

EERI-BC Chapter's 1st Symposium on the Latest Developments in Earthquake Engineering and Seismology and their Impact on New and Existing Infrastructures in Canada

The Earthquake Engineering Research Institute – BC Chapter (EERI-BC) is excited to announce its 1st Symposium in Vancouver, BC, Canada. The one-day symposium will be held as part of the 2023 CAEE-PCEE conference on June 26, 2023, at the UBC Robson Square venue. The focus of the symposium will be to provide an update on the latest developments in the field of structural and geotechnical earthquake engineering, seismic hazard, and seismic risk and their relevance to BC and other parts of Canada.

This one-day symposium will be free for all accepted delegates to encourage participation by students, researchers, and practitioners. The symposium will be jointly sponsored by the Canadian Association of Earthquake Engineering (CAEE), the EERI-BC Chapter, and industry partners.

The symposium will include keynote lectures, invited lectures, expert panel discussions, and presentations by graduate students from academic institutions.

The symposium will be an in-person event. A Zoom cast of podium presentations to a virtual audience may be available and will be confirmed in due course. Pre-registration is required for both in-person and virtual attendance. Delegates will be allowed to join both the in-person and virtual conferences at any time during the symposium.

The symposium is expected to provide a forum for graduate students and other researchers in academic institutions to present their key

research findings and share them with the industry at large. The symposium will also provide a networking opportunity for students, academics, and practitioners to identify research needs, share ideas and promote collaboration between academia and industry in general. Ample time will be allocated for networking during the symposium. After the symposium, a committee will be formed under the auspices of the EERI-BC Chapter and the CAEE to carry forward this initiative for future years and to promote collaboration among academics and industry practitioners.

The student presentations will be judged by a panel and prizes/tokens of appreciation will be given away to the selected top presenters.

Contact Information

For more information, please contact the Symposium Organizers at 2023EQSymposium@klohn.com

Thava Thavaraj, PhD, PEng – Co-Chair
James Williams, MSc, PEng – Co-Chair

Date and Time

June 26, 2023: 7:45 am – 4:45 pm

Venue

UBC Robson Square
800 Robson Street
Vancouver, BC Canada V6Z 3B7

Registration

The one-day symposium will be free for all accepted delegates. Registration is required for

all who wish to attend either the in-person or virtual event.

Fill out the Registration Form and send it by email to 2023EQSymposium@klohn.com

The registration will include a free boxed lunch and coffee and snacks during the coffee breaks.

This Symposium will be free for the registrants for the main 2023 CCEE-PCEE Conference. However, separate registration for this event is required using the form above.

Expert Panel Discussions

Panellists participating in the panel discussions will include experts with diverse expertise and experience.

Symposium delegates are encouraged to submit their questions or points for discussion to the panellists preferably before June 15th by email to 2023EQSymposium@klohn.com

Experts participating in the panel discussions will include the following from the industry (in alphabetical order) and university professors:

- Bruce Hamersley, PEng, *BASIS*
- Ernest Naesgaard, PhD, PEng, *NAGL*
- Garry Stevenson, PEng, PGeo, *KCB*
- Harvey McLeod, PEng, *KCB*
- Michal Kolaj, PhD, *NRC (TBC)*
- Michael Beaty, PhD, PE, *Beaty Engg. (TBC)*
- Omri Olund, PEng, *BC Hydro*
- Paul Wilson, PEng, *Thurber Engineering*
- Tim Little, PEng, *T.E. Little Engineering*
- Upul Atukorala, PhD, PEng, *WSP Golder*

Keynote and Invited Lectures

keynote and invited lectures will be delivered by:

- Carlos Ventura, PhD, PEng, *UBC*
- Harvey McLeod, PEng, *KCB*
- Michael Beaty, PhD, PE, *Beaty Engg. (TBC)*
- Michal Kolaj, PhD, *NRC (TBC)*

- Tim Little, PEng, *T.E. Little Engineering*

Student Presentations

Graduate students who are enrolled in the second or later year in a program related to earthquake engineering or geoscience in a post-secondary institution in Canada are encouraged to participate in the student presentations.

Fill out the Expression of Interest (EOI) Form, if you wish to make a presentation and send it by email to:

2023EQSymposium@klohn.com

Symposium Organizers will review the EOIs and contact the selected students with more details. Selected students are expected to make a 5-minute podium presentation in front of the entire symposium delegates.

