ANNUAL IN-PERSON MEETING OF THE NHERI USER FORUM COMMITTEE

SAN ANTONIO, TEXAS, JULY 24-25, 2017

Meeting Minutes

1:00pm – 1:30pm Welcome and Introductions – Russell Green

Attendance, in-person: Russell Green (chair); Nina Stark (vice chair); Elaina Sutley (secretary); Antonio Bobet (NCO representative); Ramtin Karfarmoakhar; Erik Johnson; James Malley

Guests: Tom Smith (NCO, Science Plan); Richard Woods (NIAC)

Attendance, online: none.

Meeting formally started at 1:16pm; informal meet and greet began at 1pm where self-introductions were provided and the agenda was reviewed.

Russell shared the presentation he developed for the joint UF, NIAC, and Council meeting tomorrow afternoon to receive feedback from the UF members.

See Appendix A for presentation.

1:30pm – 2:30pm Report from ECO representative(s), discussion on Science Plan – Elaina Sutley

Elaina presented the ECO activities to date, including the REU program, Summer Institute, Ambassadors program, publications and online communications, including webinars. Metrics and targets for each of these were shared. Diversity of REU and Summer Institute participants was shared. 18 REUs were funded, and approximately 20 young faculty were funded to attend the Summer Institute. For REUs, race, gender, veteran status, and generational status were used to recruit and measure diversity. For the Summer Institute, gender, highest degree earned, current status/title, and hazard engineering interest were used to recruit and measure diversity.

Tom Smith introduced the UF members to the Science Plan, and the plan for tomorrow's session at the Summer Institute. Task group first met in late November, with a hard deadline of the Science Plan being posted two months in advance of ENH proposal submission. The Science Plan was available for comment for two weeks. It reached around 7,000 people, but only half a dozen or so submitted comments. Another period of comment may open back up for a second round of review, with at least a month of open time for feedback, starting in October 2017. This second round of feedback would be used to generate a second edition.

The intention of the Science Plan session at the Summer Institute is to introduce the Science Plan to the participants, but to then break the participants into multi-disciplinary groups of 10 to then obtain comments/feedback on the Science Plan.

A discussion arose: How can the User Forum use the Science Plan? The User Forum, individually or as a group, can look at the Science Plan and make strong recommendations for priorities, missing topics,

how to engage the research community, and how to share the Science Plan with the community. As the User Forum, we can really engage with the user community to gain feedback on changes as well.

Tom Smith: The task group is hoping to learn whether proposals during each window used the Science Plan, how they used it, was it useful, why they didn't use it, etc. It is going to be a challenge, in research and practice, to change the thinking from specific areas (e.g., earthquake, wind) to multi-hazards. The Science Plan's appendix, in some cases, provides "this is a research question, and this is another NHERI facility that the question could expand to or collaborate with." Anything the User Forum can do to support this networking, expanding out of areas, and creating a truly multi-hazard community would be very beneficial. And, specifically, how can we learn from other teams that have done this successfully.

The User Forum recognizes the need to more strongly advocate for multi-hazard synergy, and to focus on that pretty quickly, and not further promote silos. Possibly existing synergies through NEES (e.g., structural and geotechnical) can be leveraged, for example, to learn how we share data that is accessible to everyone so that we can start learning outside of silos. The UF has a range of different expertise, and we can all talk to each other to learn of needs and provide feedback.

Having a Natural Hazards Workshop was a theme that came up in almost every session – there is no standardized way to record data, share data, or use data from multiple datasets. If we can collect best practices and information from the various researchers and put forth this collection of information to the community, it would be very significant, and is needed. The User Forum decided to discuss this in the later one-on-one with Ellen and Tim, or bring it up during the 7/25 joint meeting.

See Appendix B for presentation.

2:30pm – 3:45pm Report from User Satisfaction survey subcommittee – Nina Stark

Nina started at 2:39pm, and shared a presentation that provided an overview of the Users Satisfaction survey results. She then opened up the session for discussion on what we can do next year, and what issues we can address.

A low response rate, and weak feedback was received, attributed to (1) very few, if any, NHERI projects have been completed; and (2) short time frame the survey was open for comment (two weeks). The survey consisted of 18 questions: 16 closed-ended and 2 open-ended – the format was based on cost. There were 900 invitees with 64 responses. 73% respondents indicated that they had not yet used the NHERI facilities. For many questions, about half responded "Not Applicable/Cannot Rate."

Specific suggestions from the respondents: calendar of events and trainings; video footage of experiments; a community communication platform with a directory.

2 – 5 respondents consistently indicated dissatisfaction, but due to the nature of the responses and limited feedback, it is not possible to draw conclusions as to what caused the dissatisfaction.

Potential areas of concern and improvement were indicated, which will be addressed in more detail in the future surveys.

Liesel (through communication with Nina) suggested we could have a team of graduate students call people we know have used the facility to engage with them, possibly do an oral survey, and to also fill out the online survey. Russell (through previous communication) suggested we change the timing of the

survey to promote further communication (e.g., right after the winter proposal submissions). Liesel (through communication with Elaina) suggested we could fund a graduate student to build the survey.

Joy P. has granted permission to allow us to do more one-to-one interviews, and more in-depth surveys in-house, rather than funding an external company. If bias appears to be a problem, the ability for the UF to conduct the surveys in-house will surely be taken away the following year. TecEd was paid $10,000 for the survey. The User Forum could apply for an REU to work with the User Forum hosted out of Liesel's institution thus expanding the current REU program to recruit a social science student. This was decided to be discussed with JoAnn Browning (REU program) and Julio (budget). The UF discussed the option of going to the council to request extra funding. As long as the council approves, and we have the opportunity to go to Joy and request the extra money. David at Purdue, who has a multidisciplinary background, is a potential resource to the UF so that not too much is leaning on Liesel. We need to come up with funding and students. The NSF wants the budget report by the end of June.

The next survey should be organized to have different tracks. Some general questions that everyone answers in the beginning, but then you branch out (based on information submitted in the middle of the survey) (1) have you been awarded a proposal; (2) are you in the middle of a project; (3) have you been unsuccessful with proposal, for example. Furthermore, with the REU, we can do one-on-one interviews with PIs that we know have used or are using the facilities.

In NEES, there was a policy in place where the NSF required you to upload the data if you wanted to receive funding again. There is no policy in place with NHERI. There is no standard for the data format. The User Forum should do what it can to encourage projects to upload and share their data, because otherwise, there is no incentive to do so. DesignSafe will issue a DOI for the data. Earthquake Spectra, at least, will allow data papers where you do not give any assessment, but just share the data.

The survey will be strategically administered 2 – 4 weeks after the January ENH submission window (January 10 – Jan. 24, 2018), because then the frustration and fatigue has diminished, but everything is fresh enough in the mind of the respondents. This is good with respect to the semester schedule too. Second half of February seems like a good target.

The UF reports the outcomes of the survey. Then, how the conclusions of observations should be communicated, to the NCO for example, should also be determined. The report can consist of a summary, a section on our discussion. But in NCO meetings, this information needs to be shared. Liesel should be invited to the discussion with the NCO where this is discussed next.

Junior faculty, especially, might be quite hesitant to express any negative feedback if asked directly in a one-to-one interview. This is further complicated when a co-PI is at the NHERI institution. We definitely want this information, and will have to be especially careful and conscious about how we share and communicate that information, and who we communicate it to. If only one project, for example, has used a single facility, then it will be obvious what feedback that project gave. We don't have to share in the public report feedback on that level of specificity. Maybe a phone number could be useful, because then it would be more personal. But we cannot push expectations for exactly what these facilities should/should not be doing within reason. A venue for sharing experience might further encourage young faculty to go after and use these large facilities in their research.

See Appendix C for presentation.

Action Item: ask JoAnn and Julio about funding a REU student during the winter.

4:00pm – 5:00pm UF Meeting with NCO – updates and brainstorm session on next year's activities

New in attendance in-person: JoAnn Browning, Julio Ramirez, Dan Zehner, Tom Smith (rejoined)

New in attendance online: Ian Robertson, Delong Zuo, Cheryl Ann Blain, Billy Edge

Russell started the meeting at 4:05pm. He gave an overview of previous discussions, including hiring an REU student to develop the user satisfaction survey, and to call previous PIs to gain their feedback. Secondly, timing the Users Satisfaction survey more strategically, for example, by targeting the timing to be 2 – 4 weeks after a proposal submission window. Thirdly, confidentiality, especially for pre-tenure faculty, and making sure we get as much of the results that we can (good and bad), and be sure to sanitize the results. Fourthly, what we are not doing. We would like to hear from the NCO and NIAC on that. Dan Wilson previously shared with Russell some ideas he learned from a recent NSF meeting for large facilities (NHERI being one). Limited feedback we received from the survey was to have videos for all of the sites – quick overviews as well as interesting research being performed.

There is a line item for TecEd that can now be used support a student to help conduct the Users Satisfaction survey. NSF will require, depending on how this student funding is structured, the scope of work, an agreement, a description of the deliverables, and a timeline for the deliverables. Suggested that tomorrow during the joint session, bring up this and learn of what other surveys are being conducted that we could leverage in our development. DesignSafe did one this year; are they going to do it in year 2? How could this strengthen our report? The majority of the facilities were reviewed by the NSF for year 1, three main priorities from that review were extracted: **(1) grow the community of users; (2) bring various communities together to become multi-hazard; (3) how do we disseminate the impact of NHERI to the broader community?** From (1), we've seen laboratories that have had 10 – 12 years of activity, and they have created a user base. When looking at how they are being utilized under NHERI, this is reflected. Then we have newer facilities (FIU and UF), which are in some ways struggling to get a more diversified base of users. NSF measures NHERI's success by the number of users. Looking back at NEES, NSF terminated labs that weren't heavily used. From (2), what activities can we specifically do to accomplish this? From (3), this applies awareness and technology transfer. What kind of impact does it have in making our civil infrastructure more utilized and resilient? Is the UF doing what it needs to do and how can we provide more information to potential users; effectiveness is measured by participation. What kind of information can the NCO provide to the UF to help them accomplish these priorities?

Action Item: for the REU student to assist in the Users Satisfaction survey, we will need a scope of work, an agreement, a description of the deliverables, and a timeline for the deliverables.

There is no money to offer an annual meeting like QuakeSummit. The closest we have is the Summer Institute, which is very specific to young faculty as required by the solicitation, but this does bring together members from different research areas. NCO will share the NSF feedback report with the User Forum. Each EF has one of these reports, and it will be up to them to share, but the UF can request this

tomorrow. In future years, the SI can be bigger to broaden participation, but the mission for early career faculty and graduate students must remain a priority.

The council annual report may help focus the UF direction on what we may need, particularly if there was any feedback on usability of facilities and outcomes.

Action Item: Julio will share the NSF report to the NCO.

Ian Robertson reported that he just returned from a workshop at OSU intended to recruit young faculty. Bringing people to the facility is one of the better recruiting mechanisms, but is expensive. Can we get information on the percentage of proposals funded that have NHERI components? Future UF surveys can have a question on whether the respondents have submitted proposals, whether they were funded, and if not, why they believe the proposals were not funded. This will enable us to track this information. NSF cannot provide it to us, but is okay with us collecting it if the PIs volunteer it.

Julio discussed preparing a one-pager for each EF to distribute at conferences. The best way to distribute information is using the existing cyber infrastructure. NSF asked the council to develop a document that outlines the roles and responsibilities of all of the facilities. There seems to be some confusion, for example, who is responsible for specific things between the cyber infrastructure and SIMCenter, and who is responsible for specific outreach – NCO or cyber infrastructure?

Action Item: send roles and responsibilities to UF.

Building the NHERI users community is a shared responsibility, but we should do a better job at working together. NCO coordinates the efforts by developing a plan to do this. This should also be specified in the roles and responsibilities. Ways to promote the science plan should also be included. The EFs are also incentivized to grow the community after witnessing NEES facilities without users losing their funding.

