Education & Community Outreach

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Overview

- ECO Goals
- Technology Transfer
- Media Relations
- Seismic Outreach Ambassador Program
- NHERI REU Program
- Professional Development of Graduate Students/Post-Docs
NHERI@UC San Diego ECO Goals

- To support technology transfer to practitioners and future engineers and promote implementation of research results into practice. (WBS 1.5.1)
- Highlight innovative research conducted at NHERI@UC San Diego facilities (WBS 1.5.2)
- Demonstrate the benefits of research to the public and critical decision makers (WBS 1.5.2)
- Engage students and broaden participation of groups typically underrepresented in STEM (WBS 1.5.3)
- Professionally develop undergraduate and graduate students (WBS 1.5.3 and 1.5.4)
- Provide unique and stimulating experiences for undergraduates in high-quality engineering research (WBS 1.5.4)
Technology Transfer (WBS 1.5.1)

- **Webinars**
  - To highlight and disseminate research findings
  - Targeted participants include members from NHERI community, professional chapters of ASCE, ACI, SEAOSD and EERI, and membership from diversity organizations such as SHPE, SWE, and NSBE
  - Supported by NHERI CI infrastructure
  - Presentations will be recorded and made available to the broader NHERI community.

https://ww2.frost.com/files/6814/9008/8504/webinar.jpg
Technology Transfer (WBS 1.5.1)

Project Videos

• Increase awareness of NHERI@UC San Diego capabilities and disseminate project results
• Target different audiences
• Undergraduate students can help film, edit and produce short videos from footage from experiments
• Project PIs and participating students will be interviewed
• Videos will be shared and disseminated through NHERI website making them broadly available to a wide diverse audience.

Lab Tours
Tech Transfer: Lab Tours

Visiting Students and Engineers from Mexico
Tech Transfer: Lab Tours

Visiting architects from AIA San Diego chapter
Media Relations (WBS 1.5.2)

- NHERI@UC San Diego will work with the Jacobs School of Engineering Media Relations team
  - Provide On-site advising to PI and their home institution media relations group mentoring them on best practices for publicizing their research.
  - Guide the PI’s media relations groups on developing press releases, reaching out to science, technology and mainstream media such as TV networks, magazines, newspapers blogs and social media.
  - Collaborate with the NSF press office and the NHERI publicity liaisons
JACOBS SCHOOL MEDIA RELATIONS TEAM
What we do

- Distribute press releases from other institutions to local/California media outlets
- Support media days: create media advisory/distribute/onsite “day of“
- Pitch local and California reporters (time permitting)
Video/Photography
(time permitting)

- Video and photo shoot of the tests to hand out to institution’s public relations office and media
- Video and photo shoot during media days
SUCCESS STORIES

Some examples of media coverage

Science Magazine
These disaster machine could help humanity prepare for cataclysms

ABC News
"Six-story Building Put to Earthquake Test"

Daily Mail UK
"Researchers to simulate 1994 LA quake that killed 60 on giant 'shake table' to test design for quakeproof wooden building"

Discover Magazine
Bracing for Mother Nature's Wrath

Jacobs School of Engineering Publicity Releases
UCSD Media Page

- Jacobs School of Engineering Shake table media page

http://jacobsschool.ucsd.edu/shaketable/index.sfe
Seismic Outreach Ambassador Program  
(WBS 1.5.3)

- Educating 4th-6th grade students on fundamentals of earthquakes and earthquake-safe structural design
  - Students build and test K’Nex structures in a design competition

- Run by volunteer undergraduate students (Ambassadors)
  - Provides Ambassadors with professional development training

- Goals of the program
  - Providing outreach to younger students to enhance recruitment into STEM fields
  - Exposing undergraduates to the larger university community consisting of donors, industry partners, and university alumnae
  - Developing group of high-achieving engineering student leaders with strong soft skills (teamwork, communication, conflict resolution, time management, flexibility and motivation of others)

- Visiting graduate students/post-docs can participate in this program
Seismic Outreach to Chula Vista and Vista Elementary school districts
  • High population of underrepresented minority students; low income (free or reduced lunch)

Presentation in their classrooms

Provided instructional scaffolding to teachers

Two day shake table event
  • Wed Aug 31, 2016: Chula Vista (135 students)
  • Fri Sep 2, 2016: Vista (100 students)
NHERI 4 Kids

Kids arriving, checking in, safety meeting.

Lunch!!!

Being interviewed about their designs

Engaged students
NHERI 4 Kids

Rotation 1: Videos of past tests

Rotation 2: Tour of facility above ground

Rotation 3: Tour of facility below ground

Rotation 4: Make Your Own Earthquake
Rotation 5: Placement of structures on shake table (Downtown San Diego)
NHERI 4 Kids
NHERI 4 Kids
NHERI REU Program (WBS 1.5.4)

- Provide unique and stimulating experiences in high-quality engineering research
  - UC San Diego has extensive experience with the REU program, selecting students, mentoring, and assisting with logistics.

- Support at least 2 REU students every summer
  - 10 week research program
  - Undergraduates are immersed in the research teams and participate in construction, instrumentation, testing, and analysis.
  - Students work closely with graduate students and PIs to identify appropriate research projects that they can conduct individually but are integrated with the overall project goals
    - Testing material properties to make material selections
    - Modeling parts of the structure to predict response.
NHERI REU Program (WBS 1.5.4)

- 4 ugrads summer 2017 working on Pei’s project
- 4 ugrads summer 2018 working on Shing and Hutchinson projects
Professional Development of Graduate Students

- **Honing Research Skills**
  - Facility will provide visiting students training on large-scale testing protocols, instrumentation, safety, data acquisition and reduction.

- **Learning Mentoring Skills**
  - Participation in the Seismic Outreach Ambassador program or the NHERI REU program will provide opportunities for graduate students to mentor undergraduate students

- **Improving Communication Skills**
  - Working with the facility to develop project videos, graduate students will learn to communicate their research to different audiences (general public, decision makers, students, researchers)
Questions?

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Workshop Survey

https://docs.google.com/forms/d/e/1FAIpQLScMQ9W2NcyfMAvSeYNOPevHoXICSMw8LgUV23V57_F1rhk8aw/viewform