Vancouver Geotechnical Society
A Local Section of the Canadian Geotechnical Society

www.v-g-s.ca

NOTICE OF UPCOMING AGM and TECHNICAL PRESENTATION

Thursday, October 1, 2015

SUBJECT: **Reliability-Based Geotechnical Design: Link between Theory and Practice**
Canadian Geotechnical Society (CGS) Cross Canada Lecture Tour – Fall 2015

SPEAKER: **Gordon Fenton, Ph.D.**

Dr. Gordon Fenton is a cross-appointed professor to the Civil Engineering and Engineering Mathematics Departments at Dalhousie University. His research interests include probabilistic modeling of geotechnical systems and the development of geotechnical reliability-based design codes and have led to his authoring of over 140 peer-reviewed papers.

Dr. Fenton currently serves as chair of the Canadian Highway Bridge Design Code Geotechnical Systems Committee, and is a member of the Canadian National Building Code Task Group on Climatic Loads, and a member of the Canadian National Building Code Standing Committee on Structural Design. He is also the North American Managing Editor for the international journal *Georisk*, past chair and current member of the ASCE Geo-Institute Risk Assessment and Management Committee, and vice-chair of the ISSMGE Engineering Practice of Risk Assessment and Management Committee.

For his research efforts, Dr. Fenton has received the Thomas C. Keefer Award from the Canadian Society for Civil Engineering, the George Stephenson Medal from the Institution of Civil Engineers, the Gzowski Medal from the Engineering Institute of Canada, and was elected a Fellow of the Canadian Academy of Engineering. His research work is summarized in his textbook *Risk Assessment in Geotechnical Engineering*, (Wiley, 2008).

CONTENT: Geotechnical design codes are increasingly migrating towards reliability-based design concepts. What this means is that geotechnical designs are starting to be specifically targeted at a failure probability that is societally acceptable and that depends on the severity of failure consequences. For example, the foundation of a hydro-electric dam, whose failure may result in significant downstream damage and potential life-loss, must be designed to have a lower failure probability than the foundation of a storage shed.

In order to properly employ reliability-based design concepts, a basic understanding of the probability concepts, as well as the link between site and model understanding and failure probability, is required. This lecture explains the basic ideas of probability theory and how they are used in modern geotechnical design concepts. Questions, such as "How are standard site investigation results used to estimate the probability of failure of a designed geotechnical system?" are addressed and illustrated using a number of examples.

DETAILS:

Location: Executive Inn, 4201 Lougheed Highway, Burnaby, BC V5C 3Y6 (Phone: 604-298-2010)
Social Hour: 5:30 to 6:30 pm (drinks available at the hotel bar)
Annual General Meeting: 6:30 to 7:00 pm

- Report from previous year
- Executive committee elections (refer to nomination form)

Technical Presentation: 7:00 to 8:00 pm (No need to RSVP)
Dinner: 8:15 pm ($30 will be charged for dinner)
If you would like to stay for dinner, please RSVP to Robyn Barnett via email or at the door Robyn.Barnett@tetratech.com

The VGS would like to thank the following companies (in alphabetical order) for sponsoring this Cross Canada Lecture Tour:

- *BGC Engineering*
- *Golder Associates*
- *Klohn Crippen Berger*

The Cross Canada Lecture Tour is organized by the Canadian Geotechnical Society and its various local sections, and funding is provided by the Canadian Foundation for Geotechnique.