

University of Florida NHERI
Broadening Participation of Under-Represented Researchers in Wind
Engineering and Hazards Research Workshop
December 13, 2018



National Science Foundation

What:

The #ufNHERI Leadership team hosted a one-day workshop at the University of Florida (UF) wind engineering experimental facility (EF), on East Campus Gainesville FL. The workshop had three goals:

1. To introduce potential EF users invited from institutions focused on STEM education of underrepresented groups, to the UF Wind EF and other NHERI resources.
2. To convene a focus group of invited faculty, UF Leadership, NSF, and PhD mentoring organizations.
3. To identify best practices for initiating recruitment and support faculty, post-docs, and students from under-represented groups to natural hazards research and specifically to wind engineering.

The rationale of the #ufNHERI Leadership team for this Workshop was an apparent lack of mechanisms within NHERI that could leverage its broad network and increase involvement of under-represented research faculty and their students within the hazard engineering research space. We recruited participants widely from many minority-serving institutions, HBCUs in all states including the US Virgin Islands and Puerto Rico as well among native American educational institutions. In the end, 17 enthusiastic and diverse number of participants, including 8 African Americans, four Hispanic participants, and 8 female participants joined for a full day's activities.

This workshop included 23 participants from University of California, Los Angeles, University of Colorado, Bucknell University, University of Texas, University of Tennessee, University of Maryland, University of Kentucky, University of Delaware, University of Nebraska, University of the Virgin Islands, Florida State University, Jackson State University, Howard University, Universidad Interamericana of Puerto Rico, University of Central Florida, University of Florida, and the William Averette Anderson Fund.

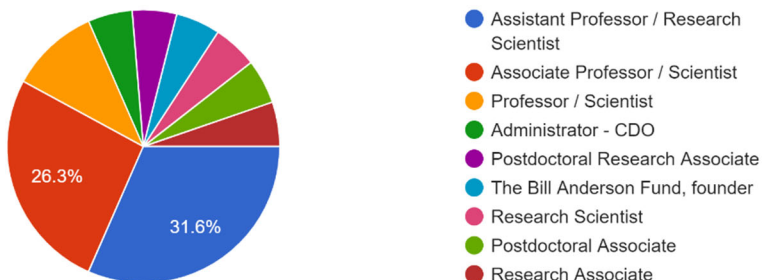
Pre-Workshop Survey

As a means to introduce participants to each, we developed a Pre-Workshop Survey for the participants, distributed online. This proved to be instructive to provide knowledge of demographics of participants and their experiences



Current rank

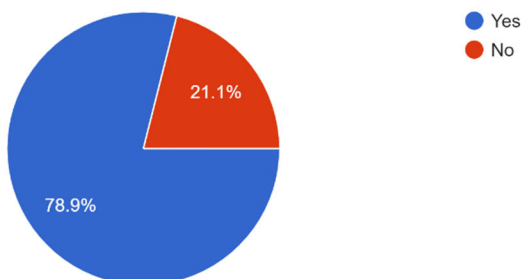
19 responses



It was instructive to note within this small sample most participants (79%) had not heard of NHERI and the NSF program before we contacted them.

This is the first NHERI-related event I will be attending

19 responses



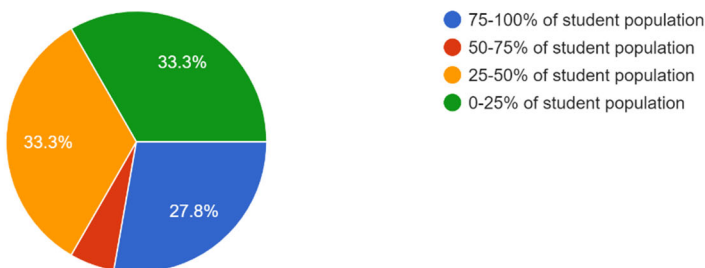
Participants also held typical research/teaching positions within their universities.



