NHERI Council Monthly Meeting No. 10 in Y-4
16 April 2020, 2:00 – 3:00 PM EDT

NHERI Council Spring 2020 Meetings

Time: Jan 9, 2020 02:00 PM Eastern Time (US and Canada)
Feb 6, 2020 02:00 PM
Mar 5, 2020 02:00 PM
~~Apr 9, 2020 02:00 PM~~ **April 16, 2020**
May 7, 2020 02:00 PM

Join Zoom Meeting
https://designsafe-ci.zoom.us/j/864758316
Meeting ID: 864 758 316

One tap mobile
+16465588656,,864758316# US (New York)
+16699006833,,864758316# US (San Jose)

Dial by your location
+1 646 558 8656 US (New York)
+1 669 900 6833 US (San Jose)
Meeting ID: 864 758 316
Find your local number: https://DesignSafe-ci.zoom.us/u/abv90zrfOo

Attending:

- Oregon State University: Dan Cox (EF Dir.)
- University of California, Berkeley: Matt Schoettler (Assoc. Dir. – Ops), and Stanford University: Greg Deierlein (Co-Dir), SimCenter
- University of California, Davis: Dan Wilson (Assoc. Dir.) CGM
- University of California, San Diego: Joel Conte (EF Dir., Council Vice Chair) LHPOST
- University of Colorado Boulder: Lori Peek (Dir., CONVERGE)
- University of Florida: Forrest Masters (EF Dir.; Council Chair) and Jennifer Bridge (Co PI)
- University of Texas at Austin: Ellen Rathje (CI Dir.)
- University of Texas at Austin: Farn Yuh Menq (EF Manager) Texas Mobile Equipment Facility
- University of Washington: Joe Wartman (EF Dir.)
- National Science Foundation: Joy Pauschke (Prog. Dir, NHERI), Florence Rabanal, and Erica Stein.
- Purdue University: Julio Ramirez (NCO Dir., Council Secretary), Karina Vielma- Cumpian (Education), and Dan Zehner (NCO Sch./Ops. Coord.)
- Florida International University: Arindam Chowdhury (EF Dir.)
- Lehigh University: Jim Ricles (EF Dir.)

Minutes

1. Attendance, Review and Approval of Minutes (previously distributed by e-mail) for Meeting No. 9 (3/5/2020) in Y-4 (Masters)

   Minutes were approved as distributed without objection. Lori moved and Joel seconded the motion. Approved Minutes are posted at: https://www.designsafe-ci.org/facilities/nco/governance/nheri-council/

2. Continuing Business

   a) "EF safety tips". (Forrest Masters)
   See attachment on options for collaboration related to COVID-19.

   b) NCO-

      i. Frontiers Collection Status- (2') (Julio Ramirez)
      Six of the contributions have been received and are under review. Seven remain to be submitted and received an extension until the end of the month.

      ii. Report on Governance Activities- NIAC and User Forum (3') (Julio)
      NIAC had a telecom on 3/24. It is planning to meet one more time during the summer via telecom. User Forum continues to meet monthly. Both groups are not meeting in person due to COVID-19 restrictions.

      iii. Update on the REU Program and Summer Institute in 2020 (5') (Karina Vielma-Cumpian)
      The REU program and Summer Institute have been postponed until next year. Plans for this year can be found in the slide report attached to these minutes. Lori asked if the Summer Institute virtual meeting was open to any early career researcher interested. Karina said that they were welcome to join and that registration will be opened soon via DesignSafe-CI.

      iv. Status of NHERI wide metrics implementation (2') (Dan Zehner)
      Dan reported that the facility managers will be holding a series of meetings during May with the goal of finishing implementation of the new NHERI wide metrics. The current draft is attached to these minutes.

   c) Council- (All)

      i. Officers for 2020-2021 (5 – 10')
      The officers for the period from June 2020 to June 2021 are Joel Conte (Chair), Arindam Chowdhury (Vice-Chair) and Julio Ramirez (Secretary).

      ii. Schedule of Meetings in June, July and August, 2020 (2-3')
      The Council agreed to continue to meet at the same time on the following dates: June 4th, July 2th, and August 6th.

