



# Rensselaer

## DEPARTMENT OF CIVIL & ENVIRONMENTAL ENGINEERING

### SEMINAR

#### **“Geotechnical Site Characterization by Seismic Piezocone Testing – the versatile and complete beyond (update keynotes from CPT’14, Las Vegas; Nonveiller Lecture, Zagreb 2016; Jennings Lecture, South Africa”**

Wednesday, March 20, 2019

Eaton 214

1:00 – 2:00

**Dr. Paul W. Mayne, P.E.**

Professor – Geosystems Engineering  
Georgia Institute of Technology

#### **ABSTRACT:**

Towards geotechnical site characterization of soils, seismic piezocone penetration testing (SCPTu) offers up sounding: cone tip resistance ( $q_t$ ), sleeve friction ( $f_s$ ), porewater pressure ( $u_2$ ), time rate dissipation ( $t_{50}$ ), and downhole and the data are available immediately upon completion of the sounding, typically taking only about 3 hours for a 30-m economical means for obtaining stratification of the ground. Calibration and documentation of selected geoparameters friction angle, preconsolidation stress, undrained shear strength,  $K_0$  stress state, small-strain stiffness, soil modulus, and can be derived for clays, silts, and sands. Moreover, direct CPT methodologies have been developed for application to evaluation. Several case studies are presented to show the utilization of SCPTu in geotechnical practice. Geotechnical Site Characterization by Seismic Piezocone Testing – the versatile and complete beyond (update keynotes from CPT’14, Las Vegas; Nonveiller Lecture, Zagreb 2016; Jennings Lecture, South Africa

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#### **BIO:**

Paul W. Mayne, P.E., PhD, is a professor of Civil & Environmental Engineering at the Georgia Institute of Technology. With 42 years in geotechnical engineering, Paul is an expert in geotechnical site characterization, particularly the cone penetrometer, piezocone, dilatometer, and seismic tests with applications to foundation systems and ground modification. He has published 330 technical papers and participated in 120 short courses. Of recent, Paul authored the 2007 Synthesis 368 on Cone Penetration Testing ([www.trb.org](http://www.trb.org)), co-authored the SOA-1: Geomaterial Behavior & Testing at the 17<sup>th</sup> ICSMGE in Egypt in 2009. Dr. Mayne is an active member of ASCE, TRB, DFI, ADSC, CGS, USUCGER, and ISSMGE.

Refreshments will be served