The UF survey also needs to expand to practitioners. We need to think more about drawing in practitioners particularly into DesignSafe by making it easy to determine what data might be shared, and how they can use it. As we start having research that is being conducted that is pre-code, tech notes may be a really useful. The technology transfer committee will lead this effort. It would be helpful for the NCO to form a working list of practitioners that young faculty (and others) can refer to, to find industry partners for their proposals. And these practitioners could potentially be paid as consultants on the proposals.

Action Item: Once the technology transfer committee is established, have them compile a list of practitioners or a community of practitioners that can be shared with young faculty and proposal writers. And these practitioners could potentially be paid as consultants on the proposals.

5:00pm - 6:30pm Reception with user community*

See Appendix D for presentation.

9:00am – 11:30am Participation in the Summer Institute's session on the Science Plan (Faculty Center Assembly Room JPL 4.04.22)

11:30am – 12:00pm Lunch

12:00pm – 12:30pm Meet with Joseph Wartman (UW - Rapid)

Joe provided an overview of the RAPID facility. RAPID is an experimental facility, but with the broadest range of disciplines. They have a social science component in addition to wind and earthquake, for example. Also unique is that they are a field laboratory (UT shaker is as well). Operation will not open up until September 2018. For now, they are refining their science plan: (1) what are the key research opportunities in the aftermath of a disaster; (2) what are the kind of tools users would like to have available to support their work.

The RAPID facility would like to host workshops to train people to use the equipment. A full-time employee is developing apps to be used in real-time in field studies. As a leadership team, they have envisioned two kinds of workshops: (1) a one-day traveling workshop that would talk about the capabilities, where the RAPID team would travel to places to provide this "workshop" type information. It would be good for potential PIs that wouldn't necessarily go out in the field. (2) Hands-on training at UW that would have people use the scanners and process the point-cloud data. Emerging from this a cadre of trained users. Users could come to the RAPID facility to help process the data after the field study. The RAPID facility also has a virtual reality capability to help visualize the data. Is one week too long, will anyone come? Is the one day workshop too short, would it really be effective? Would users really want help? Do they want to learn how to use the scanner? Or, would they not really want to go into the field, but they have the good research questions? The UF can help RAPID facility answer these questions. The UF suggested that at least a week long workshop to become proficient in using the equipment. Or, before going into the field, the field investigation team has to come to UW for a three-day training first. Three of five days would be core curriculum. Then two days for use of more specialized equipment (e.g., deploying seismological arrays).

Potential scheduling issues would be having the scanner out when another team wants to use it. In the situation of RAPID, this all happens quickly with less scheduling ahead of time.

The RAPID Facility also plans to have workshops geared towards social scientists, training them to use some of the reconnaissance equipment. Current equipment is not particularly sophisticated. RAPID facility currently has a proposed list of equipment. Approximately 85% of the equipment on the list is well-established technology and ~15% experimental type equipment (e.g., mobile brain imaging to infer different cognitive processes taking place). There are a lot of protocols for human-subjects research. NSF has been happy with the GEER model (geotechnical extreme event reconnaissance). GEER's focus is limited to the geo side. NSF was entertaining proposals for SEER and SSEER (structural; social science). Users would provide a very important base. NSF is concerned that they will receive overlapping RAPID proposals from multiple, non-collaborative investigators. The GEER model uses a steering committee that determines if a mission is worth pursuing and if so, the scope of the mission. GEER acts as a prioritizing mechanism. How will RAPID interact with GEER, SEER, SSEER? They will be a direct line to support researchers. But much is to be determined. RAPID will be there to serve GEER; GEER would make the request. There are other opportunities for collaboration with GEER, such as through training. Is there space for coastal in GEER? The coastal community needs to come together to determine whether they need a standalone organization. Coastal may not fit in well within GEER or SEER, so there may be a standalone organization.

RAPID has been working with DesignSafe to develop some data archiving protocols, to include format and deadlines for posting data.

The RAPID facility will be writing policies about if equipment gets damaged, or lost, and who is responsible for that. The policies need to be fair to the users. On the other hand it is the facility's equipment, and NSF will be upset if it is damaged. If RAPID facility could get user feedback on the policies, and whether they think they are fair, this would really help.

12:30pm – 1:00pm Meet with Dan Wilson (UC Davis - Centrifuge)

Dan discussed challenges with current culture of data sharing. Moving forward, we should be less concerned with data format (e.g., accepting a standard) and more concerned with changing the culture to one where data is shared, which would require the data to be completely documented so that it is easily shared, understood, and adopted. The challenge isn't necessarily to learn that the data needs to be shared, or even sharing the data. But rather, the challenge is how to effectively share the data so that it can be used in a meaningful way.

Informal sessions/open focus groups at conferences may be a good way to engage potential users. Are they not writing successful proposals, are they not hitting the research questions NSF is interested in, are they not receiving the proper support from the facilities? Advertise within the UF for those writing proposals to engage with us. Then we could recommend them to contact the facilities. Maybe accepting anyone interested as affiliate members of the UF.

The informal reception hosted by the UF last night to engage with ~20 early career faculty to learn their experiences and needs was intended to do this. Furthermore, the UF intends to recruit an REU student for targeted interviews, more strategic Users Satisfaction survey administration times, and submitting abstracts to be at conferences to gain informal feedback.

Action Item: email each of the site PIs to get a list of the funded projects that are on/will be on their sites. (Antonio will follow up with Dan Z.).

1:00pm – 1:30pm Meet with Arindam Chowdhury (FIU – Wall of Wind)

All of the NHERI EQ facilities were former NEES facilities. Are the wind EFs ready to have outsiders use their facilities, when no EF personnel are co-PIs on the projects? The wind EF did quite a bit of industry research previously. Now, they have 120 - 150 days that are dedicated to NSF. The rest will be working with industry.

Big challenge for those new facilities, particularly the two wind facilities, is there ways the UF can help diversify the users and bring more users to the facilities? More dissemination and outreach. Are there ways UF can work with the UF to get more users? Number 1 metric: whether they will meet the number of users they are budgeted for.

What are the wind conferences? American conference on wind engineering.

Are there other avenues to reach out to more users? The conference is maybe the easiest. There is no incentive for the user to use an EF. The science plan is a big incentive, and the ability to do science that otherwise couldn't be done. This still needs to be spread out more into the community. Arindam (FIU), Forrest (FU), and Dan Cox (OSU) have been contacting PIs of non-NHERI grants to come and do the testing through the TEP (testing enhancement program). FU has three lined up this year doing that.

Joy P. suggests to broadcast live tests. If those can be made more popular through the user forum to share invites through other groups. Can we build up a list similar to the USUCGER geotechnical engineering community list? We need to follow up on who is watching these lives feeds, what are the impacts of them.

An electrical engineering is the PI of a project being performed using the FIU EF; FIU never before envisioned an electrical engineering would be using their facility. When we make a list – we have to be inclusive to ensure we do not inadvertently exclude potential users from non-traditional backgrounds.

Action Item: Can we build up a list similar to the USUCGER geotechnical engineering community list? (Russell previously served on the USUCGER board). Alternatively targeted email lists in DesignSafe could be used, based on specializations or interests – this isn't perfect because it separates the community. Also, we're already getting too many emails from DesignSafe and people are treating them like spam. Can we track new faculty joining every year – have a living list of faculty in the first, second, and third year with a separate list of them. And postdocs. Rather than ALL new faculty, but a list of faculty based on who is submitting proposals. Perhaps something could be enabled for the user/proposer to opt in to share that they are submitting a proposal on a specific topic.

Arindam would like the EFs to have a regular interaction with the UF.

Action Item: invite EFs to join monthly UF calls.

The UF prepares an annual report and shares it with the NCO. The NCO distributes it to the Council.

Consider having a UF member attending meetings the EFs. We could have a UF member attend each site visit to give at least a 15 minute presentation – especially if there are survey results to share. This would be up to each facility.

1:30pm – 1:45pm Discussion on webpage needs – Elaina Sutley

Elaina reviewed the updated webpage and requested feedback be sent to her, and she would compile it and share it with Chris Thompson for updating.

Action Item: create a section on "Current" or "On-Going" Activities. Place this at the top and keep a dated and running list.

1:45pm – 2:30pm Discussion on activities for next year and budget needs – Russell Green

Russell reviewed the current activities: participating on committees (NCO, ECO, facilities scheduling, technology transfer), host in-person meeting, submit abstracts to conferences to represent the UF. Then a discussion ensued on what the additional budget or otherwise needs are.

- We need travel funds to send UF members to conferences for connecting with the users. Similarly, who would pay for a UF member to visit an EF site during a workshop. Outreach, disseminating, gaining feedback, sharing success stories.
    - Maybe say we are going to target three - four conferences per year, they are diverse and change each year.
- Do we have a sufficient number of members on the UF? Is there a lack of representation right now? Any new members have to be elected. How the elections are conducted can be chosen by the UF.

- Nina advocates for another coastal representative. Someone with structural, wave loading, hydraulic background
  - Navid Attary, Andrew Kennedy, Mike Motley, Bret Webb, others?
- There is no architectural expertise.
- There is no lifeline expertise.
- Conducting survey in-house through funded REU(s) who also do directed phone call one-on-one interviews with previous users.

2:30pm – 3:00pm Meet with Ellen Rathje, Tim Cockerill, Dan Zehner (DesignSafe)

The most important thing for DesignSafe is to truly get user feedback both good and bad. They already get feedback through running a ticket system for the users, this goes into a RT tracking system, and they can see who responded and when they responded. Ellen gets copied on every single ticket. They also run a DesignSafe Slack team, using the slack application, all users are invited to join the slack team which is kind of like a modern forum. You can direct message people and group message people. It is all archived, searchable, you can upload stuff. These are two places that users know they are talking to the DesignSafe team. They may be more willing to share bad news indirectly. They do usability studies, an internal person conducting a study, and an external usability firm accessing how easy it is to find certain things. They have to put a scenario together, and then the usability folks test it out. DesignSafe is happy to share usability studies with the UF. They also work with the Pacific Research Evaluation to conduct a satisfaction survey to the awardees and users.

The UF could work with DesignSafe to help enhance and evaluate diversity of users. And help advertise to other communities (other than earthquake, particularly coastal wind and water).

One group of users is those wanting to use the data (but not running the experiments). How will uploading and accessing the data be facilitated? DesignSafe wants flexibility so that you can choose how it makes sense to upload and organize the data. This puts responsibility on the PI performing the tests at the EFs. The tools are there to help you organize, but you still have to figure out some things. DesignSafe needs to advertise and communicate to the users other ways to download/use data.

DesignSafe has monthly calls with the SIMCenter, RAPID, EFs, and NCO. They are training the SIMCenter on the background infrastructure of DesignSafe. Multiple ways that anyone developing new tools can work with DesignSafe. Open source tools can be deployed on one of the super computers on the back end, and there is a web form interface to access too. DesignSafe can teach someone how to use the API and have the front end of their own tool, and how they come into the DesignSafe API – and this is what they do with the SIMCenter.

Design Safe's Year 3 focus: Increasing adoption; being able to handle that adoption; improving the user experience.

Ellen is happy to share a slide or two, whatever is needed, when we present as a UF.

3:00pm – 3:30pm Report from the Scheduling representatives – Dan Zehner

Dan prepared and presented an overview of the central scheduling committee. The intention of the committee is conflict resolution: try to resolve issues among the EF, researcher, and FSOC. Convene as needed, use NHERI strategic committee if needed, user surveys from facilities to avoid future conflicts.

Currently meeting monthly to discuss anything that is pertinent. DesignSafe has a facility scheduler to see the dashboard and then all of the projects that are on-going. Dan showed the UF how to view on-going projects, and how to schedule a new project.

