

An International Workshop to Develop Research Campaigns, Interdisciplinary Teams and Disruptive Technologies for the NHERI 5- Year Science Plan for Natural Hazards

18 March 2019

8:00 Welcome and Opening Remarks – **Dr. Joy Pauschke (NSF)**

8:15 Objectives of the Meeting – **Julio Ramirez**, Karl H. Kettelhut Professor in Civil Engineering and NHERI-NCO Center Director, and **Billy L. Edge**, P.E., Ph.D., Dist.M. ASCE, Professor Civil, Construction, and Environmental Engineering, North Carolina State University

8:30 Summary of NHERI 5-Year Science Plan and Social Science View – **Lori Peek**, Professor, Department of Sociology, Director, Natural Hazards Center, University of Colorado Boulder

8:50 Expanding the vision of science and engineering for the Natural Hazards Community, **Timothy M. Persons**, PhD, SES, Chief Scientist of the United States Government Accountability Office (GAO)

9:30 Break (coffee and refreshments)

9:45 Panel – A vision for future hazard mitigation/disruptive technologies not addressed in the NHERI Science Plan
Stephanie Paal, PhD, Asst. Prof, Texas A&M University
Mike Gomez, PhD, Asst. Prof, University of Washington
Simone Marras, PhD, Asst. Prof, New Jersey Institute of Technology
Ali Mostafavi, PhD, Asst. Prof, Texas A&M University
Reilly Allison, PhD, Asst. Prof, University of Maryland
Will Srubar, PhD, Asst. Prof, University of Colorado Boulder

10:45 Leveraging NSF ERC Funding with NHERI Facilities, **Edward Kavazanjian, Jr.**, PhD, Regents' professor and Director of Center for Bio-mediated and Bio-inspired Geotechnics, Arizona State University

Science of Team Science - best practices and future directions for interdisciplinary teams, **Edward T. Palazzolo**, PhD, Army Research Office, Program Manager for Social and Cognitive Networks

Patience and stewardship over generations: LIGO's detector facilities and recent discoveries, **Joseph A. Giaime**, PhD, Professor of Physics & Astronomy (LSU), Observatory Head, LIGO Livingston, Caltech

12:15 **Lunch (on your own)**

13:00 Expectation and Organization of Afternoon Breakout Sessions A-F

13:15 **Breakout Sessions – I**
a) Advanced computational methods and high-performance and real-time computing, **Chris Gill**, DSc, Washington University, St. Louis

- b) Data-driven science, **Lori Peek**, PhD, University of Colorado Boulder, **Maria Dillard**, PhD, NIST, **Elaina Sutley**, PhD, University of Kansas
- c) Robotics - Mobile Manipulation in Uncertain Environments, **Kyle D. Edelberg**, NASA's Jet Propulsion Lab

14:30 **Break (coffee and refreshments)**

14:45 **Breakout Sessions – I (Continued)**

- d) Bio-inspired design, **Jerome P. Lynch**, PhD, University of Michigan
- e) Additive manufacturing, **Zhijian Pei**, PhD, Texas A&M University
- f) Advanced materials, **Pablo Zavattieri**, PhD, Purdue University

16:00 **Break**

16:15 **Report- Results of Breakout Sessions – I**

Expectation and Organization of Day 2

17:15 **Adjourn**

17:30

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8:00 **Breakout Sessions – II** – Examples of Research Campaigns: Operation of research campaign – team selection & coordination, implementation, and best practices

Example 1: Earthquake and Tsunami Hazards and related landslides – scope, using NHERI facilities, community engagement, metrics for success

Example 2: Windstorm Hazards – scope, using NHERI facilities, community engagement, metrics for success

Example 3: Storm Surge in Coastal Areas – scope, using NHERI facilities, community engagement, metrics for success

(Examples will be defined by the Workshop Organizing Committee and distributed before the Workshop. Each session will be facilitated by a member of the Committee.)

10:15 **Break (coffee and refreshments)**

10:30 **Report- Results of Breakout Sessions – II**

11:30 Frontiers of Hazard Risk Mitigation, **Thomas Denis O'Rourke**, PhD, PE, NAE, Thomas R. Briggs Professor of Engineering in the School of Civil and Environmental Engineering, Cornell University

13:00 **Adjourn**