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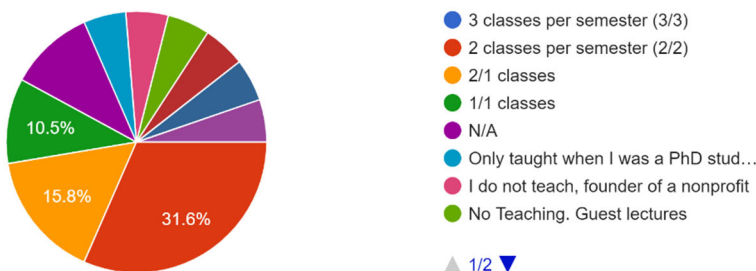
The students from under-represented minority groups and women in our department make up

18 responses



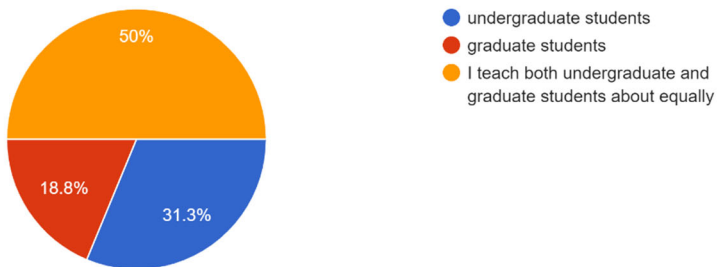
In a typical Fall/Spring semester, my teaching assignment is

19 responses



I teach students who are mainly

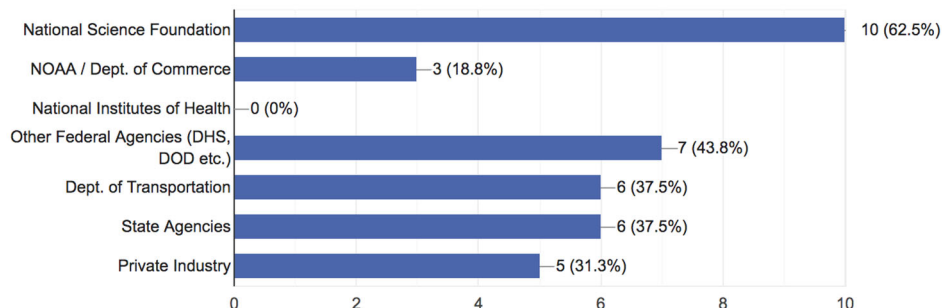
16 responses



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In the past three years I have received external funding support for my research and teaching from the following (Check all that apply)

16 responses



We solicited responses in the Pre-Workshop survey of the demographics of students at the home institutions and of the reasons preventing more under-represented groups from participating in research. This category was richly accessed and provides great direction for future support. One participant said:

"Many will say it has to do with exposure, but in my experience, it has to do with a sense of belonging, encouragement, inclusion, and support. I've witnessed (and am a member of) a unique club of underrepresented minorities whose general character is that of a sort of 'nonconformist,' which has lead (sic) to them pursuing (and achieving) a goal in part or in absolute defiance to someone(s) telling them they could not achieve said goal. As many times as I have listened to, read and heard of a "defiance story," I am reminded that everyone is not the same. Therefore, I believe that those whose personality doesn't naturally lend to an "I'll show you" attitude, may have an additional barrier when underrepresented minorities are not supported and encouraged to pursue STEM-fields and other careers, where there are very few who appear to have similar backgrounds or experiences."

Finally, how can NHERI help? This question evoked (CHANGE WORD) many responses:



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Describe an opportunity/condition that could enhance your and your students' ability now to pursue NHERI-related research and teaching.

18 responses

greater mentoring and working with senior researchers
Data from NHERI experimental research can be used and combined with my numerical modeling studies to enhance hazard related research and proposals
long range wrap-around, human-centered approach to guiding URM's through the pathway to PHD/postdoc/first TT/Tenure/leadership role.
Information on NHERI-related research and teaching, Funding, possible collaboration
Secure funding to support graduate students and build and maintain good relationships with the government agencies (i.e., for data availability)
Developing meaningful relationships/partnerships to figure out how I can contribute to research gaps for true interdisciplinary work. Learning how to use NHERI data to support some future studies is also of interest.
I think they would pursue it if they are aware and have mentors and advisors to convey the opportunities.
Include more social science in topics; identify questions that are tied to the socio-economic realities of URM
A better understanding of the opportunities for collaboration with entities outside of the department
Research

Workshop Content

In his introduction, Dr. Prevatt who chaired the workshop, remarked that increasing research participation from historically black colleges and universities (HBCU) and minority-serving institutions requires more than just faculty but also the encouragement and constant mentoring of minority students to participate in graduate research. Participants were provided with a full 1.5 hours tour of the five experimental facilities included within the NHERI group. In addition, Associate Director of #ufNHERI, outlined the procedures in place to support the proposal development, submission and running of research projects through the NHERI network.