See Appendix E for presentation.

3:30pm – 4:00pm Meet with UTexas Shaker Truck facility team (Tricia Clayton, Brady Cox, Ken Stokoe)

The NHERI @UTexas suggested they were going to start advertising their facility from a multi-hazard perspective. UTexas offers user workshops, they offered two last year – one on liquefaction and another on levees. Approximately 20 people attended each workshop and many of them planned to write proposals to use the facility. However, UTexas found that many of the attendees failed to submit proposals, and the EF needs to follow-up with the attendees to encourage them to submit proposals. NHERI @UTexas is interested in a centralized distribution list, and especially listing structural engineers. A QuakeSummit style meeting would be a good opportunity to bring the hazards together.

Jiqui Yuan: BSSC covers everyone on the seismic side; MHMC cover multi-hazard community – more practitioners and building officials than academics on these list servs. Additionally, the NIBS webinars, NHERI could get a short part in the webinars.

Action Item: contact Jiqui Yuan about getting NIBS listserv.

4:00pm – 5:00pm Meeting with the Council and NIAC

Dan Cox started the meeting (chair of the council), and then passed it over to Julio.

1. **Attendance and welcome**

Dan Wilson (UC Davis PI), Dan Zehner (NCO), Nina Stark (UF), Julio Ramirez (NCO Chair), Dan Cox (OSU PI and Council Chair), Patricia Clayton (UTexas Shaker), Ken Stokoe (UTexas Shaker), Brady Cox (UTexas Shaker), Dick Woods (NIAC), Elaina Sutley (UF), Arindam Chowdhury (FIU EF), Steve Mahin (SIMCenter PI), Antonio Bobet (NCO), Erik Johnson (UF), Tim Cockerill (DesignSafe), Ellen Rathje (DesignSafe), Bill Hansmire (NIAC), John van de Lindt (NIAC Chair), JoAnn Browning (NCO), Forest Masters (UF PI), Peter Vickery (NIAC), Russell Green (UF Chair), Catherine Petroff (NIAC), Joe Wartman (UW RAPID PI)

Visitor: Jiqui Yuan (NIBS)

Online: Joel Conte (UCSD PI), Lesley Ewing (NIAC)

2. **Committee roles and interactions**

Julio Ramirez introduced the roles of the various groups, and then passed it over to Dan Cox. Dan Cox introduced the role of the Council, meeting timeline, etc. John van de Lindt followed up to introduce the NIAC and its plan. The NIAC was formed in April, has had one meeting, and will prepare an annual report. Their attendance at the Summer Institute, and current focus, is an information-gathering phase that will be used to write the report. The NIAC will handle some questions from Joy P. (NSF). Russell Green gave information on the make-up of the user forum, the role of the user forum, and activities.

3. **Floor agenda items:**
    a. **Interactions**
    b. **Building community: increasing number of users**

Conferences were selected through recommendations. JoAnn again noted the SI could be re-tooled.

A conversation ensued about the lack of a solicitation at NSF that requires the use of NHERI. Suggestions were made for the Council and community leading a campaign to request a solicitation. This was argued back that NEESR was the exception and was fought against by the numerical/analytical community. There are already targeted solicitations, e.g., CRISP, how is this different? It was then determined that the Science Plan would be the best route to really advocate for use of the NHERI facilities. Users can be added through amending existing funded projects that do not have an experimental portion since use of the facilities is cost-free for NSF projects. This is one way to add users without necessarily adding money. This was discussed as a good option, especially for bringing in new users. However, FIU had 11 proposals 1 funded. FU had 8 proposals 1 funded. This model isn't sustainable. Amending projects does add new users, who come back. Intersectional thinking is positive; from the NCO's perspective, how can we make this more formal and structured. Similar to the project enhancement is the payload.

We need to collect information on (1) how much money is available for natural hazards research, and (2) how many people are submitting proposals? The UF will be asking questions on their survey to ask participants if they submitted a proposal. There is no one that advocates for the natural hazards engineering research community.

There is no requirement for the PI to submit a letter of acknowledgement from the EFs. There is a requirement for a data plan. A letter of acknowledgement from the EF could easily be made a requirement – if nothing else for tracking how many proposals are actually going in proposing to use the site. The EFs are hosting these new user workshops, and there is basically no way to evaluate the success of those workshops.

    c. **Increasing collaborative research among established engineering communities**

John van de Lindt brought up QuakeSummit. There is no way we can organize and pay for another conference in addition to the Summer Institute. The Summer Institute was part of the solicitation and they have to host it every year. In addition to the SI, the ECO has added other aspects to the week, including this meeting, and bringing K-12 teachers in. One suggestion that came up that instead of spending two days on education next year, we open it up to research sessions.

    d. **Increasing collaborative research among other disciplines**

5:00pm **Adjourn**

6:45pm – 9:00pm **Dinner with Council, NIAC, and UF at Palenque Grill**

APPENDIX

A. Introduction and Overview presentation
B. Update on the ECO presentation
C. Update on the User Satisfaction Survey presentation
D. Welcome from the User Forum reception presentation
E. Update on the Facility Scheduling presentation

APPENDIX A. Introduction and Overview presentation

Natural Hazards Engineering Research Infrastructure (NHERI)

Introduction and Overview

User Forum

July 24-25, 2017

User Forum: Objectives

The Community Shaping NHERI's Future

The User Forum (UF) committee is a NHERI-wide group focused on providing the **NHERI Council** with independent advice on community user satisfaction, priorities, and needs relating to the use and capabilities of NHERI.

The UF committee is composed of elected volunteers who are charged with bringing input from the community into NHERI operations, assess the effectiveness of the support to NHERI users, and contribute to the **Network Coordination Office (NCO)** and NHERI-wide efforts to build a community of satisfied users. The UF committee are also engaged in the development and continuous update of the NHERI-wide **Science Plan**. The UF functions as an additional voice of the community within the **Governance** of NHERI.

User Forum: Composition

The User Forum committee is composed of nine representatives from the broad scientific and engineering communities served by NHERI, who conduct research and education activities using NHERI's resources and services but who are not affiliated with NHERI awardee institutions.

The user community elected members of the UF for two-year terms, with the opportunity of being re-elected.

The UF members have representation across all activities supported by NHERI.

User Forum: Members

Russell Green
(Chair)

Nina Stark
(Vice Chair)

Elaina Sutley
(Secretary)

Antonio Bobet
(NCO Representative)

James Malley

Liesel Ritchie

Adda Athanasopoulos-Zekkos

Mohamed Elsharawy

Ramtin Kargarmoakhar

Erik Johnson

User Forum: Members

Earthquake
Erik A. Johnson (U. Southern Calif.)
JohnsonE@usc.edu

Wind Engineering
Ramtin Kargarmoakhar (Svend Ole Hansen)
Ramtin.Kargarmoakhar@tylin.com

Mohamed Elsharawy (T.Y. Lin Int.)
melsharawy@sohwind.com

Coastal Engineering
Nina Stark (Virginia Tech.)
ninas@vt.edu

(another member???)

Wood Construction
Elaina J. Sutley (U. of Kansas)
enjsutley@ku.edu

Geotechnical
Adda Athanasopoulos-Zekkos (U. Michigan)
addazekk@umich.edu

Russell Green (Virginia Tech.)
rugreen@vt.edu

Steel Construction
James O. Malley (Degenkolb Eng., SF)
malley@degenkolb.com

Social Sciences & Policy
Liesel A. Ritchie (U. Colorado, Boulder)
liesel.ritchie@colorado.edu

