

Virginia Tech
Center for Geotechnical Practice and Research
Annual Lecture Program

Thursday, March 29, 2018

Alumni Assembly Hall
Inn at Virginia Tech and Skelton Conference Center
Blacksburg, Virginia

8:00-8:45 AM **“Building Foundations for Community Healthcare”**
Kenneth A. Huber, P.E.

The lecture will describe the design and construction of foundations for new buildings at Brooklyn Methodist Hospital in New York. The 56,000 square foot concrete and steel framed building will be constructed across the street from a historic landmark district. Excavations as deep as 50 feet adjacent to existing structures will be required. Secant piles and soldier piles and lagging was used for excavation support and foundations. Neighboring structures are as much as 100 years old.

9:00-9:45 AM **“Jet Grouting for Water Cutoff and Excavation Support”**
Matthew J. Niermann, P.E.

This presentation will describe the basics of jet grouting and outline the key parameters for its use. Three case histories will be presented to illustrate the versatility of the method for water cutoff and excavation support.

10:00-10:45 AM **“Design and Construction of a Foundation System for Two Large Power Plants in a Liquefaction-Prone Site”**
Jesus Gomez, Ph.D., P.E., D.GE

Two large power plants are under construction in the Los Angeles area. The sites are underlain by soft soils deposited over liquefiable sand. Foundation for the heavier equipment and structures required installation of foundation piles, while lighter structures and utilities were supported on a ground improvement system. Design of the foundation considered vertical and lateral loads, as well as downdrag induced by liquefaction-induced subsidence of the soils overlying the liquefiable layer.

Keynote Speaker

11:00-12:00 **“Managing Risks to Infrastructure with Real-Time Monitoring of Performance”**
Noon **W. Allen Marr, PE, PhD, D.GE, NAE**

Construction and operation of infrastructure facilities can create major risks to society and the environment. One effective way to help reduce these risks is to monitor performance with sensors so that emerging risks can be detected early enough to activate mitigation measures. This presentation will discuss the nature of risk to typical infrastructure facilities and how those risks can be mitigated by using sensors, computers and the Internet.

12:00 Noon – The lecturers, CGPR members, and Virginia Tech faculty and graduate students are invited to join us for lunch in Latham Ballroom.

