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Delaware Valley  
Chapter



American Society of Civil Engineers

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# DELAWARE VALLEY GEO-INSTITUTE

DVGI October 2016

Volume 16, Issue 7

## October 2016 Dinner Meeting

**SPEAKER:** Craig H. Olson, P.E. — TRC Engineers, Inc.  
**TOPIC:** Case Studies of Pile Damage Assessment & Hammer Performance Using the Pile Dynamic Analyzer (PDA)  
**DATE:** Tuesday, October 18th, 2016  
**LOCATION:** Valley Forge Casino Resort Hotel , Parkview Ballroom  
 1160 First Avenue, King of Prussia, PA 19406  
**TIME:** 5:30 PM Social Hour, 6:30 PM Dinner and  
 7:15 PM Presentation

\*\*\*Registration and Payment Online at <http://www.dvgi.org/> \*\*\*



Mr. Olson will provide a brief overview of PDA testing theory and present several case studies and of driven pile foundations that were evaluated using Pile Dynamic Analysis testing. The case studies will highlight the benefits of using PDA testing to evaluate pile integrity, hammer performance, and pile capacity. Photos of extracted piles will be presented to illustrate the condition of the driven piles as well as correlation between the PDA test results and actual pile damage.

**ABOUT THE SPEAKER:**

Mr. Craig H. Olson, PE is a degreed professional who offers demonstrated experience in the performance of Pile Dynamic Analysis (PDA) testing (using the Pile Dynamic Analyzer – PAK, PAX, PDA 8G models), along with the completion of such related testing services as vibration and sound monitoring (using the InstanTel Mini Mate Plus seismographs) for public- and private-sector construction projects throughout the Mid-Atlantic region. He has also designed, developed and tested various aerospace subsystems for vibration and acoustic response over the past 28 years. During his early technical career, he was given increasingly more responsible roles as a test engineer and test conductor at domestic and international aerospace test facilities with General Electric and Lockheed Martin. He has also served in a project management role for mechanical systems design, as well as the testing of construction and aerospace projects.



*One Professional Development Hour (PDH) will be provided for this dinner meeting.*



## September 2016 Dinner Meeting

### Compaction Grouting Fundamentals Michael J. Miluski, P.E.

Mr. Miluski’s presentation discussed the mechanics and different uses of compaction grout. The presentation included a definition of compaction grout and what is considered the industry standard in accordance with ASCE’s Compaction Grouting Consensus Guide. Michael touched on the important aspects of specifying, reviewing, and monitoring compaction grouting projects. Specification preparation topics included grout refusal, criteria, mix design, estimating quantities, and utilizing different pricing schemes. Key points of field observation included calibrating the pump strokes, determining pump rate, pump rate versus injection pressure, and tracking quantities. The presentation also featured several case histories.


#### ABOUT THE SPEAKER:

Michael is a professional engineer with a BS and MS in Civil Engineering from Widener University. While completing his master’s program Michael developed, performed, and analyzed a full scale research program evaluating the effectiveness of differing means and methods of compaction grouting in Karst. Post-graduation, Michael worked for Schnabel Engineering Services for about 10 years developing his expertise in geotechnical engineering with a focus on difficult foundation support and karst related problems. Michael later changed career paths from consulting engineering to specialty geotechnical contracting by opening and operating the Mid-Atlantic office for Denver Grouting Services. He then branched out and started Compaction Grouting Services in 1998 after Denver Grouting was purchased by another specialty geotechnical contractor. Michael continues to apply this broad geotechnical engineering and specialty contracting background to provide



Image courtesy of T. Loux

#### Mechanics



- Grouting performed in “Stages”, usually from the bottom-up.
- Each stage is pumped until terminal criterion is met.
- Casing is withdrawn in regular intervals as successive stages are pumped.
- Result is a relatively uniform column of treated soil.

Image courtesy of Presenter

#### Jim Warner’s “Pool Disaster” - 1957




Photo courtesy of Jim Warner

- Pool constructed in an abandoned and backfilled basement.
- Grout holes were spaced at 4 feet.
- Grout injections only intended for “mudjacking”.
- Project seemed a “Disaster” for the contractor (Warner).
- Grout injection at the shallow end caused dirty water to flow through drilled holes in the deep end.
- Water removed in buckets and disposed of in local catch-basin.
- 10 times more grout consumed than calculated.
- Everyone involved was obviously upset, with one exception...

“You have squeezed water out of the fill - That shouldn’t be possible. It’s WONDERFUL !”

Thus began extensive research & development.

