

Natural Hazards Engineering Research Infrastructure (NHERI)

NHERI-Network Coordination Office **NHERI-NCO**

Introduction to Facilities – LeHigh University

December 6, 2016



Purdue NCO Leadership Team



Julio Ramirez (PI)
*Professor of Civil Engineering
Purdue University*

Leadership Role and Expertise

- NCO Director
- Chair, NCO Strategic Committee



Billy Edge (Co-PI)
*Professor of Practice
North Carolina State University*

Leadership Role and Expertise

- Member, NCO Strategic Committee
- Expert in Coastal Engineering, Inundation, Wave Dynamics, and Surge Impact Modelling



Antonio Bobet (Co-PI)
*Professor of Civil Engineering
Purdue University*

Leadership Role and Expertise

- Member, NCO Strategic Committee
- Leader for Geotechnical Engineering



Delong Zuo (Co-PI)
*Associate Professor of Civil Engineering
Texas Tech University*

Leadership Role and Expertise

- Member, NCO Strategic Committee
- Expert in Wind Hazard Research and Link to Wind Experimental Facilities



JoAnn Browning (Co-PI)
*Dean of Engineering
University of Texas at San Antonio*

Leadership Role and Expertise

- Member, NCO Strategic Committee
- Leader for Education and Community Outreach



NCO Leadership Team



Cheryl Ann Blain

*Research Oceanographer
Naval Research Laboratory*

Leadership Role and Expertise

- Member, NCO Strategic Committee
- Leader in Coastal Engineering Hazards



Thomas L. Smith

*Architect
TLSmith Consulting Inc.*

Leadership Role and Expertise

- Member, NCO Strategic Committee
- Leader in Wind Engineering and Architectural Practice



William T. Holmes

*Structural Engineer, Private Practice
Oakland, California*

Leadership Role and Expertise

- Member, NCO Strategic Committee
- Leader in Earthquake Engineering Structural Practice



David R. Johnson

*Assistant Professor of Industrial
Engineering and Political Science
Purdue University*

Leadership Role and Expertise

- Member, NCO Strategic Committee
- Leader in Social Sciences and Policy



Ian Robertson

*Professor of Structural Engineering
University of Hawaii, Manoa*

Leadership Role and Expertise

- Member, NCO Strategic Committee
- Expert in Tsunami Research



NCO Professional Team



Daniel Zehner

*Facility Scheduler and
Operations Coordinator (FSOC)
Purdue University*

Leadership Role and Expertise

- Coordination of Day to Day Operations
- Oversee, Maintain, and Manage Centralized Experimental Facilities Schedule



Chris Thompson

*Technology and Media Specialist
Rosen Center, Purdue University*

Leadership Role and Expertise

- Publicize Research and Other Deliverables;
Implement Software Tools in Partnership
with Cyberinfrastructure Awardee



NCO Internal Organization



Vision of NHERI-NCO



...serve as a focal point and leader of a multi-hazards research community focused on mitigating the impact of future earthquakes and windstorms and related hazards...



Hurricane Katrina



NHERI-UCSD Facility



Role of the NHERI-NCO



- Leadership of Community and Governance
- Coordination of NHERI components
- Education and Community Outreach



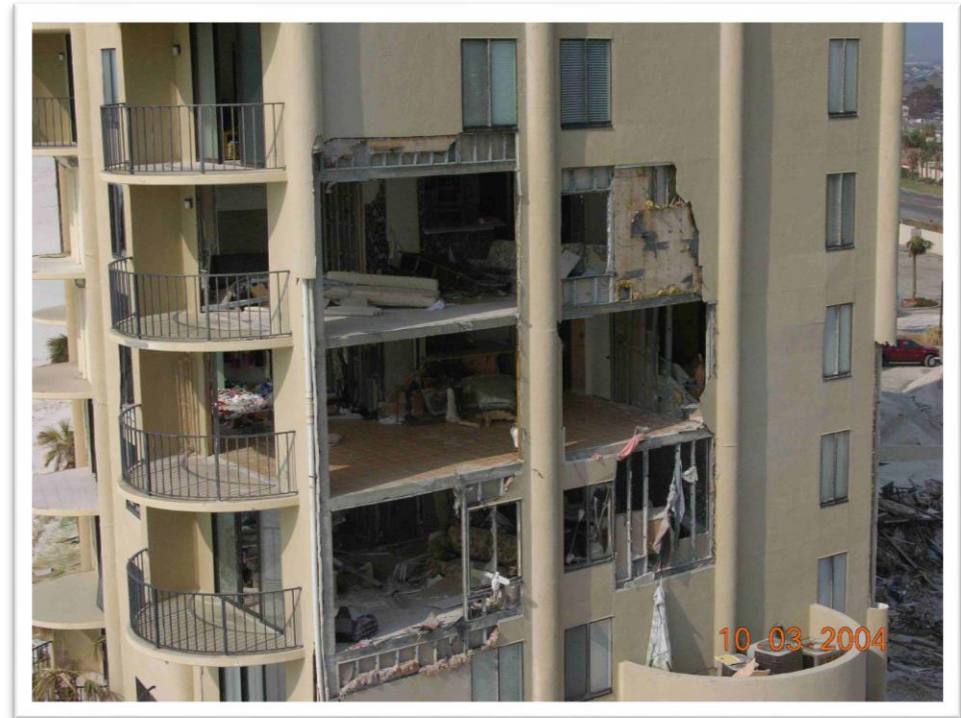
*Storm surge, Hurricane Fran,
North Carolina 1996*