The workshop was highlighted by three important speakers from the university of Florida; the Dean of the Graduate School, Dr. Henry Frierson, Dean of the Herbert Wertheim College of Engineering, Dr. Cammy Abernathy and the Cabinet-level Chief Diversity Officer of the University of Florida. Their presentations underscored the institutional commitment and resolve in promoting diverse and inclusionary environments to foster the growth of minority students and faculty at UF. Dr. Abernathy included the relationship between creative and diversity.



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Ms Norma Anderson Chair of the William Averette Anderson Foundation presented her organization's model for the mentorship of minority students, which has yielded 36 PhDs in the past five years over a wide range of colleges. Professor Juan Gilbert, Chair of CISE also presented best practices and successful model for recruiting black students to his research program. These initiatives were presented and discussed among the participants.

One of the most important aspects of the Workshop, was the effect it could have to grow the networks of the participants. To this end participants were encouraged to participate in Pre-Workshop activities that included developing a single slide highlighting their interests beyond research as well as motivations for their passion for research and a pre-workshop survey. These Pre-Workshop activities was overwhelmingly considered a successful part of the workshop.

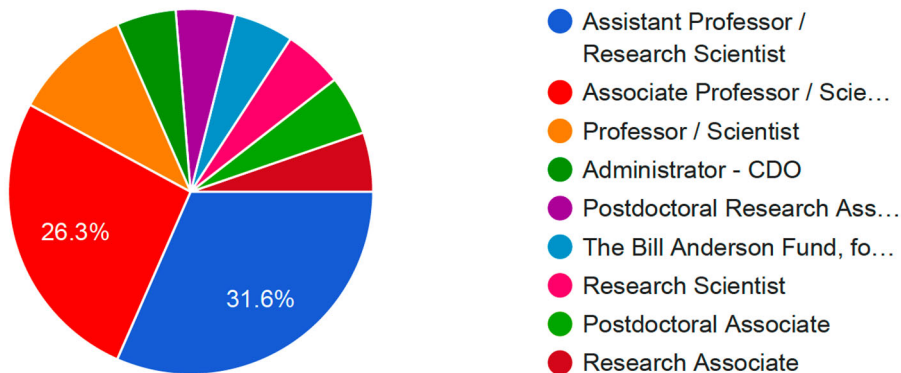
Another innovative feature of the Workshop was the use of the Design-Safe Slack Channel system. Dr. Prevatt created a private Slack Channel and invited each participant to join. In this way, all information and communication of the Workshop was safely shared through that portal and as a result it introduced most of the participants to the NHERI DesignSafe site and many of the wider opportunities. Following the workshop, the DesignSafe site is curated by Dr. Prevatt and will be used to continue signaling new opportunities and tips to the group.

The participants also discussed at some detail many barriers to participation of minority groups in research and tangible opportunities for resolving them. This discussion yielded many implementable ideas, including the encouragement of the more REUs, hosting of webinars by the ufNHERI team for introducing wind engineering topics to faculty and their students, as well as direct collaboration and work on research proposal between participants and the ufNHERI PIs.

The Keynote Lecture at the workshop was presented by Professor Henry Burton of UCLA who presented a brief review of his passage from high school in Trinidad and Tobago to becoming an NSF CAREER Awardee and highly successful young faculty researcher in natural hazards.

WHO. The workshop hosted 17 participants and as an ice-breaking exercise each participant submitted a biosketch to a single Google document about a week before the workshop. 31% of the attendees held an Assistant Professor/Research Scientist rank and 35% were Associate Professor or higher, with the remaining participants Post Doctoral Associates and/ or Administrators





This fun exercise enabled the participants to gain insight to each other and to the PIs interests and passage towards this point. This activity and others were overwhelmingly appreciated by the group, receiving 4.5 out of 5.0 in the post-Workshop survey. Many of the participants already had established connections with each other which was seen as a positive attribute to building and expanding their networks. Most participants are in their current positions for less than 3 years, and the longest tenure is 6 years, 37% are tenured, and 31% are untenured faculty in tenure-accruing positions. It was somewhat surprising to the PIs that for more than half of the participants (52%) correspondence about this workshop was the first they had heard of the the NSF NHERI network of facilities, and the majority of attendees (78.7%) this was the first NHERI-related activity they attended. Fully 10 of 17 participants had received NSF funding in the past 3 years, although just over half did not currently have NSF support for their research. The pre-Workshop survey elicited many suggestions from the participants on opportunities to enhance their research and that of their students to participate in NHERI research.

