

## NHERI GSC Spring 2023 Research Working Group Meeting Minutes

03/08/2023

1:00 PM CST – 2:00 PM CST

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### Agenda Items

#### 1. NHERI GSC Research Working Group Chair and Vice Chair Introduction

- Taylor Heath, NGSC Chair of Research
- Rakesh Salunke, Vice-Chair of Research

#### 2. Previous and Upcoming Events

- NHERI GSC DesignSafe & Sim Center Tool Workshop Series -4 completed so far.
- The fifth and final workshop on Mar 10<sup>th</sup>: “Data Integration using Relational Databases and Application Programming Interfaces” by Dr. Scott Brandenburg
- NHERI GSC Interdisciplinary Research Challenge - 19 total participants with five groups.
- NHERI GSC Mini-Conference - Fully virtual mini-conference on Friday May 26, 2023

#### 3. Events In-Development

- Future Collaborative Research Opportunities geared toward publishing in Natural Hazards Journals.
- Interdisciplinary Collaborative Research Challenge in Fall 2023 – (topic ideas are welcome)
- Virtual Research Presentations of ongoing work once per month or quarter.
- NHERI Experimental Facilities Panel – either will be an event during the NHERI GSC mini-conference or an exclusive event later in the summer.
- Research WG leadership will revisit the frequency of mini-conference in the future and decide whether to make it an annual event or every two years.
- Need to determine whether there will be DOIs offered moving forward.

#### 4. Member Suggestions & Questions

- A member commented on how important NHERI is and expressed the need to provide orientation and education to new NHERI members, especially social scientists, to understand all the available resources within NHERI.
- The discussion revealed the need for resurrecting the disciplinary working groups involving social scientists in the research tools through NHERI.
- Possible future Themed Research Challenge topics with inputs from groups as to the questions/topics and selecting group members.
- A question was floated about how collaborative research opportunities and publishing in Natural Hazard journals would work.
  - o A: The working group leadership will plan to provide a platform for interdisciplinary researchers to collaborate and develop research articles based on the call for papers from journals such as ASCE Natural Hazards Review.

#### 5. Thank you note.

All attendees were thanked for participating and requested to get involved in NHERI GSC working groups and participate in the upcoming events.

Attendance for March 8, 2023 Research Working Group Meeting:

Robin Nelson
Rakesh Salunke
Mostafa Ebrahimi
Shriya Thakkar
Tay Heath
Sina Naeimi
Teye Yevuyibor
Jenny Russell
Kayode Adeniji
Anika Sarkar
Benjamin
Raimi Morufu Olalekan
Kashif Salman
Lisa Wang
Sasan Khedmatgozar Dolati
Itu481
Wrya Abdullah
Dean Desautels
Emmaleah Jones
Yvonne Dadson
Javed Ali
Samuel Daramola
Shayan
Arjun
Nurullah

**NHERI GSC Spring  
Research Working  
Group Meeting**



**Wednesday,  
March 8  
1:00pm CST**

**Taylor Heath**  
Chair of Research

**Rakesh Salunke**  
Vice Chair of  
Research

# Agenda

- I. (Re-) Meet Your Chair and Vice Chair!
- I. Previous and Upcoming Events
- I. Presentation of Possible Future Events and Opportunities
- I. Discussion and Feedback for New Workshops and Opportunities



# Chair and Vice-Chair Introductions

**Taylor Heath, Sociology and  
Demography**

*Chair of Research*



**Rakesh Salunke, Civil and  
Environmental Engineering**

*Vice Chair of Research*



# Previous and Upcoming Events



# NHERI GSC DesignSafe and SimCenter Tools Workshop Series

We organized five incredible workshops with the Workshop and Mentoring Working Group. Watch recordings at the link!

1. **November 10: Building Response Analysis Under Earthquake Ground Motion** *Kuanshi Zhong, EE-UQ*
2. **December 9 - Machine Learning and AI Resources at DesignSafe** *Wenyang Zhang, Multiple*
3. **January 13: Developing and Benchmarking Fragility and Consequence Functions** *Adam Zsarnoczay, PBE*
4. **February 10: Simulation of Regional Hurricane Impact using SimCenter Tools** *Stevan Gavrilovic, R2D*
5. **March 10: Data Integration using Relational Databases and Application Programming Interfaces** *Scott Brandenburg, Multiple*



# NHERI GSC DesignSafe and SimCenter Tools Workshop Series

Just a reminder that our final workshop will be:

## Data Integration using Relational Databases and Application Programming Interfaces

Friday, March 10  
11:00am CST



The graphic is a vertical rectangular poster with a light blue background. At the top left is the NSF logo. To its right is the NHERI GSC logo with the text 'Graduate Student Council'. Below these is a portrait of Dr. Scott Brandenburg. To the right of the portrait is a teal vertical banner with white text. At the bottom of the banner is the SimCenter logo with the text 'Center for Computational Modeling & Simulation'.

