



**4TH INTERNATIONAL BRIDGE SEISMIC WORKSHOP  
(4IBSW)**

**Invitation and call for paper**

Carleton University, Ottawa, Canada  
11-14 August 2024

**Workshop Date:** 11-14 August 2024

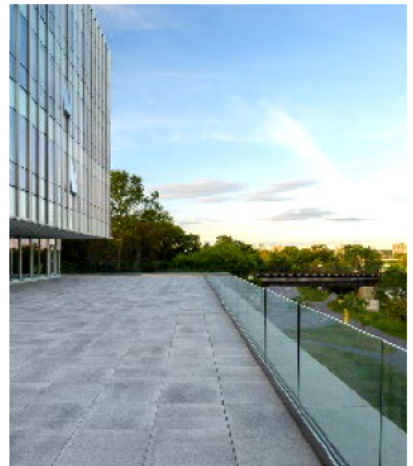
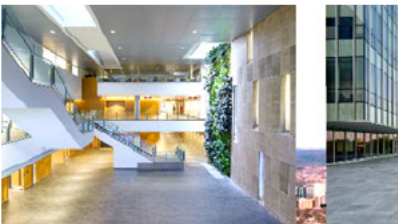
**Workshop Venue:** Richcraft Hall, Carleton University, Ottawa, Canada

## HOSTED BY

**International Association of Bridge Earthquake Engineering (IABEE)**

**David Lau,** Professor of Civil Engineering, Director, Ottawa-Carleton Multi-Hazard Research Centre, Carleton University, Ottawa, CA

**Bijan Khaleghi,** IABEE Chair, IBT/ABC-UTC, Associate Research Professor and Co-Director of Implementation at Florida International University, USA



## **WORKSHOP SCHEDULE AT A GLANCE**

**8/11 Day 1** – Arrival / Registration Check-in

**8/12 Day 2** – Opening Ceremony, Workshop Presentations and Group Meetings

**8/13 Day 3** – Workshop Presentations and Group Meetings, Closing Ceremony

**8/14 Technical site visit** – Carleton University Multi-Hazard and Shake Tables Lab

## **ACCOMMODATIONS**

Numerous options and choices of hotel accommodation are available in the Ottawa area, they can be reserved online through popular travel websites, such as Expedia.ca etc.

Summer is a popular tourist travel period in Ottawa. It is recommended to make early reservations for wider possible choices.

A list of suggested hotels will be provided. Please stay tuned at the official workshop website.

**Downtown area:** Lord Elgin, Westin, Fairmont Chateau Laurier, Ottawa Marriott, Sheraton, Novotel, Holiday Inn

**Ottawa airport:** Days Inn, Homewood Suites by Hilton, Holiday Inn Express

## **REGISTRATION FEE**

All fees in CAD (\$1 CAD = \$0.74 USD)

Full Conference Pass - \$550 (\$650 after 6/30)

One Day Pass - \$325

Young engineer Pass (age < 35) - \$275 (\$375 after 6/30)

Full-time Student Pass - \$140 (\$240 after 6/30)



## **THEMES AND TOPICS**

Seismic Hazard, Risk Evaluation, Mitigation Measures and Strategies of Transportation Infrastructures

The theme of the workshop is '**Hazards, Risks and Strategies**', however, we encourage new advances and innovative seismic research and practices including concepts to mitigate transportation infrastructure challenges; including but not limited to the topics below:



**Bridge Design and Construction**

- Design and Analysis of Major Bridges for Earthquakes and Other Natural Hazards
- Seismic Performance Requirements for Lifeline Bridges
- Design and Use of Seismic Isolation Bearings
- Innovations in Seismic Design and Analysis
- Seismic Design Details for Accelerated Bridge Construction
- Seismic Retrofit of Bridges
- Widening of Bridges in Seismic Regions

**Bridge Seismic Performance**

- Post-Earthquake Response, Repair and Recovery
- Use of Innovative Technologies and Materials for Improved Bridge Resilience
- Bridge Fragility and Highway Network Seismic Risk Assessment
- Performance based Seismic Design Criteria
- Monitor of Bridge Performance in Extreme Events

**Bridge Geotechnical Design Challenges**

- Seismic Design and Retrofit of Foundations
- Earthquake Induced Earth Pressure
- Liquefaction, Lateral Spreading, and Ground Movement



