

**Tuesday, March 5, 2019**  
**Virginia Tech - CGPR Annual Lecture Program**  
**The Inn at Virginia Tech - Skelton Conference Center**  
**Blacksburg, Virginia**

**8:00-8:45 AM            “Geotechnical Challenges and Collaborative Foundation Solutions for the New Atlanta Stadium Project”        Matthew E. Meyer, P.E., D.GE**

This large project included construction of a 71,000-seat retractable roof stadium, a plaza structure, an adjacent parking garage, and re-alignment of the bordering roadway and bridge structure, as well as demolition of the existing Georgia Dome and conversion of this area to a large scale tailgate/event parking area. This project represents a coordinated, collaborative process amongst the project manager, general contractor, architects, engineers and numerous subcontractors. The presentation will provide an overview of the project with particular focus on the variable subsurface conditions and construction verification testing.

**9:00-9:45 AM            “Rise, Fall, and Rebirth of Viaduct No 1 On Venezuela’s L-02”  
Jesus Gomez, Ph.D., P.E., D.GE**

The predicted collapse of the concrete arch viaduct across the Tacagua Valley near Caracas, Venezuela, prompted the emergency design and construction of a replacement structure to permit access to Caracas from the city of La Guaira, the international airport and the maritime port, and tens of thousands of daily commuters. The original viaduct collapsed in 2006 after many years of movement in the hillside on which it was founded. The new structure by-passes the unstable hillside, supported on 7 pilasters up to 216 ft tall, located at the bottom of the valley. High-capacity micropiles were used to support the pilasters and the abutments of the viaduct.

**10:00-10:45 AM        “Geotechnical Stability of Waste Fills – Lessons Learned and Continuing Challenges”  
Rudolph Bonaparte, Ph.D., P.E., D.GE., NAE**

The lecture will review several U.S. waste fill stability failures that occurred during the early 1980s to mid-1990s, the period during which modern landfill engineering materials and design approaches emerged in response to governmental regulations, and the lessons learned during that period. Notwithstanding those lessons, waste fill failures continue to occur. Several failures from the current decade are reviewed and it is concluded that 20 to 30 years after the earlier timeframe, facility owners and the geotechnical practitioners designing those facilities are re-learning the earlier lessons, while at the same time there are new lessons to learn related to evolving waste streams and operating practices. The lecture will conclude with an evaluation of the current state of practice and recommendations to improve the practice.

**Keynote Speaker**

**11:00-12:00 Noon      “Insights into Site Response Analysis from Downhole Array Data”  
Ellen M. Rathje, Ph.D., P.E., F.ASCE**

This presentation will describe recent research examining the accuracy of 1D site response analysis. First, low intensity motions will be utilized to assess the accuracy of 1D analysis at small-strains, and an approach will be outlined that incorporates the horizontal to vertical spectral ratio (HVSr) to identify, apriori, sites that can be modeled well by 1D analysis. Next, moderate to large intensity motions will be used to assess 1D site response analysis at the larger strain levels that are often associated with design ground motions. The potential for overdamping of high frequencies in these cases will be demonstrated, and solutions that can correct for this effect will be outlined. Finally, the unique capabilities of the Strata site response program will be introduced, with particular emphasis on the functionalities that improve site response predictions at large strains.

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