Timeline of Key Deliverables In Year 1



- Establish Governance – 1/17
 - Memberships of 3 groups and Operational Procedures, and NHERI wide policies
 - Facility Scheduling Protocol and Dashboard
- Completion of 5-year NHERI Science Plan – 6/17
- UF Survey – 6/17
- REU and Summer Institute Implemented – 6/17
- Annual Council Report and Evidence of Progress in Building International Partnerships – 6/17



Wind damage, Hurricane Ivan, Alabama 2004



Education & Community Outreach



JoAnn Browning (Co-PI)

*Dean of Engineering
University of Texas at San Antonio*

Leadership Role and Expertise

- Member, NCO Strategic Committee
- Leader for Education and Community Outreach

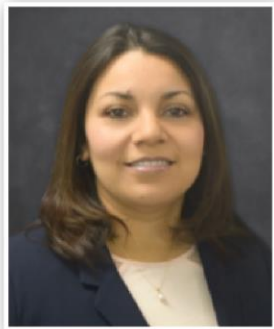


Jordan Moss

*Communications Specialist
University of Texas at San Antonio*

Leadership Role and Expertise

- Communications Specialist with NCO
- Provide Support to REU and Summer Institute Recruitment and Marketing, and all Social Media Communications



Karina Vielma-Cumpian

*Assistant Research Scientist
University of Texas at San Antonio*

Leadership Role and Expertise

- Education Specialist with ECO



ECO: Community Engagement



ECO Committee

Members:

Site Representatives

Purpose:

1. Feedback on ECO programs
2. Coordinate & leverage site programs

Technology Transfer Committee

Members:

Leaders in natural hazards community selected by NHERI Council

Purpose:

1. Identify research ready for implementation into practice
2. Facilitate process



ECO: Primary Activities



REU

- 2 per site
- Adjuncts
- Mentorship
- Network-wide activities
- Longitudinal mentorship and assessment
- Paper and presentation
- Outreach to local schools
- Travel funds

Summer Institute

- At UTSA
- 40 participants
- Educational products and assessment
- Site training/info
- Proposal writing
- Review Science Plan
- All may participate, portions telepresence

Site ECO Coordination

- ECOC develop standards
- Common assessments
- Generalize content for broad audience
- Webinar coordination

Dissemination & Outreach

- News and media presence
- Monthly community updates
- Sponsor webinars and technical sessions
- Research into practice (TTC)
- Special coordination with MSU
- Coordinate NHERI community participation at workshops and conventions



EFs Scheduling Protocol



NHERI 15-598 Solicitation:

