

2023 Joint NHP–CMRR-ICLR Multi-Hazard Risk and Resilience Workshop

Monday October 30th, 2023

9:00 AM Session #1

Northern Hail Project I – 2023 field programs and project partners' research [IBHS, Weatherlogics, Instant Weather, and ICLR]

Conveners: Dr. Gregory Kopp

9:00 AM		Check-in at ACEB 1410. Coffee available (all morning)
10:00 AM	Dr. Gregory Kopp (NHP)	Welcome
10:10 AM	Dr. Julian Brimelow (NHP)	NHP Year in Review
10:40 AM	Mr. Scott Kehler (Weatherlogics)	Monitoring and Forecasting Hail at Weatherlogics
11:10 AM	Mr. Simon Eng (NHP)	NHP Hail Damage Surveys
11:30 AM	Dr. Keith Porter (NHP)	Hail Benefit/Cost Analysis
12:00 PM	Dr. David Sills (NTP)	Detection of hail swaths with UAVs
12:15 PM	Dr. Connell Miller (NHP)	Calgary disdrometer network

12:30 PM Break - 60 min

Lunch. ACEB 1410. (All participants)

1:30 PM Session #2

Northern Hail Project II –Research progress at Western

Conveners: Dr. Gregory Kopp

1:30 PM	Dr. Ian Giammanco (IBHS)	IBHS Hail Research Program
2:00 PM	Mr. Adam Skinner (Instant Weather Inc)	Instant Weather: Pro Radar Updates & Roadmap
2:15 PM	Dr. Daniel Michelson (Environment and Climate Change Canada)	Canadian weather radar network renewal and the southern Ontario lidar mesonet
2:30 PM	Mr. Sudesh Boodoo (Environment and Climate Change Canada)	Improving hail detection and hail size estimates from polarimetric radar
2:45 PM	Mr. Issam Mohamed (Western University)	Analyzing Concurrent Hail, Extreme Wind, and Heavy Rainfall Events in Alberta, Canada: A Multivariate Statistical Approach
3:00 PM	Yao Li (Western University)	Statistical Analysis of CoCoRaHS database and future prospect for hail risk modeling
3:15 PM	Mr. Mark Gartner (NHP)	Preliminary statistics from Calgary's new hail disdrometer network
3:30 PM	Mr. Xiao Ma (University of Saskatchewan)	High-resolution WRF simulation of extreme winds in Canada: Present and Future scenarios

3:45 PM Break - 30 min

Coffee

4:15 PM NHP Pls meet with Advisory Committee. (ICLR BoardRoom in ACEB)

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Tuesday October 31st, 2023

9:00 AM	<p>Session #3 Hydroclimate Extremes and Infrastructure Resilience Conveners: Dr. Reza Najafi</p> <p>Dr. Xuebin Zhang (Pacific Climate Impacts Consortium) <i>Risk, Resilience and Sustainability of Infrastructure under Multihazards</i> Dr. Mercè Casas-Prat (Environment and Climate Change Canada) <i>Coastal compound flooding and the role of internal climate variability Measurements</i> Ms. Natalie Salkauskis (City of Toronto) <i>Toronto Water: Building Resilience</i> Dr. Alex Cannon (Environment and Climate Change Canada) <i>Stronger evidence for increases in short-duration extreme rainfall in Canada: observed trends and links with warming</i></p>
10:20 AM	Break - 20 min
10:40 AM	<p>Session #4 Smart and Resilient Infrastructure Conveners: Dr. Ayan Sadhu</p> <p>Dr. Ayan Sadhu (Western University) <i>AI-enabled smart infrastructure management</i> Dr. Oya Mercan (University of Toronto) <i>Real-Time Hybrid Simulation: Challenges, Innovations, and Applications</i> Dr. Katherine Flanigan (Carnegie Mellon University) <i>Enhancing Railroad System Resilience: An Automated Approach to On-Board Broken Rail Detection</i></p>
12:00 PM	Break - 90 min <i>Student Poster Session/Display (during lunch. ACEB 1410)</i>
1:30 PM	<p>Session #5 Digital Twinning (DT) for climate-resilient and sustainable built environments Conveners: Dr. Girma Bitsuamlak</p> <p>Dr. Girma Bitsuamlak (Western University) <i>Introduction to climate-resilient and sustainable built environments</i> Dr. Wael El-Dakhakhni (McMaster University) <i>Digital Twin for Flood Risk Quantification</i> Dr. Connell Miller/Mr. Simon Eng (NHP) <i>The Didsbury EF4 Canada Day Tornado Survey</i> Mr. Dagimawi Eneyew (Western University) <i>Digital Twin for Smart and Sustainable Buildings</i></p>
3:30 PM	Break - 10 min



**Institute for Catastrophic
Loss Reduction**

Building resilient communities

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3:40 PM

Session #6

Quantitative Disaster Risk Assessments for Communities and Infrastructure

Conveners: Dr. Katsu Goda

Dr. Solomon Tesfamariam
(University of Waterloo)

Seismic vulnerability assessment of substations and power transmission network

Dr. Carmine Galasso (University
College London, UK)

*Forward-looking catastrophe risk modeling for resilience:
recent advances and perspectives*

Dr. Rodrigo Costa (University of
Waterloo)

*Human-centred disaster risk assessments as a tool to inform
pre-disaster planning*

5:00 PM

Closing words

5:30 PM

Social Dinner @ The Grad Club