User Forum: Members

Officers

Chair - Russell Green
Vice Chair - Nina Stark
Secretary - Elaina J. Sutley

User Satisfaction Survey Committee

Nina Stark
Erik Johnson
Liesel A. Ritchie

NHERI Committees

NCO

Russell Green
Nina Stark
Elaina J. Sutley

ECO

Adda Athanasopoulos-Zekkos
Elaina J. Sutley

Facility Scheduling

Mohamed Elsharawy
Ramtin Kargarmoakhar

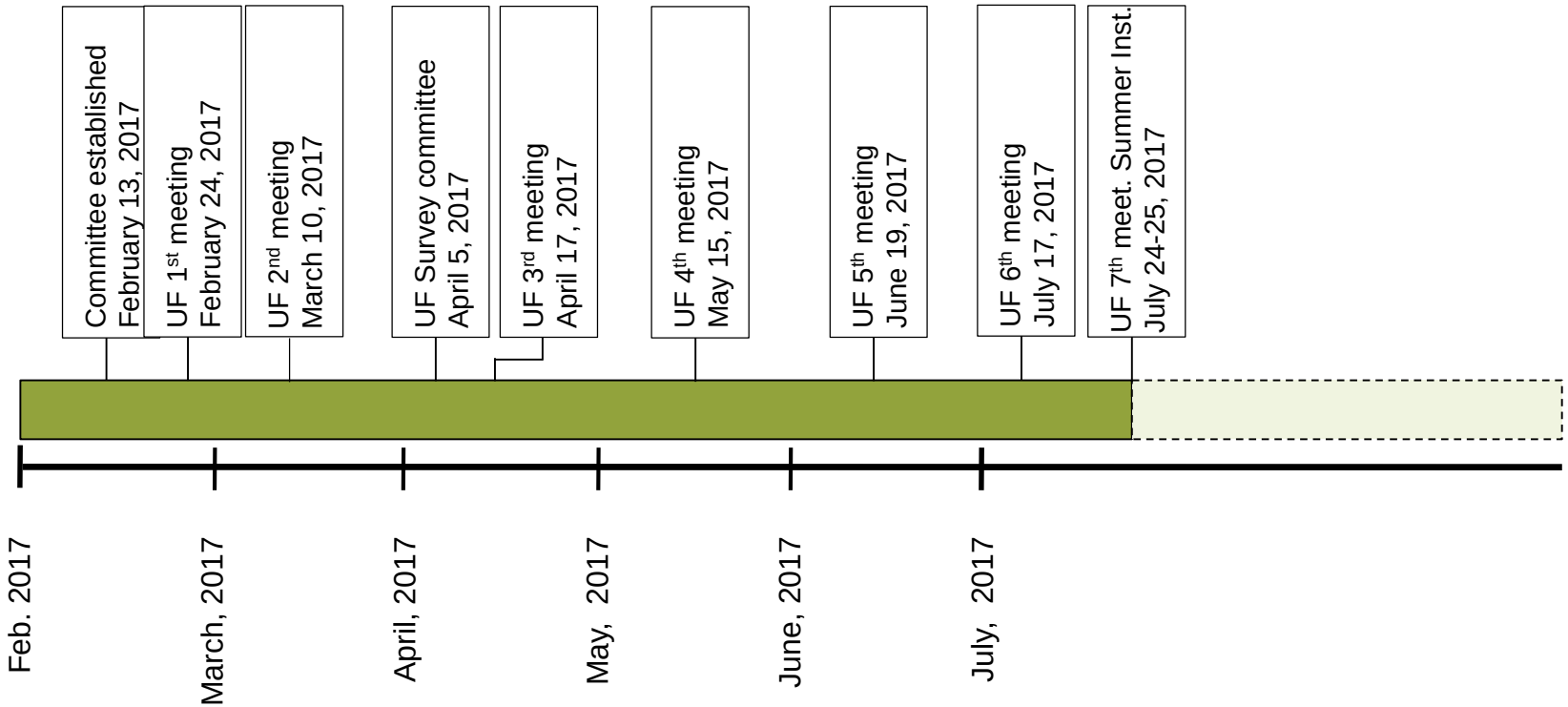
Technology Transfer

James O. Malley

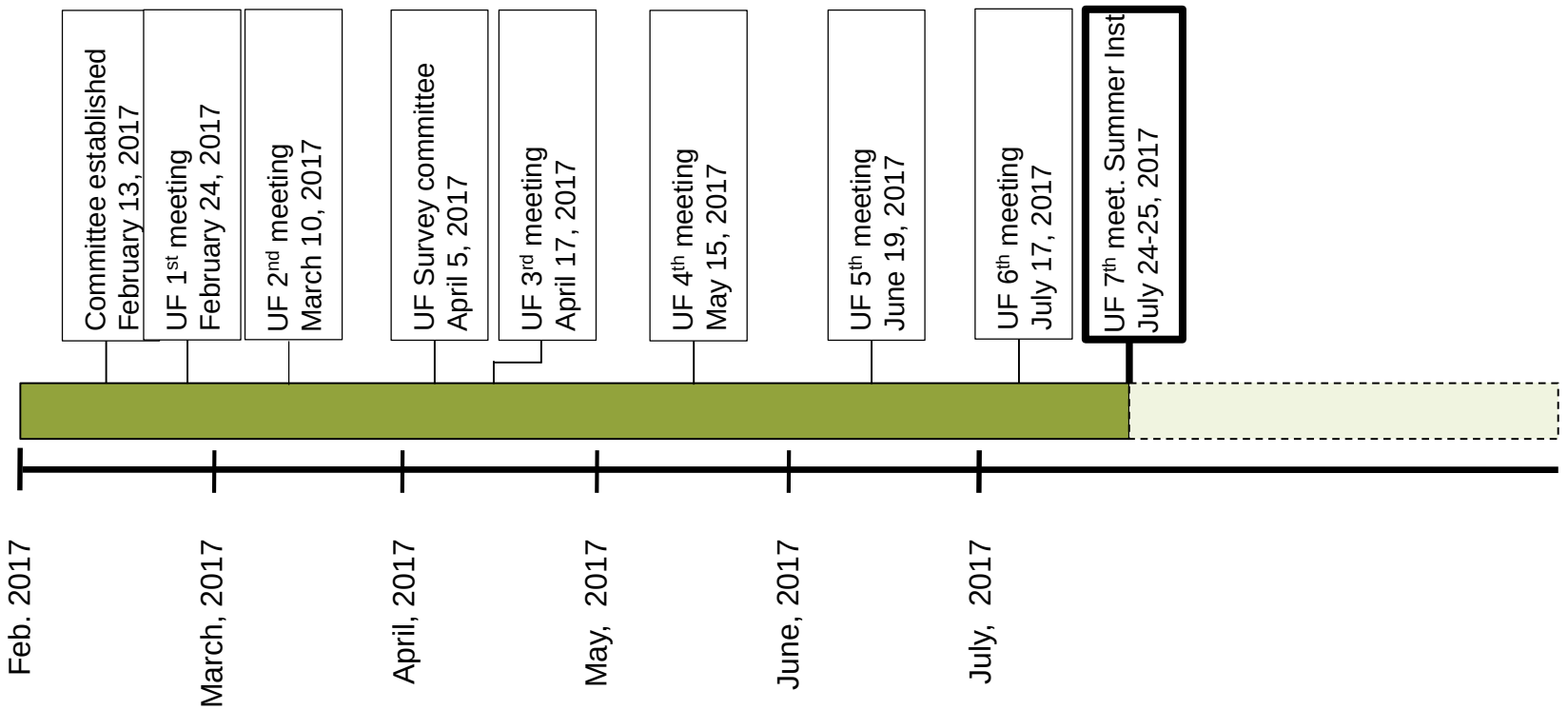
User Forum: Tasks

- Conduct Annual Community User Satisfaction Surveys
- Participate in NHERI and NCO Committees
  - ECO
  - NCO
  - Facility Scheduling Committee
  - Technology Transfer
- Provide Input to NHERI Science Plan
- Publish Annual Community Report
- *Any other activity that the committee deems appropriate*

User Forum: Progress



User Forum: In-Person Meeting



- Review User Satisfaction Survey
- Participate in the Science Plan meeting
- Joint meeting with NIAC and Council
- Reception with User Community
- Plan for Year 2

User Forum: Tasks Y2

- Conduct Annual Community User Satisfaction Surveys
- Participate in NHERI and NCO Committees
  - ECO
  - NCO
  - Facility Scheduling Committee
  - Technology Transfer
- Provide Input to NHERI Science Plan
- Publish Annual Community Report
- Advertise UF at Technical Conferences to Build User Community

User Forum: Tasks Y2 (cont.)

- *Any other activity that the committee deems appropriate*
  - *Participate in NSF Site Visits???*
  - *Attend EF Workshops???*

APPENDIX B. Update on the ECO presentation

Natural Hazards Engineering Research Infrastructure (NHERI)

User Forum

ECO Report Out

July 25, 2017

Education and Community Outreach (ECO)

The ECO operates the programs for educating NHERI users and connecting the NHERI program to new communities in the research world.

Plan activities to engage and expand the NHERI community.

- REU and Summer Institute Programs
- Webinars and other designsafe-ci.org Learning Center resources
- Mentoring and student chapters at sites with outreach to general professional community

Education & Community Outreach

JoAnn Browning (Co-PI)

Dean of Engineering
University of Texas at San Antonio

Leadership Role and Expertise

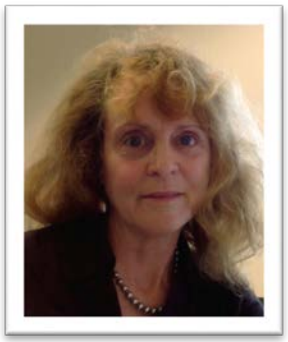
- Member, NCO Strategic Committee
- Leader for Education and Community Outreach

Karina Vielma

Assistant Research Scientist
University of Texas at San Antonio

Leadership role and Expertise

- Education Specialist with ECO



Marti LaChance

Purdue University

Expertise

- Communications Specialist

Lynn Holland

Purdue University

Expertise

- Marketing Design

Education and Community Outreach (ECO)

Goal	Metric	Target	As of May	Comment
Education and Community Outreach	Number of REU site students	Number budgeted (18 + 3)*	15 primary 3 supplemental*	Still recruiting the last 3
	Number of Summer Institute participants	Number budgeted (40)	Accepting applications through June.	
	Number of publications referencing NHERI resources	50/year	Data being collected and will be published at the end of June.	
	REU Longitudinal Study (annual)	For information	Survey tool has been drafted and is being revised based on input.	
	Number of applicants to the REU program (collected annually)	100/year	41 applications 29 eligible	Timing and name recognition will vastly improve.

*Supplemental funds were recently added for enhanced mentoring program and 3 additional REU students from underrepresented populations.

Education and Community Outreach (ECO)

Community Collaboration	ECO Committee	Technology Transfer Committee	Student Chapters
Lead and Organize ECO Programs	REU	Summer Institute	Ambassador Program
Disseminate Knowledge and Impact	Publications and Marketing	Webinars	Data Papers and Databases

Education and Community Outreach (ECO)

Research Experience for Undergraduates (REU)

In NHERI, this is a ten-week summer research program that gives students the opportunity to conduct research at one of the 10 equipment facilities, cyber infrastructure, and simulation center.

Received around 40 applications;15 funded.

Block 1 Orientation started on May 30; Final presentations on August 4
Block 2 Orientation started on June 19; Final presentations on August 25

UTSA will be creating two NHERI recruitment videos during the summer for Summer Institute and the REU Program. Video production will be onsite for the Summer Institute, but we need your help collecting images and video clips from the NHERI REU program.

Education and Community Outreach (ECO)

Research Experiences for Undergraduates

Deliverables:

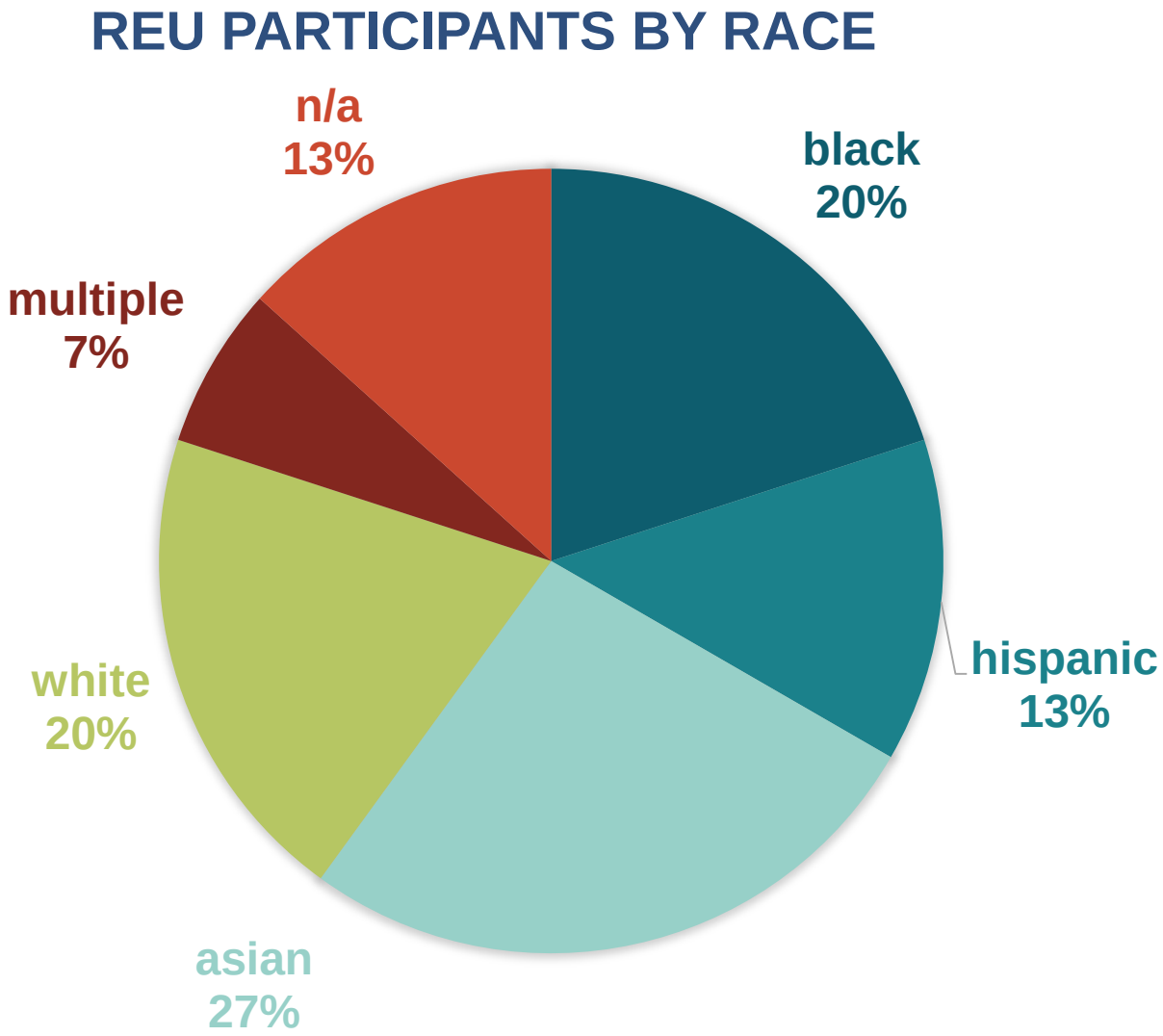
1. research paper for publication and presentation
2. increased interest in research and graduate education

Education and Community Outreach (ECO)