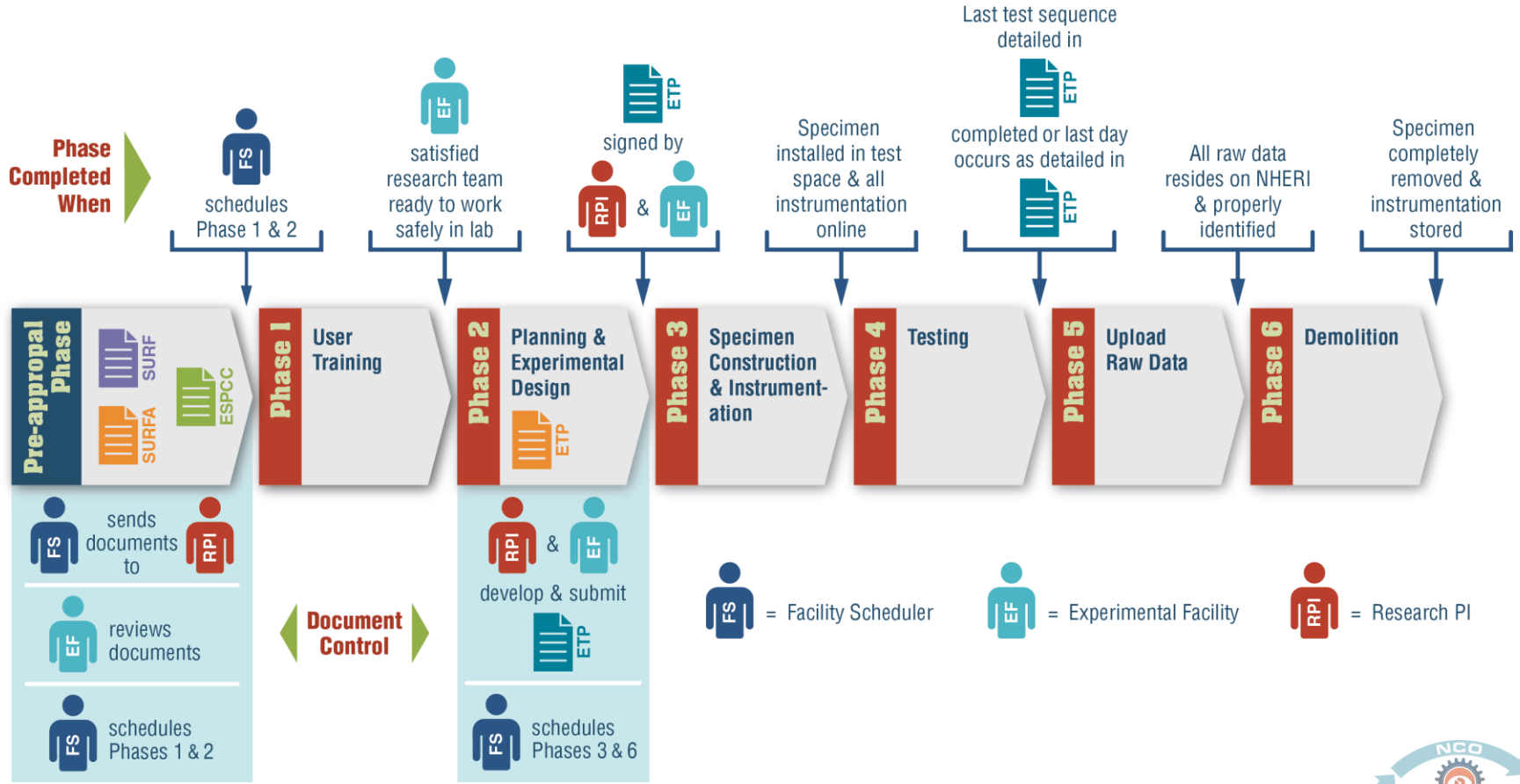
“Implement a centralized Facility Scheduling Protocol, working with EF Awardees and the Users Forum. To support transparent, open, and equal access, the NCO Awardee, rather than each EF Awardee, will be responsible for scheduling user time (NSF-supported and non-NSF-supported) at each EF, including the RAPID Facility.”