      Action Item: Julio will send out the zoom meeting and calendar invitation.

      iii. COVID-19 Updates (2-3')
      No updates

   d) NHERI Researchers Meeting (Dan Cox and Julio Ramirez) (3-5')
   Dan and Julio updated the Council on the status of the organization. The dates were still locked by the Hotel. The supplement request to fund the activity was being considered by NSF.

3. New Business
    a) NSF Items (Joy Pauschke)
    COVID-19 at NSF page is available for information.

    b) CONVERGE- Updates (Lori Peek)
        i. Training Modules –
            a. We released our third training module, Cultural Competence in Hazards and Disaster Research, available free, online! https://converge.colorado.edu/resources/training-modules
            b. We held a demonstration webinar, featuring the new Cultural Competence module (https://converge.colorado.edu/communications/webinar-series) and our Assignment Bank for instructors who wish to use the modules (https://converge.colorado.edu/resources/training-modules/assignment-bank).
        ii. COVID-19 Response –
            a. CONVERGE is funding 30 COVID-19 Working Groups for teams - encouraging convergence research in response to the pandemic. https://converge.colorado.edu/resources/covid-19/working-groups (here is the NHERI news release: https://www.designsafe-ci.org/community/news/2020/march/nsf-funded-converge-offers-awards-covid-19-social-science-resear/)
            b. We have released the first COVID-19 Global Research Registry for Public Health and Social Sciences. https://converge.colorado.edu/resources/covid-19/public-health-social-sciences-registry
            c. Over 500 people have attended our first two Virtual Forums on COVID-19. https://converge.colorado.edu/communications/virtual-forum

4. Next Meeting- **May 7, 2020; 2:00-3:00 PM (EDT)**

5. Adjourn: Meeting adjourned at 2:55 pm

Here is a private-sector led challenge platform specific to ventilator development:

https://www.coventchallenge.com

Here is a Federal mechanism for crowdsourcing ideas, headquartered at BARDA: https://www.medicalcountermeasures.gov/Request-BARDA-TechWatch-Meeting/

This is a single-point website for innovators to submit brief descriptions of their diagnostics, therapeutics, vaccines, and other (other can include sterilization/decontamination) products or technologies being developed for COVID-19. HHS and DOD are prominent sponsors of BARDA.

A word of caution from BARDA management:

"To shorten the time to apply for product licensure and to reduce the spread of COVID-19, federal agencies are particularly interested in identifying products and technologies that have progressed beyond non-clinical studies, have established domestic large-scale commercial Good Manufacturing Practices (cGMP) manufacturing capability, and have utilized a platform used to manufacture a product already approved by the FDA."

To sell medical supplies or equipment to the federal government, please submit a price quote under the COVID-19 PPE and Medical Supplies Request for Quotation. Full details can be found in the solicitation (Notice ID 70FA2020R00000011).

- This solicitation requires registration with the System for Award Management (SAM) in order to be considered for award, pursuant to applicable regulations and guidelines. Registration information can be found at www.sam.gov. Registration must be "ACTIVE" at the time of award.

- If you have **medical supplies or equipment to donate**, please provide us details on what you are offering.
- If you are a private company that wants to **produce a product related** to the COVID response – email nbeoc@max.gov.
- If you are a **hospital or healthcare provider in need of medical supplies**, please contact your state, local, tribal or territory department of public health and/or emergency management agency.

- If you are interested in **doing business with FEMA and supporting the response to COVID- 19** with your company's non-medical goods and/or services, please submit your inquiry to the Department of Homeland Security (DHS) Procurement Action Innovative Response Team (PAIR) team at DHSIndustryLiaison@hq.dhs.gov.

