



**Institute for Catastrophic  
Loss Reduction**  
Building resilient communities

**Western**  
UNIVERSITY · CANADA



## 2022 Western-ICLR Multi-hazard Risk and Resilience Workshop

**Thursday November 3rd, 2022**

**9:30 AM**

**Session #1**

**Wind and hail hazards and risks (Lead by NTP/ NHP)**

**Conveners: Greg Kopp**

Dr. Peter Groenemeijer (ESSL)

*Severe convection in Europe: climate modelling and forecasting*

Dr. Alan Gerard (NSSL)

*An Overview of Severe Weather Research at the National Severe Storms Laboratory*

Dr. Julian Brimelow (NHP)

*The Northern Hail Project: A renaissance in hail research in Canada*

Dr. Dave Sills (NTP)

*Tornadoes and Derechos – Event Data and Climatologies in Canada*

**Break - 30 min**

**11:30 AM**

**Session #2**

**Wildland fire hazards and risks (Lead by Doug Woolford & Johanna de Haan Ward)**

**Conveners: Doug Woolford**

Dr. Devan Becker (Wilfrid Laurier University)

*Measuring Dependence Between Wildland Fire Ignitions and Sizes – Lightning and Person*

Aaron Stacey (Aviation, Forest Fires, and Emergency Services, Ontario MNRF)

*Wildland Fire in Ontario*

Dr. Mike Wotton (Canadian Forest Service/U. Toronto)

*Assumptions and thresholds in wildfire modelling: uncertainty and its impact*

**Break - 60 min**

**2:00 PM**

**Session #3**

**Natural hazards and disaster risk reduction for British Columbia**

**Conveners: Katsu Goda, Cindy Mora-Stock**

Kevin Potozcnny, Yao Li, Parva Shoaefar, Mahmoud Bagheri (Western University)

*Hazards in British Columbia: Observations and Lessons Learned*

Dr. Sergio Sepúlveda (Simon Fraser University)

*Landslide Hazards in British Columbia, overview and challenges*

Sujan Adhikari (Western University)

*The application of geological, geotechnical, and geophysical data to seismic microzonation in Metro Vancouver*

Dr. Steve Evans (University of Waterloo)

*Tsunamis and landslides – Comparative Geohazard Risk in British Columbia*

**Break - 20 min**



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## 2022 Western-ICLR Multi-hazard Risk and Resilience Workshop

**4:00 PM**

### **Session #4**

#### **Young Researchers: Geological and Geosocietal Hazards - Mixed**

**Conveners: Cindy Mora-Stock**

Yongjun He (Western University)

*Enhancement of Urban Floodwater Mapping from Aerial Imagery With Dense Shadows via Semi-Supervised Learning*

Nafiseh Ghasemian Sorboni  
(Western University)

*Building-scale flood risk analysis by first floor height estimation using a deep-learning-based approach*

Farshad Jalili Pirani (Western University)

*Compound flooding risk analysis over the Canadian coastal environments*

Mohammad Fereshtehpour  
(Western University)

*Characterizing compound inland flooding in a changing climate*

Dr. Wooyoung Na (Western University)

*Comprehensive and Robust Projection of Compound Dry-Wet Whiplash in North America*

Reza Rezvani (Western University)

*Spatiotemporal Changes of Lagged Compound Dry and Wet Spells in the Northwest North America Under Climate Change*

Amaya Ballate Delgado (CUJAE  
(Cuba), Western University)

*A vision towards a performance-based design approach for tall structures merging wind and seismic effects*

Jin Yang (Western University)

*Waveform Similarity of Microseismicity at the Tony Creek Hydraulic Fracturing Site*

Arnold Yuxuan Xie (Western University)

*Deep learning framework bridges lab and field scale microseismic focal mechanism*

**6:30 PM**

**Social Dinner @ The Garden Room (Sommerville House)**



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## 2022 Western-ICLR Multi-hazard Risk and Resilience Workshop

**Friday November 4th, 2022**

**9:30 AM**

**Session #1**

**Infrastructure management and risk mitigation (Lead by Western's Smart Cities group & ICLR)**

**Conveners: Ayan Sadhu**

Dr. Dan Frangopol (Lehigh  
University, USA)

*Risk, Resilience and Sustainability of Infrastructure under  
Multihazards*

Dr. Babak Moaveni (Tufts University)

*Monitoring and Assessment of Infrastructure Using Sensor  
Measurements*

Dr. Mustafa Gul (University of  
Alberta)

*Crowdsensing-based Monitoring of Built and Natural  
Environments (CoMBiNE)*

**Break - 30 min**

**11:30 AM**

**Session #2**

**Climate change and society (Lead by Western Centre for Climate Change, Sustainable Livelihoods and Health)**

**Conveners: Isaac Luginaah, Mirindi Eric Dusenge**

Dr. Rosalind Warner (Okanagan  
College, BC)

*Disaster Risk Governance as a Guide to Canadian Policy  
Responses to a Global Health Emergency*

Dr. Hanson Nyantakyi-Frimpong  
(University of Denver, Colorado)

*How well do nature-based climate solutions address gender  
equity*

Dr. Gordon McBean (Western  
University)

*Building Climate Resilient Communities – Social-Health-Policy  
Dimensions.*

Dr. Éliane Ubalijoro (McGill  
University)

*Risks and opportunities to harness digitalisation for a  
sustainable planet*

Dr. Yuyu Zhou (Iowa State University,  
USA)

*Implications of climate change for sustainable urban  
environments*

**Break - 60 min**

**2:00 PM**

**Session #3**

**Hydroclimatic extremes in a changing climate (part I)**

**Conveners: Reza Najafi, Mohammad Fereshtehpour**

Dr. Ed McBean (U. Guelph)

*Insights into the Impact of Melting Arctic Ocean Ice Cover*

Dr. Hamid Moradkhani (U Alabama)

*A Different Look to Hazard, Vulnerability and Risk in Extreme  
Events: The value of Crowd Sourcing, Data Assimilation and  
Machine Learning*

Dr. Hamidreza Shirkhani (NRC)

*Future climatic data for infrastructure design*

Dr. Xuebin Zhang (ECCC)

*Changes in extreme precipitation: past and future*

**Break - 20 min**



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## 2022 Western-ICLR Multi-hazard Risk and Resilience Workshop

**4:00 PM**

### **Session #4**

#### ***Hydroclimatic extremes in a changing climate (part II)***

**Conveners: Conveners: Reza Najafi, Mohammad Fereshtehpour**

Nick Martyn (RiskLogik)

*Using Network Risk and Spatial Analysis to Predict Indirect Flood Damage: A Don River Example*

Markus Schnorbus (PCIC)

*Interpreting Change in Peak Flow Design Values using Temperature Scaling*

Dr. Raj Shrestha (ECCC)

*Snow drought and its implications on streamflow predictability in a warming climate*

Dr. Mohamed Ben Alaya (PCIC)

*A new concept of max-stable vector to analyze and predict the probability of unprecedented climate extremes*

**6:00 PM**

***Closing words***