*Research Team
at OSU Facility –
Dan Cox, OSU PI*



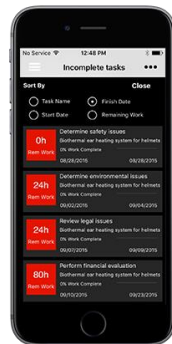
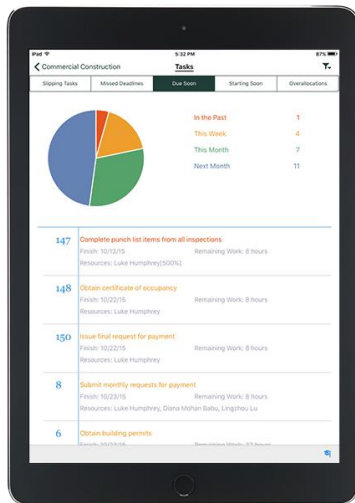
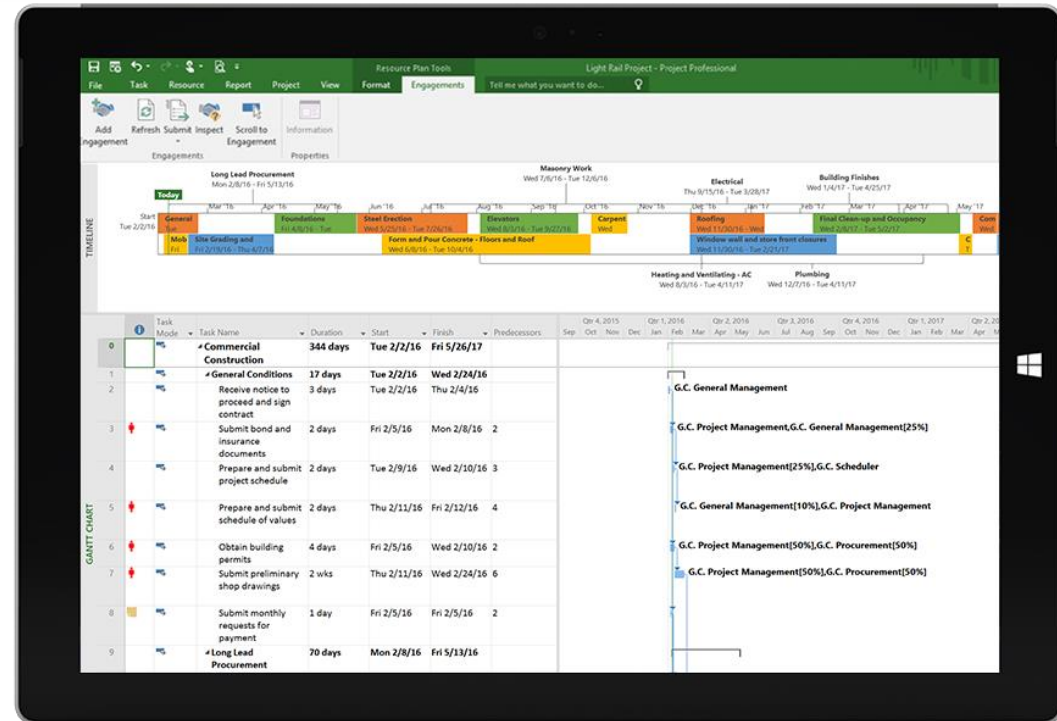
NCO Scheduling Protocol Project Process