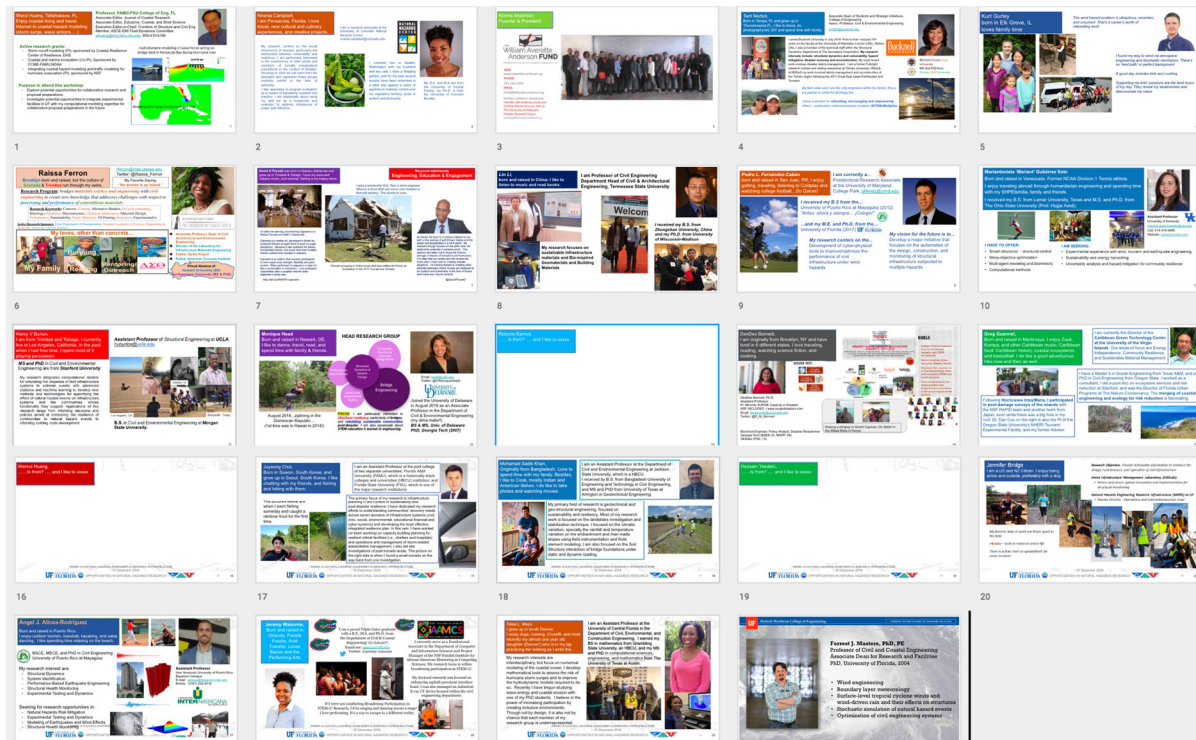
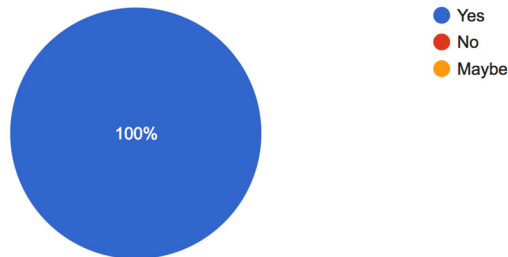
A complete workshop summary and analysis of the pre- and post- workshop surveys will be included in the final report from this workshop. It was unanimous agreement that the participants would like to see NSF do more to encourage the participation of underrepresented groups in STEM activities.

While resources are always going to be scarce one participant suggested future workshops may wish to involve upper level graduate students to start grooming the next generation of scholars early and plugging them into the network. This recommendation appears to be a particularly important and under-considered activity nationally as the NSF support for students goes towards the undergraduate students (GRFPs) but there is less support to graduate students for building networks and exposure to actual research.



