



Vancouver Geotechnical Society

A Local Section of the
Canadian Geotechnical
Society

www.v-g-s.ca

2022-2023 Executive Committee:

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Student Representative	Eryn Alexander, BGC
Member-at-Large	Emir Hot, Arya Engineering

NOTICE OF TECHNICAL PRESENTATION Monday, 1 May 2023

TOPIC: Next Generation Liquefaction Hazard Analysis - Data, Issues, and Model Development

SPEAKER: Steve Kramer, Ph.D. – Professor Emeritus, University of Washington

Steve Kramer is Professor Emeritus of Civil and Environmental Engineering at the University of Washington in Seattle. His primary research interests include soil liquefaction, site response analysis, seismic slope stability, and hazard analysis. He has worked on the coupling of probabilistic seismic hazard and response analyses within performance-based earthquake engineering frameworks, particularly with respect to soil liquefaction. Kramer is author of the textbook, *Geotechnical Earthquake Engineering* (Prentice-Hall). Kramer has been the recipient of the Presidential Young Investigator Award from the NSF, the Arthur Casagrande Professional Development Award from ASCE, a Walter Huber Research Prize from ASCE, and the ASCE Norman Medal (in 2009 and 2017). He received the 2016 M.J. Nigel Priestley Prize from the European Centre for Training and Research in Earthquake Engineering, the 2018 H. Bolton Seed Medal from ASCE, and the 2018 Nabor Carrillo Lecturer Award from the Mexican Society of Geotechnical Engineering. In 2020, he was named as a Distinguished Member of ASCE, a member of the U.C. Berkeley Academy of Distinguished Alumni and elected to the National Academy of Engineering. Most recently, he was named an Honorary Member of the International Association of Earthquake Engineering. Kramer was a Senior Research Scientist in the International Centre for Geohazards at the Norwegian Geotechnical Institute (NGI) in 2003 and is also a member of the faculty of the European School for Advanced Studies in the Reduction of Seismic Risk (the ROSE School) at the University of Pavia in Italy. Although recently retired from the University of Washington, he remains active in research and consulting and is nearing completion of the second edition of his textbook.

CONTENT: The geotechnical engineering profession's understanding of soil liquefaction has advanced greatly since its effects were first widely observed following 1964 earthquakes in Niigata, Japan and Alaska. Both laboratory- and field case history-based approaches have illuminated liquefaction susceptibility, triggering, and consequences and developed useful tools for estimating each. Liquefaction models have historically been developed by small groups of researchers who have individually collected and interpreted laboratory and case history data. This has resulted in different models based on different data and different interpretations that can provide different results under conditions of interest in practice. The Next Generation Liquefaction (NGL) project was conceived of and designed to promote the development of liquefaction models based on consistent, publicly available, up-to-date field and laboratory data. This presentation will introduce the NGL project, discuss important issues relative to susceptibility, triggering, and consequences encountered in practice, and describe the innovative approaches taken to address them by the NGL modeling teams.



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

- Conetec
- GeoStabilization International
- JD Mollard and Associates
- Tetra Tech
- Thurber Engineering Ltd.



DETAILS: **Location:** Centennial Room, Executive Hotel, 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 Ali Jahanfar via email (ali.jahanfar@stantec.com) or at the door.