



## Vancouver Geotechnical Society

A Local Section of the  
Canadian Geotechnical  
Society

[www.v-g-s.ca](http://www.v-g-s.ca)

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## NOTICE OF UPCOMING TECHNICAL PRESENTATION Monday, 11 February 2019

**TOPIC:** **Seismic Landslide Assessments: Bridging the Gap between Engineers and Earth Scientists – 2018 William B. Joyner Lecture**

**SPEAKER:** **Dr. Ellen Rathje – Professor, The University of Texas at Austin.**

Ellen M. Rathje is the Janet S. Cockrell Centennial Chair in Engineering in the Department of Civil, Architectural, and Environmental Engineering and also a Senior Research Scientist at the Bureau of Economic Geology at the University of Texas at Austin. Her research interests include seismic site response analysis, earthquake-induced landslides, field reconnaissance after earthquakes, and remote sensing of geotechnical phenomena. She is a founding member of and previous co-chair of the Geotechnical Extreme Event Reconnaissance Association (GEER) which coordinates National Science Foundation-sponsored geotechnical investigations around the world after major earthquakes and other natural disasters, to advance research and improve engineering practice. Rathje is also the Principal Investigator of the DesignSafe cyberinfrastructure project, a web-based research platform for the National Hazards Engineering Research Infrastructure (NHERI) that provides computational tools to manage and analyze critical data for natural hazards research. Closer to home, Rathje is co-principal investigator for the Center for Integrated Seismicity Research and the TexNet Seismic Monitoring Program, both housed at the Bureau of Economic Geology at UT.

**CONTENT:** Earthquake-induced landslides represent a significant seismic hazard, as evidenced by recent earthquakes in Kaikoura, New Zealand and Gorkha, Nepal, and proper planning/mitigation requires accurate evaluation of the potential for seismic landslides. Engineers often tackle this problem through a detailed evaluation of individual slopes and more recently have introduced performance-based engineering (PBE) concepts into the analysis. Recognizing the compounding effects of multiple landslides across an area, earth scientists often evaluate seismic landslides at a regional scale. This approach sacrifices details, but provides a broader assessment of the impacts of earthquake induced landslides. This presentation will describe the integration of performance-based engineering concepts into regional-scale seismic landslide assessments. The basic PBE framework for seismic landslides will be introduced along with the modifications required to apply it at a regional scale. The application of the approach for a seismic landslide hazard map will be presented. The use of seismic landslide inventories to validate regional landslide assessments will be discussed, along with advancements in developing seismic landslide inventories using remote sensing techniques. Finally, research needs required to further advance regional seismic landslide assessments will be presented.

**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 Ali Ghandeharion via email ([aghandeharion@klohn.com](mailto:aghandeharion@klohn.com)) or at the door.

The William B. Joyner Memorial Lectures were established by the Seismological Society of America (SSA) in cooperation with the Earthquake Engineering Research Institute (EERI) to honor Bill Joyner's distinguished career at the U.S. Geological Survey and his abiding commitment to the exchange of information at the interface of earthquake science and earthquake engineering, so as to keep society safer from earthquakes.