



Welcome, introductions, workshop objectives & schedule

Organizing Committee: Tara Hutchinson
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Welcome, Introductions

➤ **Welcome**

- Thank you for coming!!
- Spending a day++ travel and a full-day to help us advance the sites community use!!

➤ **Introductions, round the room (15 sec max each 😊)**

- Name, affiliation
- Past exposure to facility? If not, list one related work (large-scale geo-, geo-structural testing experience)

➤ **E.g. Tara Hutchinson, UC San Diego, Professor in Dept of Structural Engineering**

- NHERI site co-PI, conducted two large-scale test programs within the past 5 years at the site

Workshop Objectives

- 1) Help shape **future** research programs utilizing the unique **geotechnical and geo-structural testing** capabilities of the NHERI@UC San Diego facility
- 2) Facilitate **collaborations** amongst colleagues in geotechnical, structural, and earthquake engineering and thus support their interests to submit collaborative research proposals to the **National Science Foundation** Natural Hazards Engineering or other research funding solicitations.

***NHERI@UC San Diego is an NSF-funded facility, therefore, only with an NSF-funded research grant, can researchers benefit from the operations support of the NHERI program*

***Users can certainly use the facility with support outside of the NSF, however, rates will be higher and are not the focus of our workshop today*

Possible NSF Programs to use NHERI facilities

➤ **Engineering for Natural Hazards (ENH):**

- “...supports fundamental research that advances knowledge for understanding and mitigating the impact of natural hazards on constructed civil infrastructure. Natural hazards considered by the ENH program include earthquakes, windstorms, tsunamis, storm surge, and landslides.”
- *Fall: September 15, 2017; Winter: January 24, 2018*

➤ **NSF Rapid Response Research (RAPID)**

- “...used for proposals having a severe urgency with regard to availability of, or access to data, facilities or specialized equipment, including quick-response research on natural or anthropogenic disasters and similar unanticipated events. PI(s) must contact the NSF program officer(s) whose expertise is most germane to the proposal topic before submitting a RAPID proposal.”
- *Submitted at any time*
- *PIs contact NSF program officer*

➤ **Early-concept Grants for Exploratory Research (EAGER)**

- “...used for support exploratory work in its early stages on untested, but potentially transformative, research ideas or approaches.”
- *Submitted at any time*
- *PIs contact NSF program officer*

Today's Schedule

Time	Duration (min)	Topic	Speaker
8:00-8:30	--	Guest arrival and checkin, light breakfast provided	(Linda Johnson to facilitate)
8:30-8:40	10	Welcome, introductions, workshop objectives and schedule	Prof. Tara Hutchinson
8:40-9:40	60	NHERI@UC San Diego: NHERI team introductions, facility description and capabilities, past projects	Prof. Joel Conte
9:40-10:00	20	Opportunities for using Hybrid Simulation to investigate Soil-Structure-Interaction	Prof. Gilberto Mosqueda
10:00-10:20	20	Use of the NHERI facility for large-scale geotechnical testing	Prof. Ahmed Elgamal
10:20-10:40	20	Break	
10:40-11:00	20	Shake table testing of GRS bridge abutments	Prof. John McCartney
11:00-11:20	20	Experiences in Japan: Tsukuba and E-Defense Experiments	Dr. Akio Abe (Tokyo Soil Research, Tsukuba College)
11:20-11:40	20	Experiences in New Zealand: Geo- and Geo-structural observations	Prof. Alessandro Palermo (Univ of Canterbury)
11:40-12:00	20	Research planning in a nutshell	Prof. Tara Hutchinson
12:00-1:00	60	Facility tour	Prof Joel Conte & Darren McKay
1:00-1:45	45	Working lunch (define key thematic areas and teams)	All
1:45-2:00	15	Breakout group organization & instructions	Prof. Tara Hutchinson
2:00-4:00	120	Working groups disperse & prepare reports (3-4 groups)	All
4:00-4:30	30+	Summary of breakout groups, Q/A, workshop survey	All



Possible Thematic Areas (Lunchtime)

- **Goal: Define (4?) primary areas, so we can have 4 working groups**
 - Should be “big picture topics” with many subtopic geotechnical earthquake engineering areas of recent importance/relevance to the field

- **Getting us started...**
 - Ground failure (liquefaction, lateral spreading, soft ground)
 - Liquefaction impacts on structures (foundations)
 - Deep foundations
 - Shallow foundations
 - Mixed foundations (deep intermixed with shallow)
 - Hybrid SSI
 - Ground improvement
 - Field-lab-centrifuge scale studies
 - ...others....

Breakout Group Instructions

- **Assign a scribe! (prepare slides please, document our work)**
- **Develop consensus on the 3 highest priority geo- and/or geo-structural test programs within your thematic area (assigned)**
 - What type(s) of specimens are ideal for accomplishing your groups research priorities?
 - What variables are most important to study experimentally?
 - Which could be investigated via numerical modeling?
 - Would the laminar or large fixed box be more appropriate?
 - What resources are needed? (how can the site help!)
 - Would hybrid testing help solve your problems?
- **Identify any impediments to advancing your idea (cost is an obvious one, but imagine the sky is the limit!)**