

**GEOTECHNICAL GROUP
LOS ANGELES SECTION – ASCE**



of the American Society of Civil Engineers

MEETING NOTICE
Wednesday, September 21, 2016

**Post-grouted Drilled Shafts: Mechanisms for Improved
Performance and Implications for Design**

J. Erik Loehr, Ph.D., P.E.

Associate Professor, University of Missouri

SOCIAL HOUR: 5:30 p.m.

DINNER: 6:30 p.m.

PROGRAM: 7:30 p.m.

PLACE: Stevens Steak House

5332 Stevens Place, City of Commerce

Southwest Corner of I-5 & Atlantic Boulevard

PRICE:

\$35 with reservation in-advance;

\$40 at the door;

Students: Free with a valid student ID.

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Please make reservations (<http://lageoinstitute.com/>) prior to 12 noon,

Wednesday, September 14.

ABSTRACT:

The practice of post-grouting for drilled shafts is being applied more frequently in U.S. construction practice. Post-grouted drilled shafts (PGDS) have been shown to have improved performance compared to similar conventional drilled shafts in many types of ground conditions. However, the mechanisms through which post-grouting may improve performance are a subject of debate and a source of misconceptions, which has led to poor implementation of post-grouting in some cases. In this presentation, alternative mechanisms to explain the improved performance due to post-grouting will be described and considered in light of measurements from full-scale load tests on companion post-grouted and conventional drilled shafts. Results from several recently completed load tests performed to specifically evaluate improvement due to pre-mobilization will be presented. Implications of the alternative mechanisms for design and construction will also be described and recommendations for improved design and construction of PGDS will be provided.

BIO:

J. Erik Loehr, Ph.D., P.E.

Professor Loehr is the James C. Dowell Associate Professor in the Department of Civil Engineering at the University of Missouri (MU). Professor Loehr specializes in complex soil-structure interaction problems and practical implementation of reliability-based design, risk assessment, and asset management concepts. He has conducted extensive research to evaluate use of structural elements for stabilization of earth slopes and the effects of moving soil on structural foundations. He developed new engineering guidelines for design of bridge foundations and earth slopes using LRFD for the Missouri Department of Transportation. Implementation of this work has produced average cost savings of approximately \$40,000 per bridge, saving the agency millions of dollars since adopting the methods in 2011. He is currently serving as Principal Investigator for a project funded by FHWA to independently investigate performance of post-grouted drilled shafts and to develop best-practices and effective design guidance. He is also currently leading development of FHWA's Manual on Geotechnical Site Characterization (GEC-5). Funding for his research has been provided by government agencies including the National Science Foundation, the Federal Highway Administration, the Department of Defense, and the Missouri Department of Transportation, and by private industry including the International Association of Foundation Drilling (ADSC), Nucor-Yamato Steel, and Trinity Products.



Dr. Loehr actively participates in professional organizations including the ASCE Geo-Institute, the Deep Foundations Institute, ADSC – The International Association of Foundation Drilling, and the Transportation Research Board. He is currently Chair of the ASCE Geo-Institute's Committee on Embankments, Dams, and Slopes and was Conference Chair for the 2013 ASCE Geo-Institute Annual Congress in San Diego. He was the founding chairman of the DFI Committee on Deep

Foundations for Landslides and Slope Stabilization and currently serves on the Board of Trustees for DFI. He is a recipient of the ADSC Outstanding Service Award, the TRB K.B. Woods Award, an NSF CAREER Award, and the Missouri Innovative Researcher of the Year Award among other honors. He is a registered Professional Engineer in the State of Missouri where he resides with his wife and four children.