Student presentation winners will be selected by a panel of judges based on the following aspects of their presentation: Communication, Comprehension and Engagement. More details on the judging criteria will be provided later. In addition to the podium presentation, a poster presentation may also be held, and details will be announced soon.

Key Dates

For General Registration	
Registration Open	April 5, 2023
Registration Deadline	May 1, 2023
Notification of Acceptance of Registration	May 15, 2023
For Student Presentations	
Submission of Expression of Interest (EOI) Open	April 5, 2023
EOI Submission Deadline	May 1, 2023
Notification of Selection of Presenters	May 15, 2023
Presentation Submission Deadline	May 29, 2023

Symposium Program (Tentative)

07:45 – 08:15	Registration
08:15 – 08:30	Opening Remarks and Welcome Address
08:30 - 09:00	Keynote <i>Dr. Carlos Ventura, PEng, Professor, University of British Columbia (UBC)</i>
09:00 - 10:00	Graduate Student Presentations <i>Session 1 – Chair: Dr. Carlos Molina Hutt, Assistant Professor, UBC</i>
10:00 – 10:20	Coffee Break
10:20 – 12:00	Graduate Student Presentations <i>Session 2 – Chair – TBA</i>
12:00 – 13:00	Lunch Break
13:00 – 13:30	Keynote <i>Mr. Tim Little, PEng, T.E. Little Engineering</i>
13:30 – 14:20	Expert Panel Discussion <i>Topic: Performance-based Seismic Design/Evaluation of Bridges and Buildings and Emerging Issues and Challenges.</i>
14:20 – 15:20	Invited Lectures <i>Harvey McLeod, PEng, PGeo, Klohn Crippen Berger</i> <i>Michael Beaty, PhD, PE, Beaty Engineering (TBC)</i> <i>Michal Kolaj, PhD, Natural Resources Canada (TBC)</i>
15:20 – 15:40	Coffee Break
15:40 – 16:30	Expert Panel Discussion <i>Topic: Performance-based Seismic Design/Evaluation of Earth Dams, Tailings Dams, and Concrete Dams and Emerging Issues and Challenges.</i>
16:30 – 16:45	Closing Remarks, Announcement of Student Presentation Winners and Introduction to a New Committee

Note: Program and content is subject to change and will be confirmed later

Presenter's and Panellist's Bio

Carlos Ventura, Ph.D., P.Eng. is a professor at the University of British Columbia and the Director of the Earthquake Engineering Research Facility (EERF) at UBC. Dr. Ventura's areas of research are in Structural Dynamics and Earthquake Engineering. Dr. Ventura has written over 400 technical papers and reports related to the seismic behaviour of structures and has received numerous awards for his research accomplishments, including the Lieutenant Governor's Award of Excellence (2013), the Innovation Award of the Canadian Society of Civil Engineering (2010) and the APEGBC Meritorious Achievement Award (2006). He is a member of several national and international professional societies and advisory committees. He is a member of the Canadian Academy of Engineering and a Fellow of Engineers Canada. He is also a member of several building and bridge code committees.

Tim Little, P.Eng. has worked as an independent consultant since 2011 after a 35-year career with BC Hydro in both technical and leadership roles. His experience covers the life cycle of dams and hydroelectric projects, including design, construction, operation, maintenance, monitoring, dam safety, rehabilitation, and upgrades. For many years a major focus of his work has been seismic hazard, including development of seismic source models, seismic hazard assessments, and installation and monitoring of seismic instruments. He has served on technical committees that developed seismic design standards/guidelines for the Canadian Dam Association (CDA), the International Commission on Large Dams (ICOLD), the National Building Code of Canada (CANCEE) and the Institute of Electrical and Electronics Engineers.

Harvey McLeod, P.Eng., P.Geo is a Vice President at Klohn Crippen Berger (KCB) and a geotechnical engineer with over 40 years' experience in mine environment and water resource projects. He has worked on over 200 water and tailings storage dams and has carried out major studies for over 100 mining projects, including some of the largest mining operations in the world. Harvey is chair of the sub-committee on Tailings Dams for the ICOLD, and chair of the Tailings Technical Review sub-committee for British Columbia's Ministry of Energy and Mines (MEM). Harvey helped write the B.C. government's 2017 Health, Safety and Reclamation Code for Mines, and he's working with the CDA, EGBC and the ICMM on improving their guidelines and regulations for tailings dams. Harvey is a frequent keynote presenter and author of many technical papers.