The Soils Engineer

Image courtesy of Presenter

value engineering solutions for potential clients. Under Michael’s direction, Compaction Grouting Services has enjoyed 18 years of successful operation and continued growth with a strong reputation as a premier compaction grouting contractor in the Northeast/East Coast service area. Michael is a respected member in the grouting community who presents annually at The University of Texas at Austin’s Fundamentals of Grouting Short Course and biennially at The Sinkhole Conference sponsored by the National Cave and Karst Research Institute. In addition to being a member of ASCE, ICOG, DFI and the Geo-Institute, Michael also serves on the Compaction Grouting Consensus Guide Committee and is currently collaborating with other industry leaders in updating this publication.



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## ANNOUNCEMENTS

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### Earn PDHs at 2016-2017 DVGI Events

Upcoming Dates for 2016 Dinner Meetings and events are as follows:

- ◆ **October 18th:** Craig H. Olson, P.E., TRC Solutions—“Case Studies of Pile Damage Assessment & Hammer Performance Using the Pile Dynamic Analyzer (PDA)”
- ◆ **November 15th:** TBD
- ◆ **January 17th:** TBD
- ◆ **February 21st:** TBD

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

*If you are interested in presenting at one our monthly meetings,  
please get in touch with a DVGI board member.*

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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@golder.com](mailto:theresa_loux@golder.com).**

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### 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.

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## JOB POSTING

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### Senior Geotechnical Engineer / Project Manager



TRC Companies, Inc. (NYSE: TRR) is an engineering, consulting, and construction management firm that provides integrated services to the Environmental, Energy, Infrastructure, Transportation and Real Estate markets. Our multi-discipline project teams provide turnkey services to help our clients implement complex projects from initial concept to delivery and operation. A broad range of commercial, industrial, and government clients depend on us for customized and complete solutions to their toughest business challenges.

TRC is seeking a qualified Project Manager / Senior Geotechnical Engineer for our Mount Laurel, NJ office. TRC's Geotechnical Engineering Group consists of a geotechnical engineering division, a full-service drilling division, an ASTM/AASHTO accredited soil mechanics and concrete testing laboratory, a PDA testing and vibration monitoring component, and a commercial construction inspection division, all of whom work together to provide high-quality and cost-effective geotechnical design solutions for a wide range of project applications. Typical projects include industrial processing facilities, mooring structures, municipal wastewater treatment facilities, power generation and transmission projects, low to high-rise residential developments and office complexes, multi-story parking facilities, highways, bridges, schools and churches. Our service area is primarily located within PA, NJ, NY, VA, WV, OH, DE, DC, and MD.

The responsibilities associated with this position include participating in project pursuits and serving in a project management and/or lead technical role for geotechnical projects. Typical tasks will include proposal preparation, the planning, analysis, design, reporting, and preparation of specifications for geotechnical projects, and mentoring of junior technical staff. Specialized experience with regard to site investigation programs, design and in-situ testing of deep foundations, soil and rock slope stability evaluations, design of retaining walls and reinforced soil slopes, and settlement evaluation and mitigation measures is required.

#### Qualifications

- BSCE required, MSCE in Geotechnical Engineering preferred.
- PE license.
- DOT and/or Turnpike Authority experience a plus.
- 5 to 10+ years geotechnical engineering experience required.
- Demonstrated leadership skills, communication skills, and ability to work with various technical disciplines in a team setting are essential.

TRC offers a very competitive salary and benefits package.

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## EVENTS AND CONFERENCES

### *SEI: The New Crum Creek Viaduct - (1 PDH)*

*The presentation by Mr. Slattery (SEPTA) will focus on an overview of the old Crum Creek Viaduct, the motivation for replacement, the design/build team selection process, and oversight of the design and construction by the Walsh/FIGG team.*

*The presentation by Mr. Kucz (FIGG) will focus on key components of the new Crum Creek Viaduct including the substructure design, superstructure design, the lateral slide, design constraints imposed by the accelerated bridge approach, and conclusions/lessons learned.*

**SPEAKERS:** *Richard Slattery, P.E. (SEPTA);  
Dan Kucz, P.E., S.E. (FIGG)*

**LOCATION:** *SEPTA, 1234 Market Street  
Philadelphia, PA 19107*

**DATE:** *Thursday, October 27, 2016*

**TIME:** *5:30-8:30 PM*

**COST:** *Members \$45, Non-members \$50,*

**RSVP:** <http://www.sei-philly.org/>

### *Upcoming ASCE Section Dinner Meeting*

*(Save The Date)*

*The topic for the November dinner meeting is "30th Street Master Plan" and will take place on Thursday, November 10, 2016 and will be located at Maggiano's in Center City, Philadelphia.*

## CENTRAL PENNSYLVANIA GEOTECHNICAL CONFERENCE

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