REU Recruitment

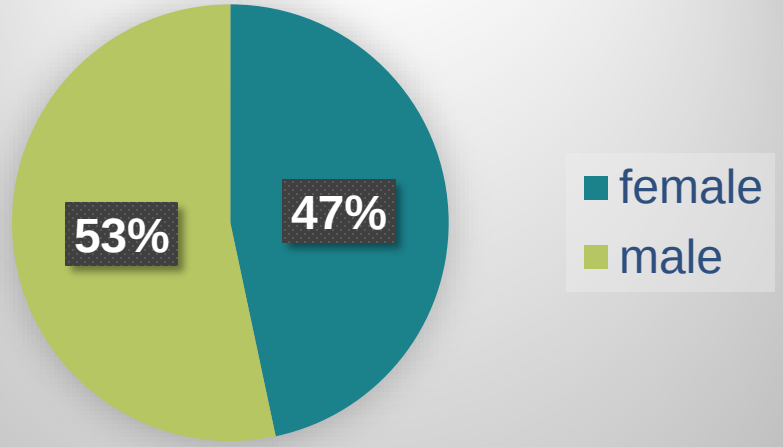
- Minority serving institutions with CE and CS
- MAES, AISES, SHPE, NSBE, SWE
- Online webinar
- Recruitment flyer
- Question and answers published
- Twitter, Facebook

Education and Community Outreach (ECO)

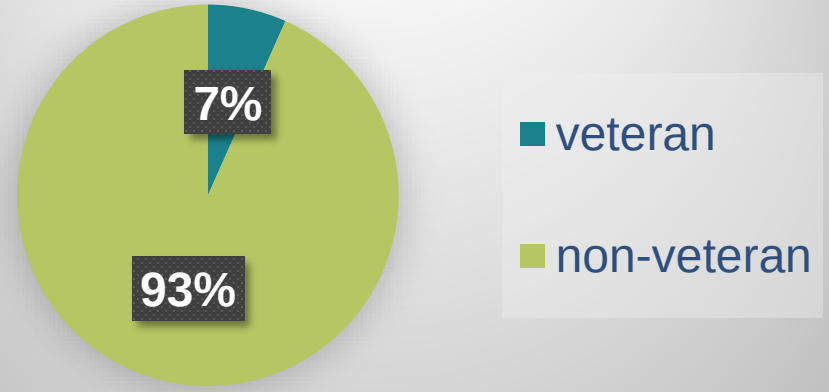


Education and Community Outreach (ECO)

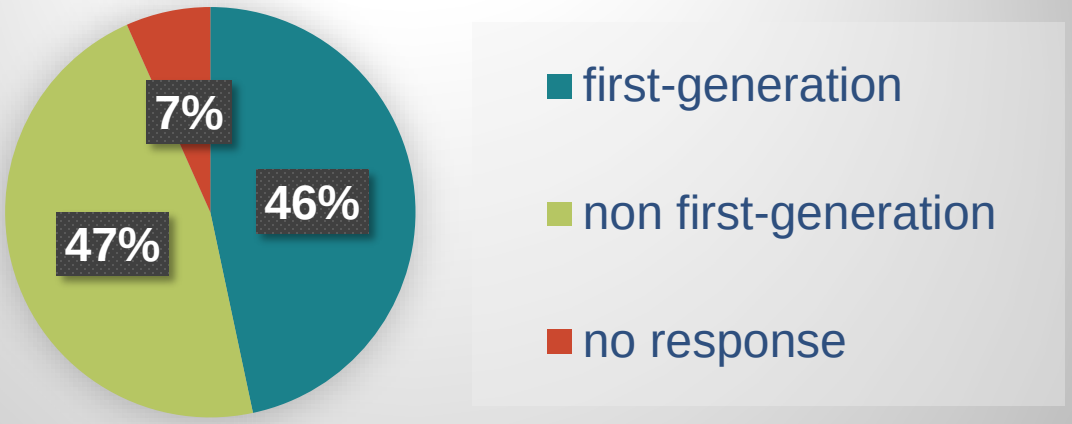
REU Participants by Gender



REU Participants by Veteran Status



REU Participants by Generational Status



Education and Community Outreach (ECO)

REU confirmed participants

- Florida International University (2)
- Lehigh University (2)
- Oregon State University (1)
- UC Berkeley (2)
- UC Davis (2)
- UC San Diego (2)
- University of Florida (1)
- University of Texas, Austin (3)
- University of Washington *

Education and Community Outreach (ECO)

Summer Institute – July 24-28, 2017 at UTSA

- Anticipated funded participants
  - Graduate students (10)
  - Early career faculty/assistant professors (10)
  - Local professionals (10)
  - K-12 educators (10)
- Attendees and speakers
  - NHERI User Forum Committee
  - Representatives from each of the EF sites
  - Two keynote speakers
  - NSF program manager

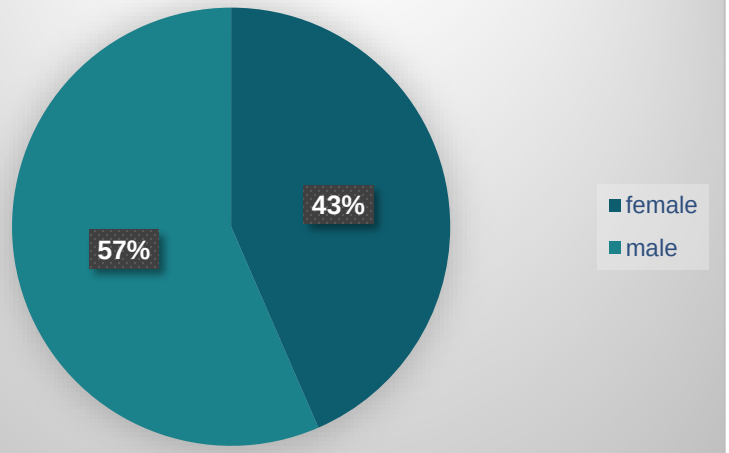
Education and Community Outreach (ECO)

Summer Institute – desired outcomes

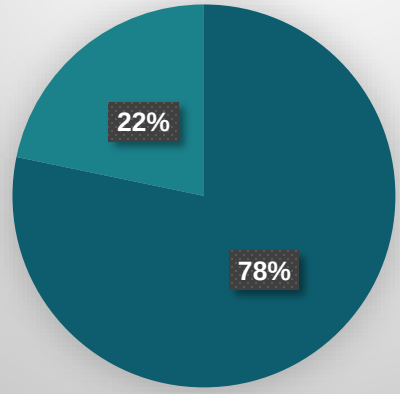
1. BUILD COMMUNITY
2. Develop key portions of a grant proposal draft for each participant
   - Gain strategies and knowledge from NSF
   - Learn details of experimental facilities and site resources & training from sites
   - Experience educational outreach opportunities & guidance linked to proposal development
3. Participate in annual review of NHERI Science Plan
   - Organize campaigns and teams to conduct research and education to support the Plan
4. Gain interdisciplinary collaboration

Education and Community Outreach (ECO)

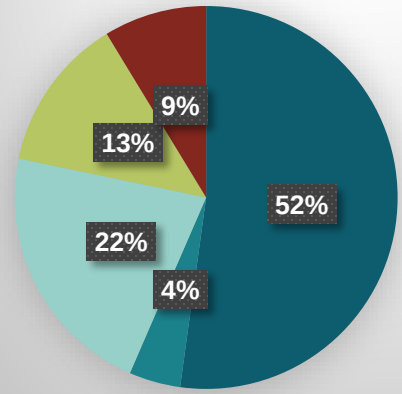
SI Applicants by Gender



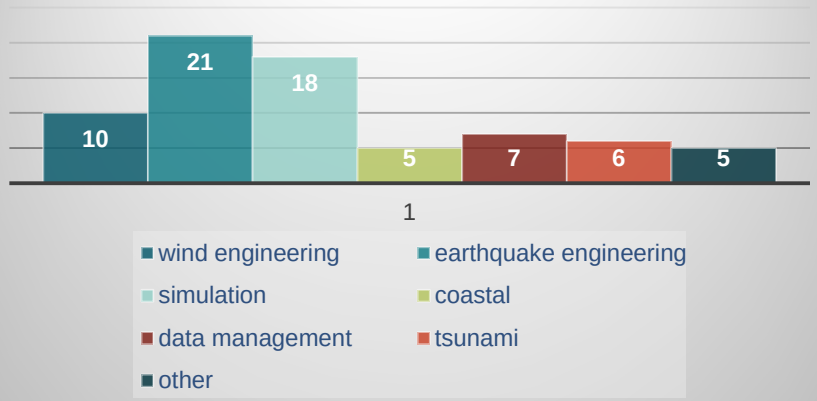
SI Applicants by Highest Degree Earned



SI Applicants by Current Status/Title



SI Applicants by Hazard Engineering Interest



Education and Community Outreach (ECO)

Ambassador Program

- Morgan State University – Prof. Monique Head
  - Ambassador teams organized with graduate student mentorship
  - Outreach to K-12 schools
    - Elementary noodles and marshmallow shake table
    - Middle School boat holding egg; tall structures shake table
    - High School concrete tests, build wind tunnel, bridge designs

Education and Community Outreach (ECO)

Year 1	Activity	Metric	Target	Deliverable
	Plan REU	# recruited	18	Program, recruitment materials, mentoring plan
	Plan Summer Institute	# recruited	40	Program, recruitment materials
	Plan Outreach with MSI	# subcontract	1 MSI	Work plan

Education and Community Outreach (ECO)

Year 2	Activity	Metric	Target	Deliverable
Council AWP	**REU student meet face-face**	**# meet # attendees**	**1 21**	**Presentations on Learning Center**
	REU Year 1 mentor and assess	# contacts # surveyed	1/semester All	Revised program
	REU recruit - Include NSBE and SHPE conferences	# applied % underrep groups	100 25	Program, revised recruitment materials
	SI Year 1 assess	# surveyed	All	Revised program
	SI recruit	# applied	50	Program, revised recruitment materials
	Outreach with MSI	# subcontract	2	Add Howard Univ.

Education and Community Outreach (ECO)

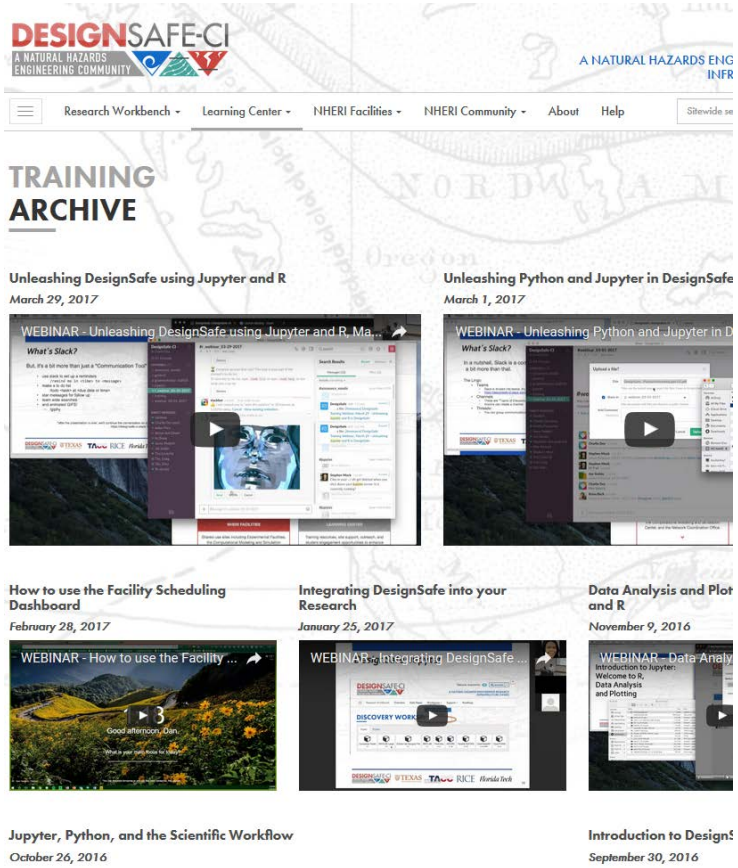
Publications and Marketing

- Daily DesignSafe News and Facebook presence
  (~350 followers, up from ~50 last month)
- Monthly email “what you missed” & Quarterly Newsletter
  - Major highlights of NHERI research and education outreach
  - Community notification of upcoming activities
- Annually published (coming June 2017) web-based catalog of journal and other publications describing research, education, and workforce development outcomes enabled by NHERI.