NHERI

Natural Hazards Engineering Research Infrastructure

NHERI-NCO
Education and Community Outreach (ECO)

REU and Summer Institute 2020 Update

NCO NHERI

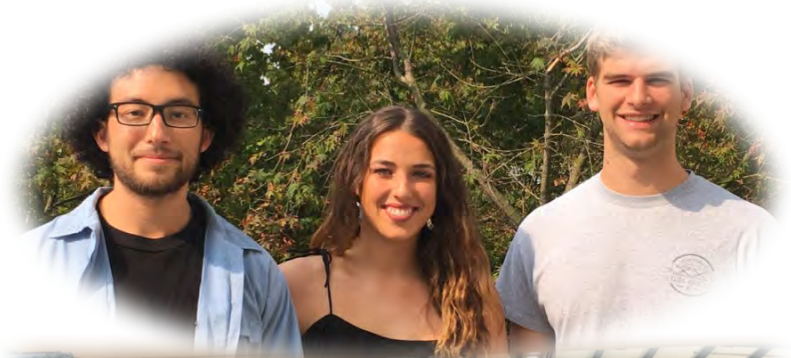
Network Coordination Office

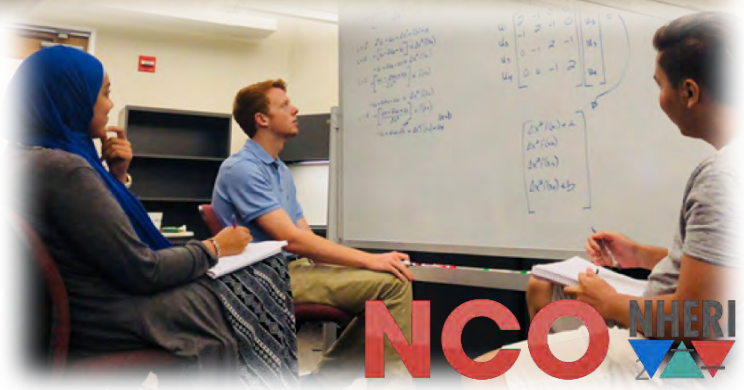
Research Experiences for Undergraduates

Given NHERI site closures and travel bans, students will not be able to participate in the REU program person. The in-person REU program is postponed until summer 2021.

- Accepted students notified of selection (for resume/CV).
- All encouraged to apply to 2021 REU program with special consideration.
- Special mentoring and community-building opportunity.

A shortened virtual presentation from sites, including REU alumni, will be open to ALL UNDERGRADUATE STUDENTS.





NCO NHERI
Network Coordination Office

NHERI Summer Institute

The in-person NHERI Summer Institute is postponed.

- Accepted early career faculty notified of selection (for CV).
- All encouraged to apply for travel award to 2021 NHERI Researchers Meeting with special consideration.
- Special mentoring and community-building opportunity.

A one-day virtual program will include site resource presentations, NSF and CAREER Award information, and opportunity to meet with Program Director and site reps. Program will be open to ALL Participants.

NHERI

Natural Hazards Engineering Research Infrastructure

THE NHERI NETWORK IS SUPPORTED BY MULTIPLE GRANTS FROM THE NATIONAL SCIENCE FOUNDATION.

Appendix 1

This document attempts to define a set of reportable metrics for utilization that NHERI equipment facilities can report uniformly. The metrics are meant to both reflect level of engagement (roughly reflective of science impact) and operating efficiency.

Background:

Within our cooperative agreements, NSF defines utilization as actual days of equipment utilization by NSF supported projects / total planned days of utilization as included in the approved final Annual Work Plan, including days planned for routine equipment maintenance and calibration.

It follows, then, that NSF has set forth the following definitions:

Throughput = days of equipment utilization by NSF supported projects

Capacity = planned days of utilization as included in the approved final annual work plan, including days planned for routing equipment maintenance and calibration.

There exists a fundamental conflict, however, in enforcing a single capacity metric across the multiple equipment facilities because each facility has a unique business model. Capacity metrics must be internally consistent with the local business model, and, in general, equipment facilities do not currently base their business models on days of utilization. Expressing capacity in terms of days across all sites would require either an abstract mapping of capacity expressed in local terms to globally defined utilization days, or would require a complete restructuring of each facility's business model to build capacity around days. The former requires high level interpretation when reporting the metric, making it non intuitive to evaluate. The latter is not recommended because expressing funded capacity in terms of utilization days puts the site in conflict with the user and requires considerable effort to implement. That is, days of utilization by the user are inversely proportional the level of resources dedicated to the project by the operator – the project goes faster when the site incurs more cost. Furthermore, adopting new business models across the sites will incur major costs at each site (through extensive staff effort) and is subject to local review and acceptance by campus business units.

