Vancouver Geotechnical Society
A Local Section of the Canadian Geotechnical Society

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NOTICE OF UPCOMING AGM AND TECHNICAL PRESENTATION
Wednesday, 04 November 2020

TOPIC: **Evaluation of Flow Liquefaction and Liquefied Strength Using CPT – An Update**

SPEAKER: **Dr. Peter K. Robertson, Private Consultant and Technical Advisor to Gregg Drilling & Testing LLC.**

Dr. Peter Robertson brings more than 40 years of experience as an educator, researcher, consultant and practitioner specializing in the areas of in-situ testing and site investigation, earthquake design of geotechnical structures, and soil liquefaction. Peter is recognized as an expert both nationally and internationally in the areas of in-situ testing and soil liquefaction. He has been a consultant to various clients around the world for projects involving liquefaction evaluation for major structures, stability of on-shore and off-shore structures, landslides, stability of natural slopes and tailings dams, and use and interpretation of in-situ tests. He is the co-author of the primary reference book on Cone Penetration Testing (CPT). He has also authored or co-authored over 250 publications as well a popular CPT Guide that is freely available on several websites. Peter has also assisted in the development of several inexpensive CPT-based interpretation software programs and has presented a series of free webinars in an effort to enhance education and practice. Peter continues to provide private consulting to a wide range of clients and currently resides in southern California.

Dr. Robertson has authored or coauthored 249 publications including one book, six chapters in books, three engineering design manuals, 79 refereed journal publications, and 142 other refereed contributions. Dr. Robertson retired from the University of Alberta in 2007 and currently resides in Southern California. Currently, Peter is a private consultant and Technical Advisor to Gregg Drilling & Testing LLC.

CONTENT: Flow liquefaction can occur in any saturated or near saturated meta-stable soil, such as very loose sands and silts as well as sensitive clays and is a major design issue for large soil structures such as mine tailings impoundments and earth dams. Robertson (2010) outlined a method to evaluate the liquefied undrained shear strength of soils using the CPT that applies primarily to sand-like soils. This presentation will describe a recommended update to the Robertson (2010) method to include a transition from sand-like to clay-like soils. The proposed update acknowledges that soil behaviour can vary from sand-like to clay-like and that CPT interpretation to estimate the large strain liquefied or residual undrained shear strength changes due to the changing drainage conditions during the CPT. In sand-like soils the CPT penetration process is essentially drained and the correlation to large strain liquefied undrained strength is carried out through an intermediate parameter, such as state parameter. In clay-like soils the CPT penetration process is essentially undrained and the correlation to large strain residual undrained shear strength can be carried out more directly using the CPT sleeve friction, fs. The correlations to estimate the large strain undrained shear strength of soils based on CPT measurements are updated and extended to cover both sand-like and clay-like soils. The presentation will also discuss risk evaluation related to flow liquefaction.

DETAILS: **AGM:** 5:00 to 5:30 pm
Technical Presentation: 5:30 to 6:30 pm
Link: https://attendee.gotowebinar.com/register/1380550905703122 08