Education and Community Outreach (ECO)

Webinars

- Early versions were site training; SimCenter NHERI 101
- Now organized through ECO Committee and NCO
  - NCO technical support
  - ECO Committee schedule; recruit speakers; host
  - DesignSafe provides long-term access



Education and Community Outreach (ECO)

Disseminate Knowledge and Impact

Year 1	Activity	Metric	Target	Deliverable
	Publications and marketing	Regularity	Daily Monthly Quarterly Annually	News, Facebook Recap Newsletter Web-based pub
	Webinars	Number	6	Archived
	Data papers	Number	2	Published

Year 2	Activity	Metric	Target	Deliverable
	Pubs referencing NHERI	Number	50	Web-based pub
	Data Papers	# venues	2	New papers with other publisher of wind research
	Webinars	Number	6	Archived – some research in progress

Natural Hazards Engineering Research Infrastructure (NHERI)

User Forum

Science Plan

July 25, 2017

NATURAL HAZARDS ENGINEERING RESEARCH INFRASTRUCTURE

FIVE-YEAR SCIENCE PLAN

MULTI-HAZARD RESEARCH TO MAKE A MORE RESILIENT WORLD

A community-defined list of priority research areas that should be investigated to reduce the risks associated with natural hazards.

Five-Year Science Plan

The NHERI Five-Year Science Plan is posed as a set of three Grand Challenges with five Key Research Questions to guide NHERI research. The research will deliver technical breakthroughs to improve the resilience and sustainability of existing and future civil infrastructure, also known as the built environment. High priority research subject areas are also provided for each of the key research questions to assist future researchers in achieving Grand Challenges.

Five-Year Science Plan

The development of the five-year NHERI Science Plan was guided by the Science Plan Task Group, with review and input from the NHERI facilities, the Network Coordination Office (NCO), and broad community-based participation of earthquake, wind, and coastal engineering professionals, as well as engineering education experts. The NCO and each of the experimental facilities submitted a science plan with their proposals to NSF; these have been used as input for this document.

Three Grand Challenges

1. Identify and quantify the characteristics of earthquake, windstorm, and associated hazards — including tsunamis, storm surge, and waves — that are damaging to civil infrastructure and disruptive to communities.

2. Evaluate the physical vulnerability of civil infrastructure and the social vulnerability of populations in communities exposed to earthquakes, windstorms, and associated hazards.

3. Create the technologies and engineering tools to design, construct, retrofit, and operate a multi-hazard resilient and sustainable infrastructure for the nation.

Key Research Questions

1. How do we characterize the transient and variable nature of the loading actions imposed on the nation's civil infrastructure from earthquakes, windstorms, and associated hazards?

2. How can the scientific community enable robust simulation of the performance of civil infrastructure to loading from earthquakes, windstorms, and associated hazards, while also considering individual- and community-level impacts?

3. What are the key physical responses, vulnerabilities, and factors influencing post-event recovery of civil infrastructure and communities?

4. What are effective mitigation actions to achieve community resilience, especially when considering different hazards, shifting vulnerabilities, emerging technologies, and sustainability goals?

5. How can the scientific community more effectively collect and share data and information to enable and foster ethical, collaborative, and transformative research and outcomes?

NHERI Experimental Facilities

Florida International University
Wall of Wind International Hurricane Research Center

Lehigh University
Experimental Facility with Large-Scale Multi-Directional Hybrid Simulation Testing Capabilities

Oregon State University
O.H. Hinsdale Wave Research Laboratory

University of California at Berkeley
SIMCenter

University of California at Davis
Centrifuge Facility

University of California at San Diego
Large High-Performance Outdoor Shake Table

University of Florida
Wind Experimental Facility

University of Texas at Austin
Cyberinfrastructure – DesignSafe

University of Texas at Austin
Large Mobile Shakers

University of Washington
RAPID Facility

User Forum

How can the User Forum support the Science Plan?

- Use science plan as a guide for survey question development
- Use EF-specific science plan as a guide for survey question development
- Use science plan as a guide for selecting conferences to attend to promote UF
- Other ideas?

APPENDIX C. Update on the User Satisfaction Survey presentation

Natural Hazards Engineering Research Infrastructure (NHERI)

User Satisfaction Survey 2017

User Forum

July 24, 2017

NHERI User Satisfaction Survey: Some Facts

Just as a reminder:

- NSF requires that the Network Coordination Office (NCO) for NHERI conduct user satisfaction surveys each year for the first five years of the NHERI program.
  - This is year 1, and few NHERI users have completed their projects at this point.

- The first User Forum community user satisfaction survey was to be completed by the end of year one (by June 30, 2017).
  - This limited the time of survey preparation, as well as the survey period.

NHERI User Satisfaction Survey: Some Facts

Year 1 User Satisfaction Survey:

- The goal was to learn how the NHERI user community feels about the services, tools, support, and resources that NHERI provides.
- The survey was developed by the UF committee and TecED. TecED conducted the survey, and provided a report on June 22nd. A final version is coming.
- The survey featured 18 questions (16 closed-ended questions & 2 open-ended questions).
- Questions were mostly associated with the availability of information about the NHERI facilities and about processes related to the planning, execution, and data management of tests.
- The survey was open for a period of 2 weeks In June 2017.
- Survey invitations were distributed via the DesignSafe-CI and other research community mailing lists.

NHERI User Satisfaction Survey: Results

Participation:

- Of more than 900 invitees, only sixty-four respondents completed the survey.
  - ➢ This number is well below the desired threshold.
- For many questions, approximately half of the respondents chose “Not Applicable/ Cannot Rate”.
- 73% of the respondents indicated that they had not yet used the NHERI facilities.

The low number of respondents with actual experiences using the NHERI facilities demands careful interpretation of the results.

NHERI User Satisfaction Survey: Results

Main result 1:

- Website resources represent challenges to users (58% of the respondents who answered this questions).

- Specifically named concerns:
  - navigation & structure
  - documentation & training
  - data upload

NHERI User Satisfaction Survey: Results

TECED user experience research and design

Q17. What is the most important change to NHERI's services, tools, and resources that would improve your experience with them?

Responses:

- NHERI seems to be a ghost of NEES. It provides only a fraction of the tools and services NEES used to provide. The whole program seems to be heading in the wrong direction and will soon vanish.
- Easier file transfer.
- I am just getting started with the DesignSafe-ci.org site, so I cannot answer this yet. However, more documentation about actual file paths would be helpful in the FAQs or on the home screen of the DataDepot and Discovery Workspace. Upload speeds seem slow to me, but that is probably due to going through the HTML framework instead of direct access using terminals. However, the access from any electronic device will be useful when I do not have access to a terminal application (e.g. only have phone or tablet and want to check on a run).

NHERI User Satisfaction Survey: Results

Q11. It's easy to locate the data that I want:

Answer Choices	Responses	
Strongly Disagree	5.00%	3
Disagree	10.00%	6
Neutral	20.00%	12
Agree	23.33%	14
Strongly Agree	10.00%	6
Not Applicable / Cannot Rate	31.67%	19
Total		**60**

Comments from Respondents:

- I put my own data on.
- Databases are harder to locate on DesignSafe than it was on NEESHub, and I found NEESHub hard to navigate. I still can't find certain items that I know were on NEESHub; I had to contact the PIs directly because DesignSafe was not helpful.
- Data that was archived in NEESHub datastores is now offline.
- I was able to find through search terms, but not through scrolling the list of projects.
- Is there any new data since NEES? I do not see any data sets.
- Not sure how to access the data previously available on NEESHub.

NHERI User Satisfaction Survey: Results

Main result 2:

- Respondents indicated a desire to strengthen the NHERI community.

- Specific suggestions included:
  - calendar of events and trainings
  - video footage of experiments
  - a community communication platform with a directory of researchers and experts, postings and data sharing

NHERI User Satisfaction Survey: Results

Q18. What service, tool, or resource not currently in NHERI should be added? What need is this going to meet?

Responses:

- Well-advertised meetings of researchers and funding.
- A calendar of events/training. This tool would provide upcoming training that I can view and attend according to my schedule. Others can also see what events have taken place and will be able to look for an archive of this event.
- Provide a page for practitioners. Also, user surveys should be specific for audience; one survey for researchers, one survey for practitioners. With the current survey, most practitioners would probably not take it again in the future because most of the questions are not applicable to them. Also, the survey locked up on question 8; had to restart.
- Need to have a NHERI annual meeting for the community to come together.
- RSS feed for news. Video footage of experiments. Updates on when interesting experiments are available to view live.
- A tool that provides simple/summary information about what is happening—not only about tests, but also seminars, meetings, calls for proposals, etc. It should be in terms of a searchable calendar. Searchable by date, topic, etc.
- Is there any openness to other software beyond what DesignSafe selects to be available on the website?
- Live test demonstrations.
- A directory of researchers and experts in areas of natural hazards impact mitigation.
- It would be nice to be able to find the data as was possible in the NEES project.
- A group space to post resources, data, comments, etc.

NHERI User Satisfaction Survey: Results

Additional observations:

- Overall, most of the respondents were generally positive about the NHERI facilities and the associated tools, support, and so forth.
- 2–5 respondents consistently indicated dissatisfaction on most questions, though it is not possible to draw conclusions as to the reasons for these strongly negative responses.

NHERI User Satisfaction Survey: Results

Q5. The process for scheduling facilities matches my expectations:

Answer Choices	Responses	
Strongly Disagree	3.13%	2
Disagree	0.00%	0
Neutral	7.81%	5

Q15. The training available for NHERI's online resources and tools meets my needs:

Answer Choices	Responses	
Strongly Disagree	6.67%	4
Disagree	3.33%	2
Neutral	11.67%	7

Q16. The technical support for NHERI's online resources and tools meets my needs:

Answer Choices	Responses	
Strongly Disagree	5.00%	3
Disagree	1.67%	1
Neutral	6.67%	4

NHERI User Satisfaction Survey: Conclusions

Conclusions:

- The NHERI user satisfaction survey 2017 will serve as a solid base to develop an effective user satisfaction survey program in the future.
- Potential areas of concern and improvement were indicated, which will be addressed in more detail in the following surveys.

NHERI User Satisfaction Survey: Suggestions

Suggestions from the Survey Sub-Committee:

- Use experiences from Survey 2017 for the development of Survey 2018
- Potential areas of concern and improvement should be addressed in more detail.
  - How can dissatisfied users be reached to receive more detailed feedback?
  - What activities, services, or products may allow strengthening of the NHERI network?
  - What are specific weak points in the structure and organization of the NHERI online tools? How could they be improved? What changes would make them more intuitive for the users.
- A different format may be necessary for future surveys to ensure more meaningful responses and to enable more in-depth analysis.

NHERI User Satisfaction Survey: Discussion

Comments & Questions regarding the User Satisfaction Survey 2017…

NHERI User Satisfaction Survey: Discussion

Brainstorming: User Satisfaction Survey 2018

APPENDIX D. Welcome from the User Forum reception presentation

Natural Hazards Engineering Research Infrastructure (NHERI)

User Forum

Open House with Summer Institute Participants and User Community

July 25, 2017

User Forum: Members

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Antonio Bobet
(NCO Representative)

James Malley

Liesel Ritchie

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Ramtin Kargarmoakhar

Erik Johnson

User Forum: Members

Earthquake
Erik A. Johnson (U. Southern Calif.)
JohnsonE@usc.edu

Wind Engineering
Ramtin Kargarmoakhar (Svend Ole Hansen)
Ramtin.Kargarmoakhar@tylin.com

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addazekk@umich.edu

Russell Green (Virginia Tech.)
rugreen@vt.edu

Steel Construction
James O. Malley (Degenkolb Eng., SF)
malley@degenkolb.com

Social Sciences & Policy
Liesel A. Ritchie (U. Colorado, Boulder)
liesel.ritchie@colorado.edu

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User Satisfaction Survey Committee

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Erik Johnson
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Elaina J. Sutley

Facility Scheduling

Mohamed Elsharawy
Ramtin Kargarmoakhar

Technology Transfer

James O. Malley

User Forum: Objectives

The Community Shaping NHERI's Future

The User Forum (UF) committee is a NHERI-wide group focused on providing the **NHERI Council** with independent advice on community user satisfaction, priorities, and needs relating to the use and capabilities of NHERI.

