

NHERI GSC Mini-Conference

Friday, May 26, 2023

Preliminary Program

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

Time	Event
10:00am-10:30am	Welcome Remarks & Keynote Address <i>Jennifer L. Irish, Virginia Tech University</i>
10:30am-11:30am	Paper Session 1: <i>Multidisciplinary Perspectives on Natural Hazards Risk and Resilience</i>
11:30am-12:30pm	Paper Session 2: <i>Novel Methods in Geotechnical, Structural, and Seismic Research</i>
12:30pm-1:30pm	Break
1:30pm-2:30pm	Poster Presentations
2:30pm-3:30pm	NHERI GSC Research Challenge Presentations
3:30pm-4:30pm	Paper Session 3: <i>Innovative Design for Structural Performance against Seismic Hazards</i>
4:30pm-5:00pm	Closing Remarks



Paper Session Presentations

Paper Session 1. Multidisciplinary Perspectives on Natural Hazards Risk and Resilience

Presider: Jasmine Bekkaye, Louisiana State University

Presenters:

1. Amer Abukhalaf, University of Florida, "Toward a comprehensive behavioral model of hurricane preparedness: The Protective Behavior Model"
2. Taylor Renee Heath, University of Pennsylvania, "The Racial Geography of Repetitive Flooding"
3. Raimi Morufu Olalekan, Kwara State University, "ASSESSING THE DETERMINANTS OF FLOODING AND FLOOD RISKS IN SOUTHERN IJAW LOCAL GOVERNMENT AREA, BAYELSA STATE, NIGERIA."
4. Mouloud Hamidatou, Center for Research in Astronomy and Astrophysics Geophysics, "Damage due to the Djidjelli 21 and 22 August 1856 historical earthquake: deterministic risk scenario for the future event"
5. Mouloud Hamidatou, Center for Research in Astronomy and Astrophysics Geophysics, "The earthquake environmental effects (EEEs) of the 7th August 2020, Mila earthquake (Mw 5.0) North Algeria: A contribution to the seismic hazard estimation in the epicentral area"

Paper Session 2. Novel Methods in Geotechnical, Structural, and Seismic Research

Presider: Taylor Heath, University of Pennsylvania

Presenters:

1. Chengxin Feng, Leibniz University Hannover, "Spatial uncertainty analysis in geotechnical engineering with sparse data"
2. Benjamin B. Labar, Szechenyi Istvan University, "Investigating the Structural Response of Reinforced Concrete Building in Relation to Soil Properties"
3. MohammadAli Izadifar, Louisiana State University, "Performance Evaluation of Design Methods for Geosynthetic-Reinforced Pile-Supported Embankments"



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.

Paper Session 3. Innovative Design for Structural Performance against Seismic Hazards

Presider: Rakesh Salunke, Jackson State University

Presenters:

1. Rajendra Gautam, Tribhuvan University, "Performance of medium rise RC building with the braces and Elastomeric base isolation in high seismic region."
2. Nurullah Bektas, Széchenyi István University, "Risk Reduction in Urban Areas: Seismic Vulnerability Assessment of Existing Buildings in Győr, Hungary"



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.

Poster Session Presentations

1. Amer Abukhalaf, University of Florida, "Evaluating the built environment impact on risk perception and intentions of hurricane preparedness in Florida"
2. Amina Meselhe, Oregon State University, "Cascadia and Islanding: Evaluating Accessibility to Community Assets after a CSZ Earthquake and Tsunami"
3. Harman Singh, Pennsylvania State University, "News Media Coverage of India's National River Linking Program (2004-2022): A Case Study of the Ken-Betwa Link using Topic Modeling"
4. Natalie Coleman, Texas A&M University, "Analyzing the Heterogeneity of Recovery Trends and Variations for Disrupted Lifestyles in Natural Hazard Events"



Research Challenge Presentations

This spring, NHERI GSC had the sincere honor of organizing an Inaugural 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 five 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. Thank you so much for all of your hard work Research Challenge groups, and thank you to all attendees for helping to move these projects forward with your constructive and generative critiques!

Presider: Jordan Nakayama

Group 1. Use of new techniques (incl. simulation, machine learning, AI, and others) to model the behavior of civil infrastructure and risk to communities due to loading from natural hazards.

Title: "Assess Earthquake Damage & Loss Susceptibility of Buildings and Compare with Social Vulnerability Indicators – A Study on Earthquake Hazard in Turkey"

Participants: Julie Elliot, Rakesh Salunke, Niko Grisel Todorov

Group 2. Understanding key physical responses, vulnerabilities, and factors influencing post-event recovery of civil infrastructure and communities

Title: "Household Vulnerabilities and Stakeholder Responses Influencing Post-Event Decision Making and Recovery: An East Palestine Ohio Train Derailment Case Study"

Participants: Taylor Renee Heath, Amina Meselhe, Jiayun Shen, Teye Yevuyibor



Group 3. Developing and testing mitigation strategies to achieve community resilience in contexts of multiple hazards, shifting vulnerabilities, and sustainable development

Title: "Enhancing Community Resilience Against Earthquakes: A Study of Existing Buildings in Western Region, Nepal"

Participants: Nurullah Bektas, Yvonne Appiah Dadson, Rajendra Gautam

Group 4. Innovative of collecting, sharing, presenting, and visualizing data and information on hazard risks, recovery, and mitigation strategies

Title: "Global Comparative and Temporal Study of Coastal Hazards in Coastal Communities."

Participants: Kayode Nelson Adeniji, William Hughes, Wilfred Lunga



NHERI GSC Mini-Conference and Research Challenge Organizing Committee

Taylor Heath, *Vice President and Research Chair, NHERI GSC*

Department of Sociology, The University of Pennsylvania

theath@sas.upenn.edu

Rakesh Salunke, *Research Vice Chair, NHERI GSC*

Department of Civil and Environmental Engineering, Jackson State University

rakesh.salunke@students.jsums.edu

Jasmine Bekkaye, *Workshop and Mentoring Chair, NHERI GSC*

Department of Civil and Environmental Engineering, Louisiana State University

jbekkal@lsu.edu

Olaniyi Afolayan, *Workshop and Mentoring Vice Chair, NHERI GSC*

Department of Civil and Environmental Engineering, Auburn University

oda0002@auburn.edu



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.