The National Science Foundation should increase its efforts to facilitate the STEM participation of URG

13 responses



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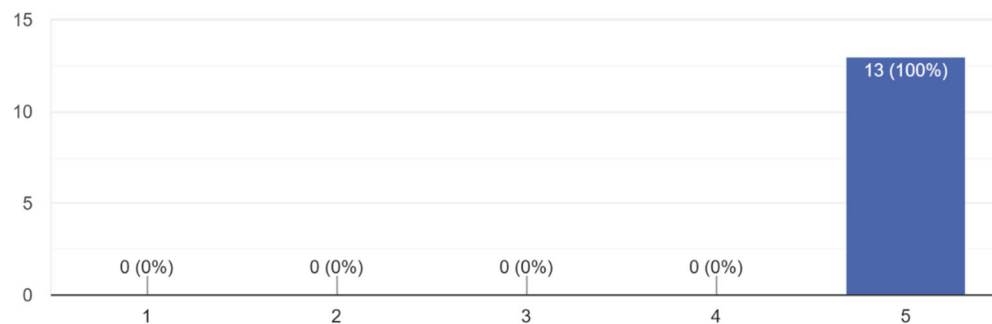
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Workshop Outcomes

So select some of the outcomes from here to include – we also should just make pdf of the whole shebang and include:

Communication with Organizers

13 responses



Comments:

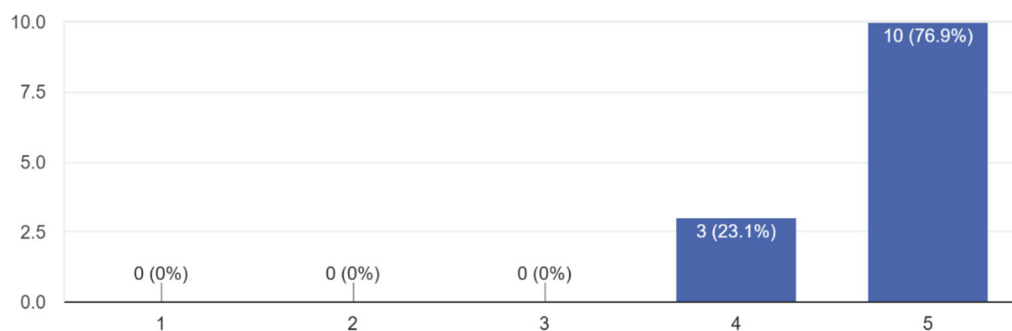
- Very informative meeting, I learned a lot about NEHRI and possible ways to collaborate
- I appreciated the last minute addition so that I could attend.



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Food Provided

13 responses

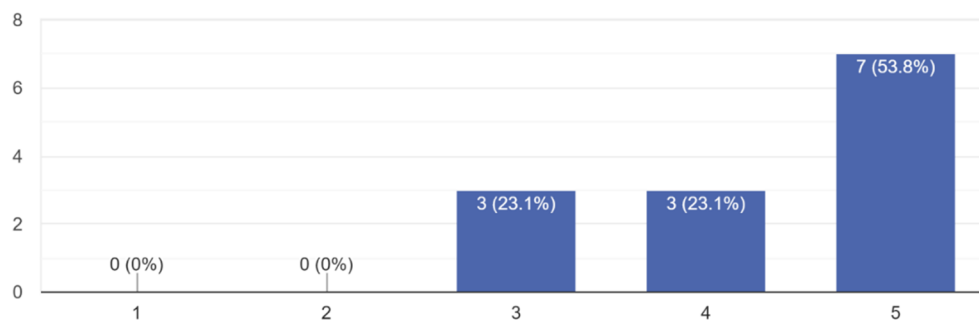


Comments:

- I think more diverse food options would have been nice.