Michael Beaty, Ph.D., P.E., G.E. is an independent engineering consultant with 37 years of experience in geotechnical and earthquake engineering, numerical analysis, and soil-structure interaction. Michael co-authored the widely used UBCSAND constitutive model. In the last 20 years, Mike has been working for a variety of US clients including the Corps of Engineers, US Bureau of Reclamation, Tennessee Valley Authority and Bonneville Power Administration. Mike has presented research and project histories at multiple conferences, short courses, workshops, and is also a co-author of the 2022 USSD Document "Analysis of Seismic Deformations of Embankment Dams."

Michal Kolaj, Ph.D. is a Research Scientist with Natural Resources Canada and has published and presented several papers on seismic and geophysical aspects. Michal contributed significantly to the development of the 6th Generation Seismic Hazard Model of Canada and the earthquake provisions within NBC 2020. He is currently leading the development of the next-generation seismic hazard model and is working towards the development of the seismic hazard provisions for future editions of the NBC.

Bruce Hamersley, P.Eng. is the president of BASIS Engineering and has 33 years of experience with a focus on bridge design, soil-structure interaction, and construction engineering. His diverse design background includes project management of large transportation projects, highway and railway bridge designs, seismic retrofit and rehabilitation of major bridges, and construction engineering for bridge erection. Bruce has been a member of the committee that developed the MOT supplement to the bridge code, Canadian Highway Bridge Design Code (CHBDC) on seismic aspects. He has also been one of the primary authors of EGBC's guideline on Performance-Based Seismic Design of Bridges in BC. Bruce has published and presented several papers on the design and rehabilitation of major bridges.

Ernie Naesgaard, Ph.D., P.Eng., is a senior geotechnical engineer with NAGL with over 45 years' experience in geotechnical and earthquake engineering. He has carried out complex dynamic soil-structure numerical analyses for several major projects. Ernie was instrumental in the discovery and mapping of paleoseismic sand dykes and research on the seismic behaviour of pile foundations in liquefied ground, and development of numerical models for analyzing soil structures susceptible to soil liquefaction and flow. He recently co-led the writing of the upcoming 2023 Canadian Foundation Engineering Manual seismic chapter. He was a sessional lecturer at UBC and authored more than 45 papers.

Garry Stevenson, P.Eng., P.Geo is a Senior Geotechnical Engineer with Klohn Crippen Berger (KCB) and has over 45 years of experience in design and construction of embankment and roller-compacted concrete dams, tunnels and shafts in hard and soft ground, as well as safety evaluations of operating dams. Garry is a recipient of the Meritorious Achievement Award from the EGBC in 2009 and the Lifetime Achievement Award from the Tunnelling Association of Canada (TAC) in 2018. Garry is a past president of TAC and author of several technical papers.

Omri Olund, P.Eng. is a Civil/Structural Engineering Team Lead with BC Hydro Generation Stations. He has over 20 years' experience in the design and implementation of seismic upgrades on dams and appurtenant structures. Omri graduated from UBC in 2001 with a B.A.Sc. in Civil Engineering and 2009 with an M.A.Sc. in Structural Engineering.

Paul Wilson, P.Eng. is a Principal and Senior Geotechnical Engineering at Thurber Engineering in their Vancouver office. Paul has been actively involved in major transportation, oil and gas and building projects in BC. Paul is actively involved in design guideline and code development including Section 6 of the CHBDC and EGBC Guidelines for school seismic retrofits, seismic site response analysis and seismic design of dikes.

Upul Atukorala, Ph.D., P.Eng. is a Senior Principal Geotechnical Engineer at WSP Golder. Upul has over 35 years of experience and is an industry-recognized specialist on ground response analysis and seismic design of earth structures, soil/structure interaction analysis, and ground improvement methods required to mitigate soil liquefaction. He has in-depth and hands-on knowledge on all aspects of deep foundations, shallow infrastructure tunnels, and design of above and below-grade structures. Upul has led a number of assignments related to the development of seismic design guidelines for earth structure systems (including dikes) and has participated in Task Forces and Codes/Standards addressing geotechnical earthquake engineering aspects.

Registration Form

Registration Form for a One-Day Symposium to be held on June 26, 2023 at UBC Robson Square in Vancouver, BC on “Latest Developments in Engineering and Seismology and their Impact on New and Existing Infrastructure in Canada”

Please fill out the form and email it to 2023EQSymposium@klohn.com in Image/PDF formats.

All interested in attending the One-Day Symposium will have to pre-register for the event using the form below including the graduate students who are interested in participating in the student presentations.