Proposed solution:

Adopt a uniform set of metrics to demonstrate throughput at the equipment facilities that can be used to reflect level of engagement, or research impact. It is suggested to use metrics defined using days of use, similar to the structure reported by the Academic Research Fleet. For example, a large number of science days would intuitively reflect that the equipment facility is being commonly used in science applications and would be a useful evaluation. The metric could not be used to demonstrate utilization as a percentage of capacity, and would not reflect the efficiency of use.

Adopt a uniform practice of reporting utilization as throughput divided by capacity using local definitions of throughput and capacity. A uniform set of categories may be possible, so, for example, equipment facilities could report X% supporting the science of project A, Y% in maintenance, Z% administration, etc. The utilization percentage would be comparable across sites by category, but the raw throughput and capacity numbers likely would not be.

A strawdog implementation of the reporting solution is given below.

An example reporting structure:

The University-National Oceanographic Laboratory System has the following list of Activity/Day types (https://strs.unols.org/Public/diu_faq_view.aspx?short=DayTypesDefinitions):

- **At Sea for Science Day:** All days at sea incident to the scientific mission.
- **Available for Service Day:** Ship is mechanically and administratively prepared for at sea operations but not currently scheduled for any mission or project. Routine outfitting and general upkeep can occur during these days.

- **Inspection Day:** A day in which the ship is undergoing an inspection by Navy, INSURV, NSF, USCG, ABS, other regulatory body, or an insurance company.
- **Outreach Day:** A day in which the ship is primarily devoted to conducting an open house or other public outreach event. Include days spent mobilizing and demobilizing for the event.
- **Standby Day:** Days in port for purposes of crew rest (e.g.weekends if that fits your ship) or weather/environmental reasons.
- **Overhaul or Repair Day:** Planned shipyard overhaul or emergency repairs. Days undergoing overhauls, dry-docking, or other scheduled or unscheduled repairs during which the ship is not available for service. Also would include at sea shakedown of ship's overhauled equipment.
- **General Upkeep and Outfitting Day:** Days in port for purposes of fitting out, general upkeep, and routine outfitting and minor pierside maintenance, which does not take the vessel out of service.
- **Out of Service Day:** Days in which a ship is laid up out of service for an extended period for reasons of economy, unemployment, or unfitness for service.
- **Transit Day:** At-sea days primarily for the purpose of going from one port to another or to/from a port and an area of research.

Days are exclusive such that the major category of activity each day is reported for that day. The fleet's business model is structured around days of use such that annual work plan capacity and utilization can be expressed with activity days.

Strawdog implementation – throughput

Goals – produce an easy to track metric that:

- can be captured by operations staff during their normal workflow
- does not require additional high-level interpretation before reporting
- is intuitively obvious to a reviewer
- provides quantifiable data reflective of the level of engagement of the equipment facility by science users

Data gathering:

Data should be tracked on the use of the facility via components at the discretion of the facility, using as few of components as reasonable to accurately reflect engagement of the facility. For example, the academic fleet reports at the individual ship level, not the fleet level, and not at the individual resource level. At UC Davis, for example, they plan to report at the facility level. They could easily track at the centrifuge level, logging use of the 1m and 9m centrifuges separately. These machines are used independently and often in parallel. But, they feel independent tracking of these machines does not accurately reflect staff engagement for the facility. For example, in the spring they began a maintenance cycle on the 1m centrifuge that made the machine unavailable for use. This summer they have chosen to leave the 1m machine idle as the staff have been saturated supporting multiple projects working simultaneously on the 9m centrifuge, and there has not been an immediate project need for the 1m centrifuge. Every day of the summer has been a science day for the staff. It would be inaccurate to report 90 Science Days for the 9m centrifuge and 90 repair days for the 1m centrifuge.