**Hazards Consideration in Bridge Engineering**

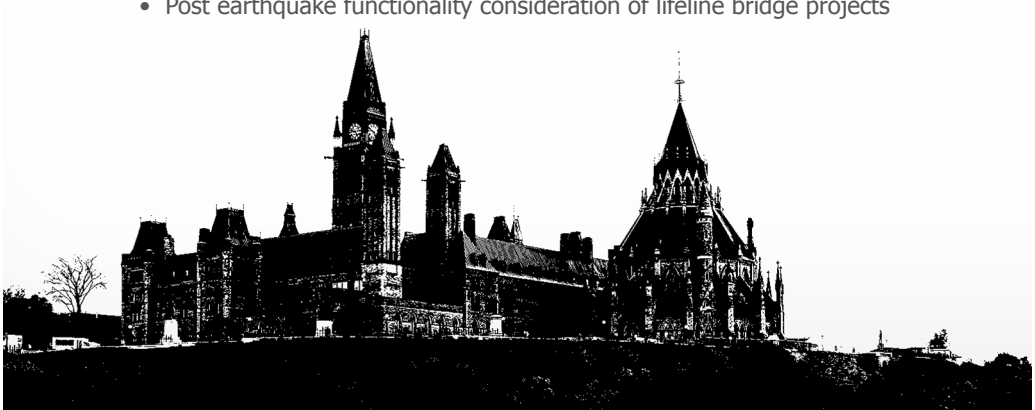
- Seismic Hazard Effects: Ground Motion, Attenuation, Directionality, Vertical Attenuation, Near Fault, Fault Rupture, Long Duration, and Subduction
- Tsunami Loads and Design Criteria
- Lessons Learned from Recent Earthquakes and Other Extreme Events
- Multi-Hazard Design
- Innovations in the Development of Site Specific Seismic Hazards Assessment

**Artificial Intelligence and Structural Health Monitoring, Innovation, and Automation**

- Artificial Intelligence in earthquake engineering
- Automation in seismic design, construction, and inspection
- Additive construction (3D printing)
- Robotics in fabrication and construction
- Use of drones in bridge engineering

**Case Studies**

- Seismic response of short, medium, and long span bridges
- Retrofit of earthquake damaged bridge for operability
- Post earthquake functionality consideration of lifeline bridge projects



## **ABSTRACT SUBMISSION**

Abstract Due Date - 4/15/2024

Abstract template is available online at [www.iabee.org/news](http://www.iabee.org/news)

Abstract Acceptance Notification Date - 5/15/ 2024

Full Paper/Extended Abstract Due Date - 6/15/2024

Full Paper/Extended Abstract template will be available online at [www.iabee.org/news](http://www.iabee.org/news)

Submissions can be sent to: Bijan Khaleghi [bkhalegh@fu.edu](mailto:bkhalegh@fu.edu)

## **WHO SHOULD ATTEND?**

The themes and program of the conference provide a forum for dissemination of information and latest advancements in seismic bridge engineering. The conference will be of interest to researchers, academics, design consultants and professionals, government officials and service organizations, as well as doctoral and master students in seismic bridge engineering.

## **BENEFITS TO PARTICIPANTS**

- Learn and acquire cutting edge international knowledge in various disciplines of seismic engineering from international experts
- Recognition of your work on international platform as a participant or paper/poster/book presenter
- SBN-based Conference Proceedings
- Potentially identify your future collaborative partners among national and international experts in your area
- International platform to meet corporate professionals, entrepreneurs, academics, researchers, government & policy makers from various countries
- Selected full papers to be published in refereed journal
- Excursion/Technical Visits

## **WORKSHOP LANGUAGE**

The workshop will be conducted in English.

## **WEBSITE**

<https://carleton.ca/cee/4IBSW>

<https://www.iabee.org/conferences-workshops>

Sponsorship is also available online



## **ORGANIZING COMMITTEES**

### **Co-Chairs:**

**David Lau** Professor of Civil Engineering, Director, Ottawa-Carleton Multi-Hazard Research Centre, Carleton University, Ottawa, CA

**Bijan Khaleghi** IABEE Chair, IBT/ABC-UTC, Associate Research Professor and Co-Director of Implementation at Florida International University, USA

### **Advisory Board Members:**

Alessandro Palermo, Helen Xu, Mustafa Mashal, Saiid Saiidi, Shuichi Fujikura

### **Scientific/Technical Committee Members:**

Moustafa Al-Ani, Arzhang Alimoradi, Amy Leland, Yu-Chi Sung, Chung-Che Chou, Mina Pezeshkpour

### **Secretary Generals:**

Emma Liao, Linda Kuo

## **CONTACT INFORMATION**

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