The elected volunteers of the UF bring input from the community into NHERI operations, assess the effectiveness of the support to NHERI users, and contribute to the **Network Coordination Office (NCO)** and NHERI-wide efforts to build a community of satisfied users. The UF committee is engaged in the development and continuous update of the NHERI-wide **Science Plan**. The UF functions as an additional voice of the community within the **Governance** of NHERI.

User Forum: Composition

The User Forum committee is composed of nine representatives from the broad scientific and engineering communities served by NHERI, who conduct research and education activities using NHERI's resources and services but who are not affiliated with NHERI awardee institutions.

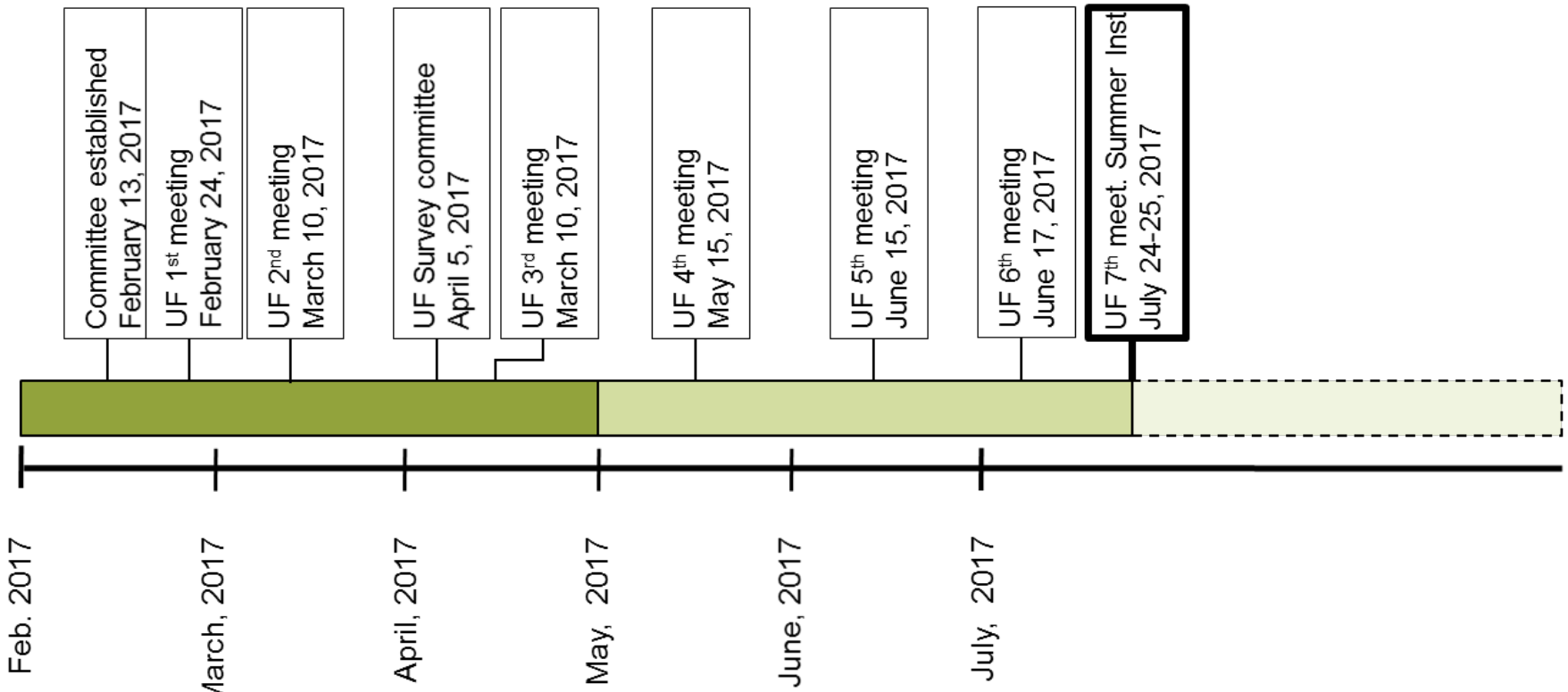
The user community elected members of the UF for two-year terms, with the opportunity of being re-elected.

The UF members have representation across all activities supported by NHERI.

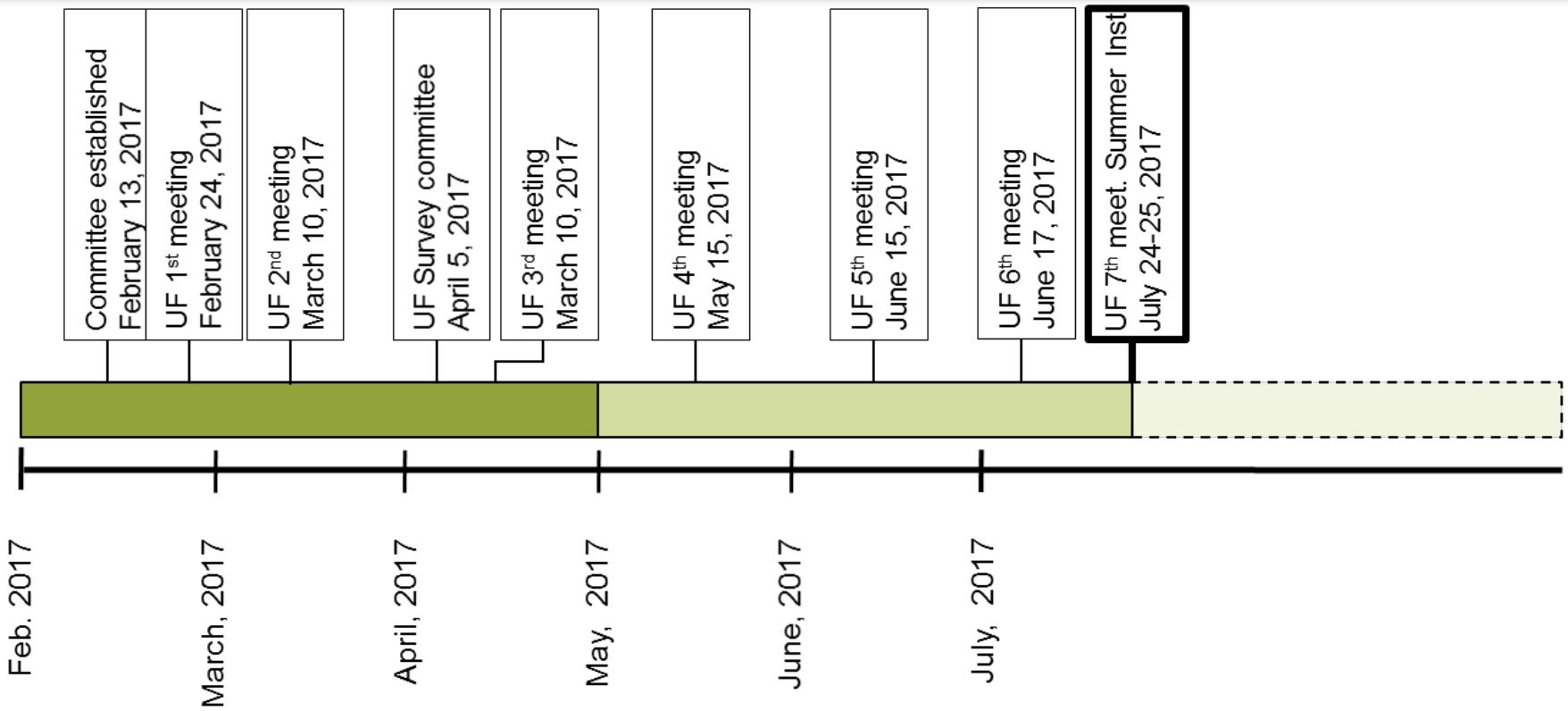
User Forum: Tasks

- Conduct Annual Community User Satisfaction Surveys
- Participate in NHERI and NCO Committees
  - ECO
  - NCO
  - Facility Scheduling Committee
  - Technology Transfer
- Provide Input to NHERI Science Plan
- Publish Annual Community Report
- *Any other activity that the committee deems appropriate*

User Forum: Progress



User Forum: In-Person Meeting



- Review User Satisfaction Survey
- Participate in the Science Plan meeting
- Meeting with NHERI Council, EF PIs, and NIAC
- Reception with User Community
- Plan for Year 2

User Forum: Tasks Y2

- Conduct Annual Community User Satisfaction Surveys
- Participate in NHERI and NCO Committees
  - ECO
  - NCO
  - Facility Scheduling Committee
  - Technology Transfer
- Provide Input to NHERI Science Plan
- Publish Annual Community Report
- Advertise UF at Technical Conferences to Build User Community
- *Any other activity that the committee deems appropriate*

APPENDIX E. Update on the Facility Scheduling presentation

Facility Scheduling Committee

Natural Hazards Engineering Research Infrastructure (NHERI)

NHERI Scheduling
Dan Zehner
NHERI NCO

July 25, 2017

Presentation Overview

- Central Scheduling Committee
- Scheduling Dashboard
- NSF site visit
- Year 2 Plan

Central Scheduling Committee

Mohamed Elsharawy
Structural Engineer
SOH Wind Engineering
Wind Engineering, User Forum

Ramtin Kargarmoakhar
Bridge Engineer
T.Y. Lin International
Structural Engineering, User Forum

Delong Zuo
Associate Professor of Civil Engineering
Texas Tech University
Structural Engineering, Leadership Experience, NCO Strategic Committee Member

Jeffrey Berman
Operations Manager
RAPID EF, University of Washington
Rapid investigations, EF Manager

Maryam Refan
Site Operations Manager
FIU Wall of Wind
Wind Engineering, EF Manager

Daniel Zehner
FSOC
NHERI NCO
Scheduling, NCO Member

Conflict Resolution

- Try to resolve between EF, researcher, FSOC
- Convene CSC as needed
- Use NHERI Strategic Committee, if needed
- User surveys from Facilities to avoid future conflicts

Scheduling Dashboard Demo

DESIGNSAFE-CI
A NATURAL HAZARDS ENGINEERING COMMUNITY

A NATURAL

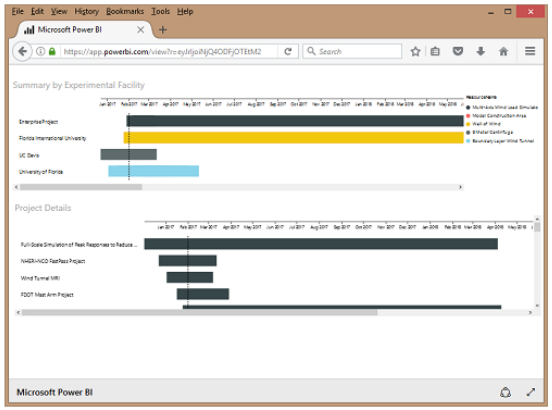
Research Workbench ▾ Learning Center ▾ NHERI Facilities ▾ NHERI Community ▾ About Help

FACILITY SCHEDULING DASHBOARD

Centralized Managament of NHERI Projects

CURRENT AND UPCOMING PROJECTS

NHERI project scheduling has shifted from individual management by each EF site to the centralized Facility Scheduling Dashboard. As new projects are created and scheduled, the DesignSafe-CI website will include timelines of current and upcoming projects at each facility to help researchers better request their own new projects based on realistic expectations of availability.



