build and EPC projects. The pressure is on when the entire project cost and schedule are driven by your decisions.

Q: What do you like most about Tetra Tech?
A: Tetra Tech has an incredible depth of talent and the resources to take on projects that few other companies can. The ability to put together team of top professionals including environmental scientists, geologists, engineers, marine geophysicists, geomatics specialists, modelers, etc. makes it fun. Tetra Tech also allows me the latitude to do what I need to do and encourages professional development.

Q: What has been your favorite project at Tetra Tech that you have been a part of?
A: My favorite project was the investigation of a Dam out in Washington State. It had a little of everything and as project manager, I had assembled team made up of experts from all over the U.S. and Canada. The dam was a 300' high gravity arch located in a 500’ deep canyon. The only access to the base of the dam was by helicopter. The work started with marine geophysics and ground-based LiDAR that we used to create a high resolution 3-D surface model. Our geologists mapped the geology of the canyon walls using the 3-D model. We then completed thousands of feet of oriented cores, logged them with borehole geophysics and completed one of the most complex dye tracing investigations that I have ever seen. This was all combined in a 3-D solid finite element model and a discrete element flow model to evaluate dam stability and seepage through the foundation and abutments. It was a true multidisciplinary effort.

All images courtesy of M. Byle

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 4.
EVENTS AND CONFERENCES

October 31-November 2, 2018
30th Central Pennsylvania Geotechnical Conference
Hershey, Pennsylvania

February 10-13, 2019 | Houston, TX USA
Geosynthetics Conference
Marriott Marquis Houston
GeosyntheticsConference.com

Geo-Congress 2019
Philadelphia, Pennsylvania | March 24-27, 2019
SEI Presents: A Dome Rises in Delaware (1.0 PDH)
Thursday, October 25, 2018 - 5:30pm

By using modern design and construction methods, an award-winning Academic and Athletic Facility was created for the expanding Delaware Military Academy. This presentation will address project development, design and construction methods, and the full sequence of construction. The reinforced concrete dome gymnasium roof was made with an inflated form and interior shotcrete, allowing construction to proceed through the Winter. The resulting signature form has the inherent strength to serve as a rated hurricane shelter, and the costs to build and operate this facility are considerably less than those for a building of similar size and conventional construction.

Speaker(s)
Theodore J. Smulski, PE

Location
Valley Forge Casino
1160 First Avenue
King of Prussia, PA

Registration
RSVP: By October 22, 2018 at 5:00 pm by visiting the SEI website, www.sei-philly.org, or directly by Clicking Here.

Fees: General Admission $50; Government $35; Students $35.
Questions: Niki Eno - neno@figbridge.com, 610-594-2460, Extension 3028.