Vancouver Geotechnical Society
A Local Section of the Canadian Geotechnical Society

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NOTICE OF UPCOMING TECHNICAL PRESENTATION
Wednesday, 20 November 2019

TOPIC: **Hazard-consistent assessment of seismically-induced displacements**

SPEAKER: **Jorge Macedo, PhD, PE. – Georgia Institute of Technology in Atlanta**

Jorge Macedo is an Assistant Professor in the School of Civil and Environmental Engineering at the Georgia Institute of Technology in Atlanta, Georgia, USA. Dr. Macedo received B.S (2007) and M.S (2011) degrees in civil engineering and soil mechanics, respectively, from the Peruvian National University of Engineering and M.S. and Ph.D. degrees in Geoengineering in 2014 and 2017 from the Department of Civil & Environmental Engineering at the University of California Berkeley. Before joining UC Berkeley, Dr. Macedo practiced 6 years as a geotechnical engineer at Golder Associates working on a range of challenging geotechnical and geo-environmental multi-disciplinary projects for the infrastructure, mining, and oil & gas sectors. He worked on major projects in Peru, Argentina, and Brazil from conception to detailed engineering design. Dr. Macedo has expertise in the areas of Geotechnical earthquake engineering, advanced numerical modeling of geotechnical systems, performance-based design and risk assessment, assessment and mitigation of seismically-induced hazards, and mining geotechnics. Dr. Macedo's research at Georgia Tech combines performance-based engineering and reliability tools with advance numerical modeling (e.g. FEM, FDM, MPM) to support the implementation of risk and hazard assessment in geo-hazards engineering, which can lead to a more sustainable design of geotechnical systems.

CONTENT: This seminar will present performance-based procedures for the estimation of: 1) liquefaction-induced settlement of buildings with shallow foundations, and 2) seismically-induced slope displacement of earth/waste systems and natural slopes. The current standard-of-practice for seismic performance assessment is to develop an elastic acceleration response spectrum based on a defined hazard level (or return period), which is then used as an input to estimate engineering demand parameters. The issue with this approach is that it assumes that the hazard design level for an intensity measure (e.g. spectral acceleration) is consistent with the hazard design level for an engineering demand parameter (e.g. seismically-induced displacement), which may not always be the case. The procedures to be presented in this seminar provide seismically-induced displacement estimates that are hazard-consistent and can be readily used in engineering design. The seminar will also discuss the differences between performance-based procedures that provide hazard-consistent estimates and standard-of-practice procedures, in the context of the seismic performance-based assessment of geotechnical system. Finally, the seminar will present a new computational platform that enables the straightforward application of the presented performance-based procedures in engineering practice.

DETAILS:
Location: Centennial Room, Executive Inn, 4201 Lougheed Highway, Burnaby, BC V5C 3Y6
Social Hour: 5:30 to 6:30 pm (drinks available at the hotel bar)
Technical Presentation: 6:30 to 7:30 pm (No need to RSVP)
Dinner: 8:00 pm ($20 will be charged for dinner). If you would like to stay for dinner, please RSVP to Intisar Ahmed via email (iahmed@thurber.ca) or at the door.