Current Tracked Projects

Scheduling Dashboard Development

Site Visits and survey of EF scheduling

DETAILED SCHEDULING EXAMPLE

Date	Day	Description of the Task
7/7/2008	Monday	Set up the structural models. Check weights, check periods; Make container measurements; mark locations for grid system; Gather and organize all required instruments, settlement plates, tephlon balls; make sure Monterey 0/30 is available; order what is missing; send drawings to Chad
7/8/2008	Tuesday	Calibrate Wired Accelerometers; calibrate PPT's; give PPTs to be repaired to Ray; Discuss details of skirt connection to structures with Lars.
7/9/2008	Wednesday	Calibrate LVDT's / LP's; Finish callibrating instruments and organize their lists and spreadsheets.
7/10/2008	Thursday	Make plastic walls for foundations, weigh with bldg and add to the weight if needed. then bolt the plastic walls on. Make plates for vertical LP's and bolt them on to plastic walls; double check all masses. Put black/white grids on masses and plastic walls for both sides. Start calibrating pluviator and get a feel for the screen that must be used for loose sand
7/11/2008	Friday	Calibrate pluviator: Dense and Loose Nevada sand;
7/12/2008	Saturday	Finalize calibrated data and list of instruments with their locations and make the complete channel list.
7/13/2008	Sunday	
7/14/2008	Monday	Tell Chad to make settlement plates with longer rods; Seal structures and glue the accelerometers on them. place instruments and vertical tubes (straight) in the bottom of container; Make sure Chad knows how to change the racks.
7/15/2008	Tuesday	calibrate dense pluviator again; place first lift of dense Nevada sand; keep a record of grid readings;
7/16/2008	Wednesday	continue with pluviation and check Dr after each lift.
7/17/2008	Thursday	continue pluviating dense layer; Keep a record of weight + grid system readings, and monitor the relative density closely. **Remember to keep wires out of way of CPT and glass wells during model construction**
7/18/2008	Friday	Place colored sand and structural skirts where appropriate; re-calibrate dense Nevada sand Dr. Don't forget displacement plates on top of dense layer; Finish Dense Nevada Sand pluviation and instrumentation.
7/19/2008	Saturday	keep a neat record of grid measurements, Dr checks, instrumentation locations
7/20/2008	Sunday	
7/21/2008	Monday	Callibrate Loose Nevada sand Dr again. Start pluviating Loose Nevada Sand. Don't forget to put horizontal bands at bottom, mid-depth, and top of layer.
7/22/2008	Tuesday	instrumentation in Loose Sand. Re-calibrate loose Nevada sand Dr. Make glass tubes for monitoring water table and place on top of loose layer;
7/23/2008	Wednesday	Loose Nevada sand pluviation.
7/24/2008	Thursday	Finish instrumentation and measurements for Loose Nevada Sand.
7/25/2008	Friday	Calibrate Monterey sand Dr. pluviate Monterey sand to elevation of foundations.
7/26/2008	Saturday	calculate amount of methylcellulose needed
7/27/2008	Sunday	prepare spreadsheets for gains needed to send to Ray
7/28/2008	Monday	grid measurements and weigh (before placing structures). place structures in the model and measure x,y,z coordinates of the four corners carefully. Glue skirts to the structures and seal around them.
7/29/2008	Tuesday	Finish Monterey sand pluviation; Finish colored sand vertical columns.
7/30/2008	Wednesday	Re-calibrate both densities; Put LP plates on surface, MEMS on structures, MEMS and ICP's on soil surface. Surface grid measurements and weigh; Mix fluid.
7/31/2008	Thursday	finalize location of CPT rack and discuss camera racks with Chad. Make sure Chad has enough analog cameras. Ask Chad to make a plate with height simulating soil surface for rack and LP zeroing. Place displacement transducers on the rack. Make sure have enough cables for all instruments . Make sure all instrumentation is in place, record correct locations; Organize wires. adjust LP holders on the rack; try putting the rack on model and adjust all locations.
8/1/2008	Friday	calculate fluid permeability and the temprature; sort wires and route them for saturation; Get ready for taking the container on the arm. put lead on and tape around the container; check temp and viscocity of fluid again; start saturating.
8/2/2008	Saturday	monitor saturation + work on spreadsheets
8/3/2008	Sunday	monitor saturation
8/4/2008	Monday	monitor saturation + make sure all wires and connections work for analog cameras (have them prepared) + create channel list + work on spreadsheets + put LPs on racks, connect to cables, and record connections, start to zero them + trouble shoot rack set up and holders + re-measure fluid permeability
8/5/2008	Tuesday	water should be brought to above surface and kept there. Mark locations of instruments outside container. Make sure racks for cameras are being built properly. adjust the gains on all amplifiers (start with PPTs) -- make sure to ask Ray how to zero PPTs
8/6/2008	Wednesday	Saturation
8/7/2008	Thursday	When Saturation complete, put instruments outside container. Put on racks. Start plugging instruments to their channles. Double check zero readings of displacement transducers; Make sure all channels work.
8/8/2008	Friday	Detailed gain and voltage adjustments for the PPTs. trouble shoot instruments that don't work. Verify that air hammers and wireless are working well, if not trouble shoot. Do P-wave, S-wave tests and make sure all instruments are working. Adjust high speed camera locations and set up (if Chad and Lars ready) .
8/9/2008	Saturday	
8/10/2008	Sunday	Check instrumentation lists; repare automatic sheets to check the results quickly during the test. Know what to expect. Write an organized check list to be used during the test.
8/11/2008	Monday	Make sure all strobes, high speed, and analog cameras work and camera racks safely in place. Check the images and finalize locations and light. Make sure know how to do CPT. Have all spreadsheets ready and channel lists prepared. Practice using the entire data acquisition system a few times. Trouble shoot problematic instruments and channels.
8/12/2008	Tuesday	trouble shooting
8/13/2008	Wednesday	trouble shooting
8/14/2008	Thursday	Spin #1: (CPT and Vs) – spin down; adjust gains; Spin #2: Step Wave= SHD04-01 -- Small Port Island SHD04-02 (No liquefaction) -- Moderate Port Island SHD04-03 (Get Liquefation) – Large Shake for gradual build up of pore pressures -- Large Port Island SHD04-04 (Large) – Spin Down Spin #3: Spin up – do CPT and Vs – Spin down -- Start draining the model Take pictures and record all instrumentation failure, etc.
8/15/2008	Friday	Drain model; Remove outside instrumentation; disconnect channels; keep neat new record of all wire numbers, channels, and instruments; make a note of broken wires, etc. Remove model from arm. Take photos.
		Drain; plan the excavation scheme and make sure spread sheets are prepared for recording grid measurements;
8/18/2008	Monday	Excavation;
8/19/2008	Tuesday	Excavation;
8/20/2008	Wednesday	Excavation;
8/21/2008	Thursday	Excavation;
8/22/2008	Friday	Excavation;
8/23/2008	Saturday	-
8/24/2008	Sunday	-
8/25/2008	Monday	Excavation;
8/26/2008	Tuesday	Excavation;
8/27/2008	Wednesday	Excavation; cleaning the container, structures, and instruments; finish up

- *Pre-test*
  - *15 days for experiment design, custom capabilities, build and instrument structures*
- *Test*
  - *20 days of prep*
  - *10 days on the arm*
  - *1 day spinning*
  - *8 days excavation in the shop*
- *Post-test*
  - *7 days to prepare and interpret data for report*
- *Σ = 60 days*

Training Resources

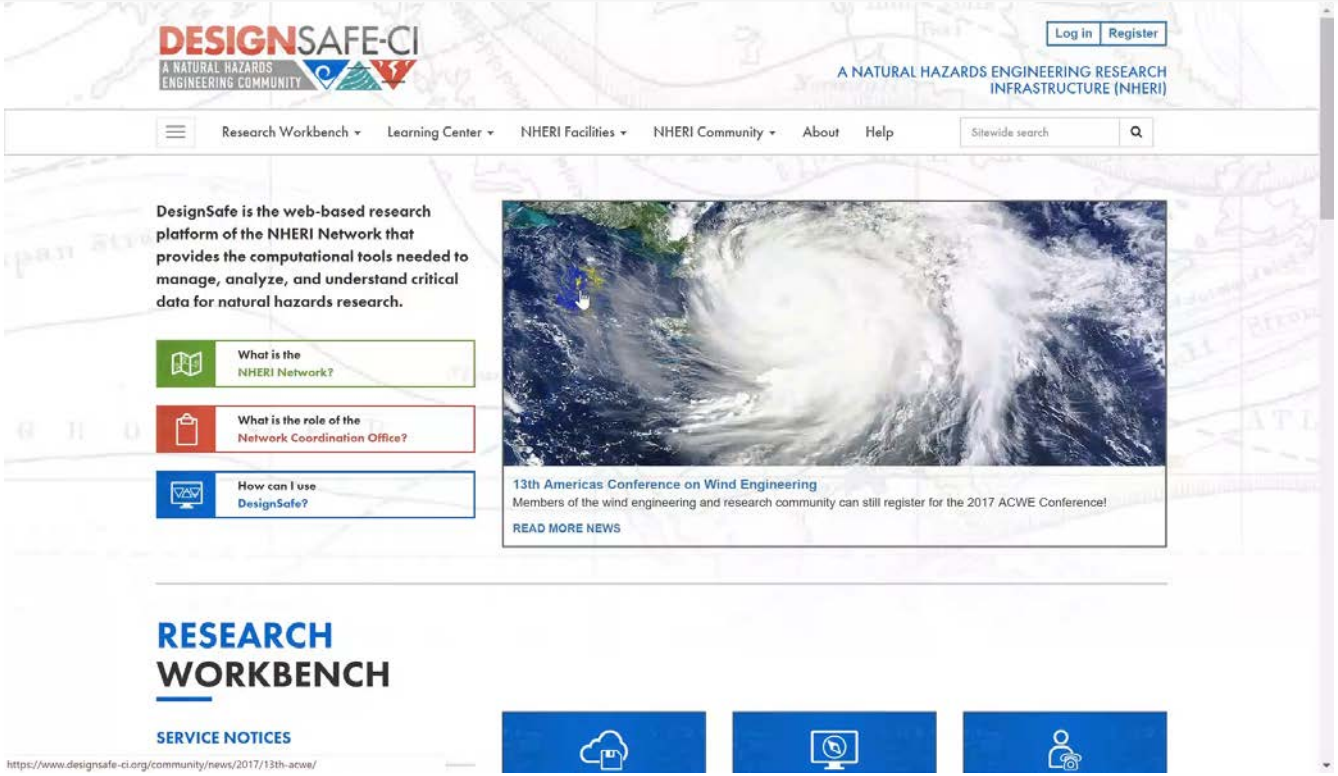
DesignSafe Webinars on Scheduling

- Scheduling Dashboard Webinar, 2/28/17
- Next scheduled for Summer 2017

Other training

- MS Project Quick Tip Guide
- One-on-one training provided by FSOC

Scheduling Dashboard Demo



NSF Site visit

- The NSF site visit (April 18).

- Visit report includes NSF comments and responses from NCO on recommendations for Areas of Improvement for NHERI.

Year 2 Plan

- Streamlining forms/process based on EF and user feedback
- Lessons learned program for NHERI (collaborating with NSF Lessons Learned program leader Rebecca Yasky)
- Collaborating with other NSF Large Facilities on scheduling and user community development
- Outreach to public and potential researchers via DesignSafe Radio podcast

Thank you

If you have any questions or feedback for the Central Scheduling committee, please contact:

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