Salutation (Dr/Mr/Ms)*	
First/Given Name	
Last/Family Name	
Email Address	
Confirm Email Address	
Phone*	
Job Title/Designation	
Department*	
Organization/Company	
Address*	
Emergency Contact Phone number/Email and Relationship to Delegate*	
Are you a graduate student?	Yes / No

Will you register for the Main 2023 CCEE-PCEE Conference?	Yes / No
Are you a member of EERI-BC, CAEE, or Both?	EERI-BC / CAEE / Both
Will you attend the in-person event or the virtual event via zoom?*	In-Person / Virtual / Both
Are you interested in receiving information in the future via email regarding the committee to be formed to promote collaboration between academia and industry in the fields of earthquake engineering, seismology, and earthquake risk in Canada?	Yes / No
Will you join the lunch?	Yes / No
Dietary preference for Boxed-Lunch***	Vegetarian / Non-Vegetarian
Do I give consent for the collection of my personal data above? We ask for your personal data to facilitate your registration for the One-Day Symposium which will be free for all accepted delegates. We are committed to protecting the personal data you provide for event registration. Should you have any questions, please contact the symposium organizers at 2023EQSymposium@klohn.com	Yes / No

Note: *These fields are not mandatory.

**If zoom cast is not available, it will be announced in due course.

***While other food choices (Gluten free/Dairy free/Vegan etc) may be available, we are unable to provide any detail now.

Expression of Interest (EOI) Form for Student Presentations

Please fill out the form and email it to 2023EQSymposium@klohn.com in Image/PDF formats.

All students interested in participating in the 5-Minute Podium Presentations at the One-Day Symposium will have to complete the form below. A separate registration is required to attend the One-Day Symposium.

Salutation (Dr/Mr/Ms)*	
First/Given Name	
Last/Family Name	
Email Address	
Confirm Email Address	
Phone*	
Graduate Program Enrolled	MS / MSc / MASc / MEng / PhD / Other
Field of Study	Engineering / GeoScience / Risk Management / Other
Year of Study	2 nd / 3 rd / 4 th / Other
Name of Academic Institution	
Address of Academic Institution	
Title of Presentation**	
Name of Thesis or Project Supervisor/Faculty	

Do I confirm that I am currently enrolled in a graduate program at a post-secondary institution in Canada and I have obtained permission from my above-named thesis or project supervisor to make a presentation at the Symposium?	Yes / No
Are you interested in participating in the poster presentation?***	Yes / No
Will you register for the main 2023 CCEE-PCEE Conference?	Yes / No / Likely
Have you submitted a paper for the main 2023 CCEE-PCEE on the same topic/title?****	Yes / No
Are you interested in receiving information in the future via email regarding a committee to be formed to promote collaboration between academia and industry in the fields of earthquake engineering, seismology, and earthquake risk in Canada?	Yes / No
Do I give consent for the collection of my personal data above? We ask for your personal data to facilitate your registration for the One-Day Symposium. We are committed to protecting all personal data you provide for event registration. Should you have any questions, please contact the Symposium Organizers at 2023EQSymposium@klohn.com .	Yes / No

Note:

*These fields are not mandatory.

**Presentation topic is not restricted and can be on the latest developments in engineering, geoscience and risk related to earthquakes.

***Participation in the poster presentation is not mandatory.

****Students who have submitted a paper for the main 2023 CEE-PCEE conference are allowed to make a presentation on the same topic. A final decision in this regard will be announced soon.



UBC Robson Square is located in downtown Vancouver on Robson Street between Hornby and Howe Street. The campus entrance is located on the Plaza Level and may be accessed by stairways on either side of Robson at Howe Street, or by the elevator from the underground parkade. There is a wheelchair accessible entrance on the corner of Hornby and Robson Street that connects to all levels of the campus.

By Car: In Vancouver's downtown core, turn south onto Howe Street – a one-way street. The underground parkade is located on Howe at the corner before Nelson Street (right hand side). Hourly parking charges apply. Please visit the Westpark website for updates and more information on payment methods, monthly rates and parking regulations. There is also limited meter street parking on Howe and Hornby Street.

By Public Transit: The Burrard, Granville, and Vancouver City Centre SkyTrain stations are located within walking distance of the campus. Buses stop near the campus on Burrard, Georgia, and Howe Streets. The SeaBus from the North Shore docks is within walking distance. Visit the Translink website at www.translink.bc.ca to plan your route.

By Bicycle: A bicycle rack is located outside our front doors on the plaza level. They are to the left of the doors as you come inside.