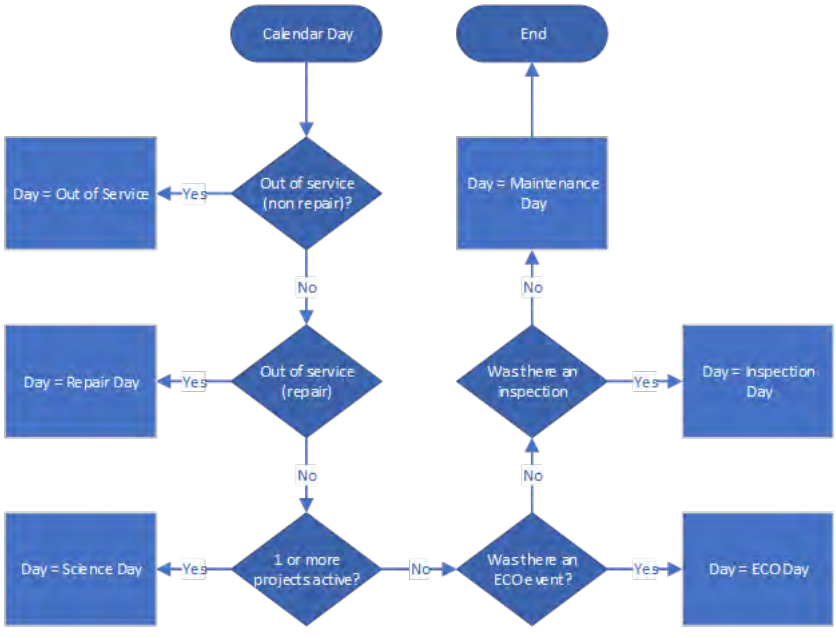
The following data should be collected on a daily basis:

Projects active on site, or staff actively engaged in project-specific research support: Typically means students are on site, actively and significantly using shared resources within the lab. It

may also mean facility staff are actively working on the project science independent of project personnel (e.g., RAPID facility personnel independently process data from the field following missions). Minor support of research, such as remote planning meetings, would not count, and students simply using office space would not count. The goal is to capture days of significant engagement. The daily log should track which projects are active each day.
Tours and events: Maintain a daily log of tours and events that significantly engage the equipment facility. This should include events hosted at the site (common) as well as events where site personnel significantly participate in off-site outreach events (less common).
Inspections: Any day where an external entity performs an inspection on site. E.g. site visits, BSR, EH&S safety inspection.
Repairs: Make note of any day where the tracked resource is unavailable to users due to planned overhaul or emergency repairs. Tracking at the facility level might result in zero repair days even when major equipment is taken offline if users continue to work with other facility resources.
Maintenance: If you are tracking a the facility level it can be assumed that every work day includes maintenance activities. If you are tracking at the individual equipment level you can log that maintenance work was being performed.

Reporting:

The following event logs should be reported as totals to reflect total engagement. Days are not exclusive, five projects active on one day will be reported as five project days.
Project Days:
NSF Project Days
Non NSF Project Days
Tours and event Days
The event logs should be processed according to calendar days to generate the following calendar day events. Reported days are exclusive – each calendar day can be represented only once in the tally. The sum of these days should add to 365 (or 366) for the year.



Strawdog implementation – throughput

TBD – but basically each site uses their local business model / work breakdown structure to calculate utilization as a percentage of throughput divided by capacity. Common categories should be adopted.

Other reporting metrics:

In addition to the proposed utilization metrics outlined above, we propose to gather the following metrics that will show the network wide user base and the projects that they are engaged in. We are following the similar model to the research ship fleet, tracking users, their characteristics, and the projects they are involved in so that further cross-examination and analysis of our user base can be done as needed.

USER

EF Lab User (as opposed to a data user, etc.): someone who works (or has worked) in the lab (or supervises work in the lab – ie remote PI), who is using physical resources on site or remote. This user has characteristics – (ORCID) Name, role (grad student, postdoc, PI, etc.), project, demographic info, etc.

For example, we do not count technicians, analysts, etc. as users.

Cross reference projects to enumerate NSF user, non NSF user, repeat user.

Quarterly- report total NSF users for the award, and new NSF users for that quarter.
Optional – report non-NSF users for the award and new non-NSF users for that quarter

Sponsor Awards

Number of awards from different sponsors, distinguished by funding agency or source.

PROJECT

A project is a coordinated research arc (or a single RAPID deployment), run by a team of users. xEER deployments are counted individually.