



**NHERI GSC Second Annual
 Mini-Conference
 Friday, May 31, 2024
 Final Program**

Please note all events are in Central Standard Time (CST).

Time	Event
10:00am-11:05am	Welcome Remarks & Keynote Address <i>Dr. Yasemin Didem Aktas, University College London</i>
11:05am-11:10am	Short Break
11:10am-12:05pm	Poster Session 1: <i>Interdisciplinary Approaches to Disaster Resilience and Sustainability</i>
12:05pm-12:10pm	Short Break
12:10pm-12:35pm	Paper Session 1: <i>Risk Assessment and Management in Diverse Environments</i>
12:35pm-12:40pm	Short Break
12:40pm-1:35pm	Poster Session 2: Innovations in Hazard Analysis and Structural Engineering
1:35pm-2:05pm	Long Break



2:05pm–3:00pm	Poster Session 3: <i>Sustainable Development and Environmental Impact Mitigation</i>
3:00pm–3:05pm	Short Break
3:05pm–3:30pm	Paper Session 2: <i>Geotechnical and Climatic Studies for Hazard Mitigation</i>
3:30pm–3:35pm	Short Break
3:35pm–4:30pm	Poster Session 4: <i>Urban Planning and Flood Management</i>
4:30pm–5:00pm	Closing Remarks

Research Challenge Presentations

This spring, NHERI GSC had the sincere honor of organizing the NHERI GSC Research Challenge. The goal of this challenge was to bring together graduate student scholars across disciplinary, hazard, and methodological backgrounds to develop new, innovative, and interdisciplinary research projects with peer scholars they might not otherwise have gotten the opportunity to work with. These seven groups each worked on a project corresponding to a topic developed from the NHERI Science Plan and the NHERI CONVERGE Modules. The challenge groups will use the NHERI GSC Mini-Conference as an opportunity to present preliminary findings on their research projects, gaining valuable feedback, perspectives, and insights to move these projects forward towards publication and/or professional presentation. Research challenge presentations are indicated in the session presentations list by an asterisk (*) sign.

Paper Session Presentations

Paper Session 1. Risk Assessment and Management in Diverse Environments

Presider: Natalie Coleman, Texas A&M University

Presenters:

1.* Nilima Islam Luba, Jayant Paudel, Wesam Mohamed, “Assessing Hurricane Risks on Recreational Vehicle (RV) Living: A Multidisciplinary Perspective”



The Natural Hazards Engineering Research Infrastructure, NHERI, is a shared-use network funded by multiple grants from the National Science Foundation. The NHERI GSC is supported through the Network Coordination Office, award #2129782.

2. Shelley McMullen, "Disaster Risk Management and Land Use Planning in Rwanda"

Paper Session 2. Geotechnical and Climatic Studies for Hazard Mitigation

Presider: Nurullah Bektas, Széchenyi István University

Presenters:

1. Nischal Kafle, "Trends in Extreme Short-Duration Precipitation in the South-Eastern US"
2. Alireza Eskandarinejad, "Seismic Vertical Uplift Capacity of Horizontal Strip Anchors Embedded in Sand Adjacent to Slopes Using Finite Element Limit Analysis"

Poster Session Presentations

Poster Session 1. Interdisciplinary Approaches to Disaster Resilience and Sustainability

Presider: Soolmaz Khoshkalam, University of Massachusetts Dartmouth

Presenters:

1. Genesis Leong, "Cultural Humility: Hawai'i Disability-Inclusive Planning within the FEMA Disaster Recovery Framework"
2. James Wangai, Nurullah Bektas, "Integrating Site Soil Properties and Seismicity into Building Resilience and Sustainability: A Case Study in Hungary"
- 3*. Soolmaz Khoshkalam, Anamika Malla, "Breaking Barriers, Building Resilience: Advancing Analytic and Simulation Techniques in Hazard Analysis"
- 4*. Shelley McMullen, Saanchi Singh Kaushal, Miriam Nielson, "Ethics and Transdisciplinary Collaboration in Disaster Research"

Poster Session 2. Innovations in Hazard Analysis and Structural Engineering

Presider: Rakesh Salunke, Jackson State University

Presenters:

1. Ayele Tesema Chala, "Machine Learning Techniques for Soil Characterization Using Cone Penetration Test Data"



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- 2*. Rajendra Gautam, Burak Duran, "Leveraging Data Science and AI to Mitigate Seismic Risk for Enhancing Community-Level Resilience"
3. Marie Gisele Sibomasimbi, Nurullah Bektas, "Examining Seismic Design and Environmental Sustainability in Reinforced Concrete Structures: A Case Study from Győr, Hungary"
- 4*. Duc C. Nguyen, "Data Driven Structural Health Monitoring Using Machine Learning"

Poster Session 3. Sustainable Development and Environmental Impact Mitigation

Presider: Rajendra Gautam, Thapthali Campus, Institute of Engineering, Tribhuvan University

Presenters:

1. Natalie Coleman, Sai Kapalayam, "Implementing Localized Solutions to Mitigate Climate-Induced Water-Energy-Food (WEF) Resource Shortages"
2. Zhang Jingjie, Nurullah Bektas, "Sustainable Debris Management in Seismic-Prone Regions: Recycling and Repurposing Strategies for Earthquake-Induced Waste"
3. Samuel Alexandro Silitonga, Nurullah Bektas, "Mitigating Environmental and Economic Impacts: Utilizing Recycled Plastic Waste in Sustainable Fiberglass Formwork Production for the Construction Industry"
4. Ammar Alnmr, "Integrating Probabilistic Analysis and Machine Learning for High-Power Offshore Wind Turbine Foundation Design"
- 5*. Bolaji Lawal, Amina Meselhe, "Metrics That Matter: Using DesignSafe Metrics to Evaluate the Current State of Knowledge Inform Future Hazards Research"

Poster Session 4. Urban Planning and Flood Management

Presider: Payam Gholamalipour, Concordia University

Presenters:

1. Harman Singh, "Causes, impacts, and mitigation strategies of urban pluvial floods in India: A systematic review"
2. Jayasekara R. Jayasekara, "Mechanisms Leading to Tsunami-Driven Debris Damming at Elevated Coastal Structures"
- 3*. Jaideep Visave, Mouloud Hamidatou, Benjamin Labar, Carlos Acosta, "Mitigating Long-Term Structural Risks: Impact of Neglected Seismic and Wind Loading on High-Rise Building Integrity"



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4. Samuel Alexandro Silitonga, Nurullah Bektas, "Evaluating Seismic Resilience and Environmental Impact of Reinforced Concrete Buildings: A Comprehensive Approach"

NHERI GSC Second Annual Mini-Conference and Research Challenge Organizing Committee

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