**NSF** NHERI GSC  
Graduate Student Council

**DR. SCOTT  
BRANDENBERG**

Tools: MySQL, SQLite,  
Jupyter, Python

Topic: Data Integration Using  
Relational Databases and  
Application Programming  
Interfaces

**MARCH 10TH  
11:00 AM CT**

**NHERI GSC**  
*presents*  
**PART V:  
RESEARCH  
TOOLS  
WORKSHOP  
SERIES**

IN COLLABORATION  
WITH

**NHERI SimCenter**  
Center for Computational Modeling & Simulation





# NHERI GSC DesignSafe and SimCenter Tools Workshop Series

Register for the NHERI  
GSC & SimCenter  
Research Tool  
Workshop Series here!

[https://bit.ly/NHERI\\_GSCSimCenterWorkshopSeries](https://bit.ly/NHERI_GSCSimCenterWorkshopSeries)



# NHERI GSC Interdisciplinary Research Challenge

- 19 total participants
- Groups of 3-4, one group for each topic
- Groups will work on new and innovative projects based on their topics
- Preliminary findings will be presented at the NHERI GSC Mini-Conference!

5 exciting topics based on the NHERI Science Plan and NHERI CONVERGE:

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
2. Understanding key physical responses, vulnerabilities, and factors influencing post-event recovery of civil infrastructure and communities
3. Developing and testing mitigation strategies to achieve community resilience in contexts of multiple hazards, shifting vulnerabilities, and sustainable development
4. Innovative collecting, sharing, presenting, and visualizing data and information on hazard risks, recovery, and mitigation strategies
5. Impact on civil infrastructure and communities from natural hazards in a changing climate



# NHERI GSC Mini-Conference



INAUGURAL  
**NHERI GSC**  
MINI-CONFERENCE

Virtual  
**May 26th**  
**2023**



Apply here:  
[bit.ly/3YuD7Hj](https://bit.ly/3YuD7Hj)



Applications due by  
**Feb. 24, 2023**

More info:  
[bit.ly/3vNDwal](https://bit.ly/3vNDwal)



- Fully virtual mini-conference on Friday May 26, 2023
- Submissions to present are closed but please attend and support your fellow members!
- Registration link  
[https://bit.ly/2023NHERIGSC\\_MiniConfRegistration](https://bit.ly/2023NHERIGSC_MiniConfRegistration)



# Events In- Development



# Works-in-Progress Research Presentation

- Future Collaborative Research Opportunities geared toward publishing in Natural Hazards Journals.
- Interdisciplinary Collaborative Research Challenge in Fall 2023 – (topic ideas are welcome)
- Virtual Research Presentations in which members can share ongoing research at various stages of design
- Target: once per semester or once every three months



# NHERI Experimental Facilities Panel

- Invite NHERI site coordinators to discuss opportunities for graduate students to:
  - Get involved at different NHERI facilities
  - Pursue ongoing or new research projects
  - Attend or participate in upcoming workshops
- May become part of the Mini-Conference or will be at a later date in the summer



# Member Suggestions!



# Member Planning and Suggestions

What are your ideas?





**Thank  
you!**

**Taylor Heath**

Chair of Research

[theath@sas.upenn.edu](mailto:theath@sas.upenn.edu)

**Rakesh Salunke**

Vice Chair of Research

[rakesh.salunke@students.  
jsums.edu](mailto:rakesh.salunke@students.jsums.edu)



# Invite Your Friends, Get Involved in NHERI GSC!

Invite your friends to join NHERI GSC!

[https://bit.ly/NHERI\\_GSCouncil](https://bit.ly/NHERI_GSCouncil)



Join NHERI GSC Working Groups!

[https://bit.ly/NHERI\\_GSCWorkingGroup](https://bit.ly/NHERI_GSCWorkingGroup)





National Science Foundation

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