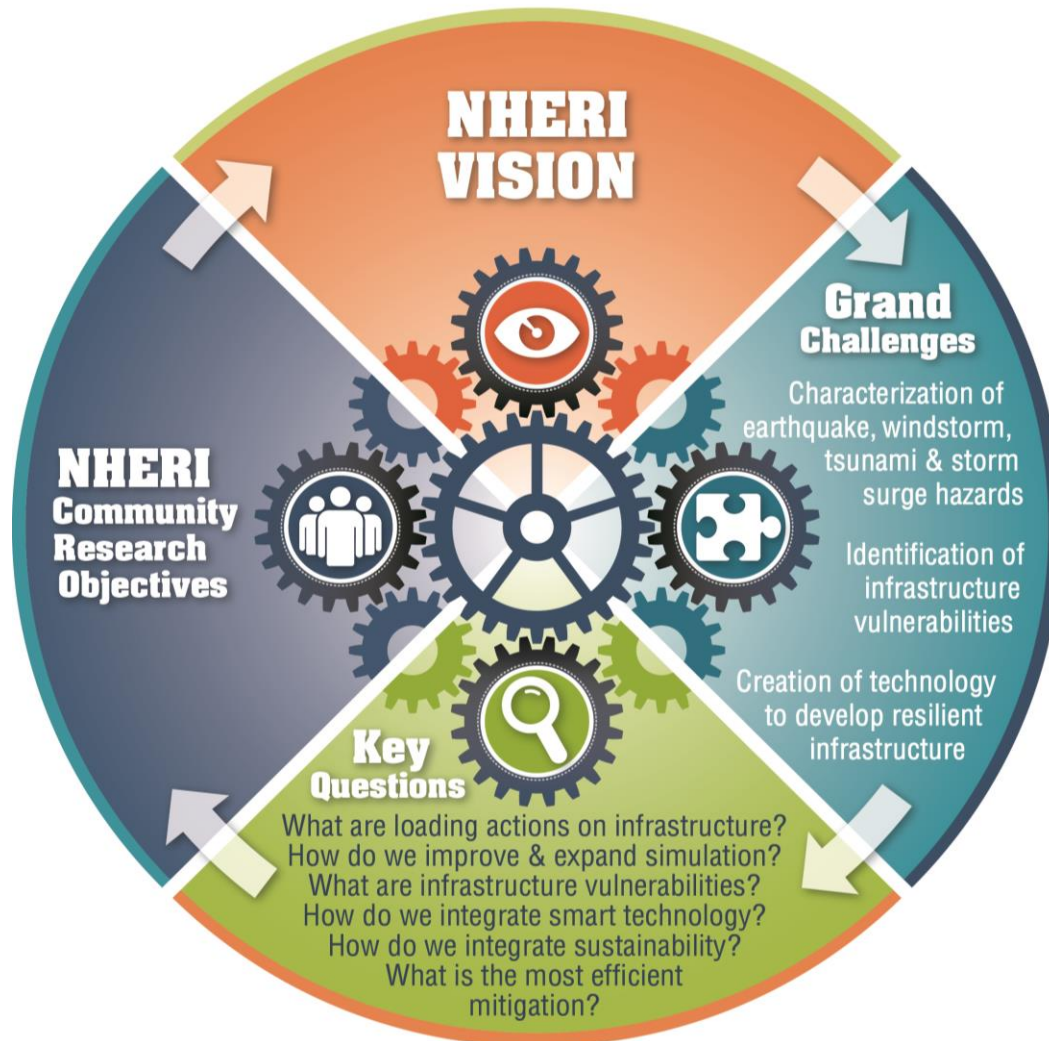
NCO Scheduling Tool: MS Project



- EF usage timeline
- Transparent scheduling
- Easy to update via mobile devices
- Less paperwork



NHERI-NCO Science Plan



Development Process of 5-Year NHERI Science Plan



- Appoint Task Group
- Collect Awardees' Science Plan
- Task Group assembles first draft
- Review by Governance
- By June 2017
 - Post for review by NHERI community
 - Community comments addressed
 - Post on the NHERI website
 - Revisited at Summer Institute
- In 2017-2018 (Year 2) workshops to update plan



*Storm Surge Damage to Infrastructure
Hurricane Ike, Bolivar Peninsula, TX 2008*

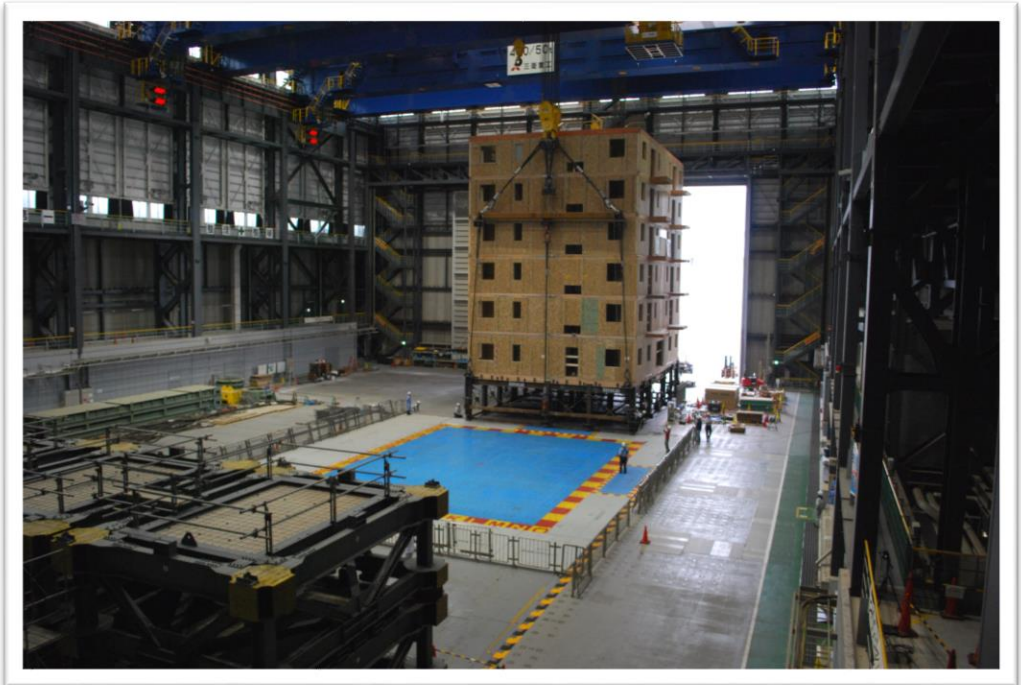


Global Vision for NHERI



Strategy:

- Access to Facilities
- Research Collaborations
- Data Exchanges
- Testing Techniques
- Condition Assessment
- Post-disaster perishable data collection
- Establish ICF



Testing of 6-story structure at E-Defense, Japan



Questions and Next Steps