Indicate whether you had sufficient opportunity to interact with EF PI and Co-PIs

13 responses



Comments:

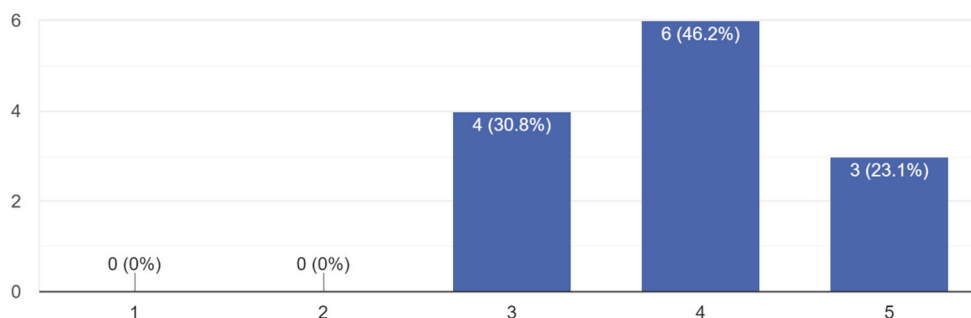
- The workshop was pretty loaded with content and there wasn't much time to meet with the grant leadership.
- Schedule was tight. It would have been nice to have small break-out session with the PI and Co-PIs.



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Indicate whether you had sufficient opportunity to interact with other Workshop Participants

13 responses

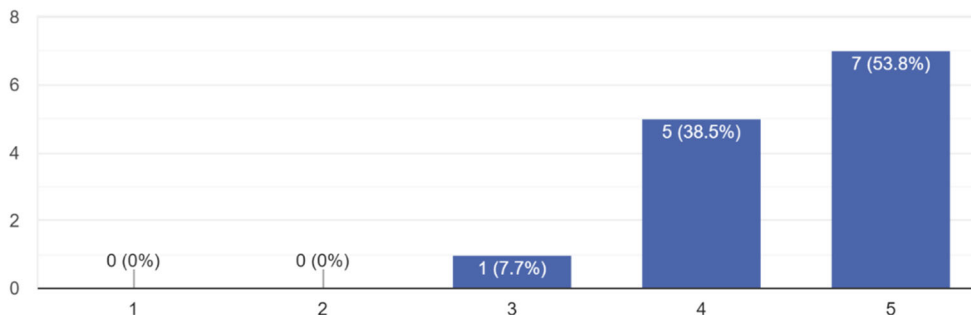


Comments:

- It was easier to navigate with the other participants because there were more of them to connect with.
- Wish we had more time to learn more about the work of other participants. At the same time, there's so much content for such little time!
- A networking reception the night before the workshop would have been nice. Between presentations and on the bus was not a lot of time for participants to engage with one another.
- It would've been nice to have an organized group dinner to keep the conversation going after the workshop. It's hard to get folks to self-organize, but there were many productive conversations that may have been better sustained if there had been a more natural (pre-determined) segue after the day's activities.
- It was a jam packed day which was great but did not leave a lot of room for mixing and mingling.

The Pre-Workshop biosketch task was helpful in preparing you to network at the workshop.

13 responses



Comments:

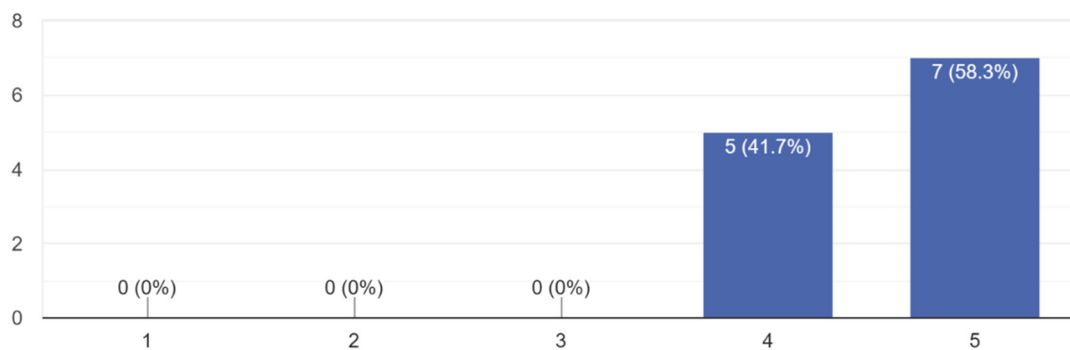


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- It was fun! I liked the idea. And it's nice to be able to refer back to them.
- Didn't have time to review others. But it was great to know about others work in a concise manner!
- This was a great way to introduce people but time didnt permit the planned activity which I think would have been great

Talk by David O. Prevatt: Being a Faculty Member from an Underrepresented Group - Quality of Presentation

12 responses

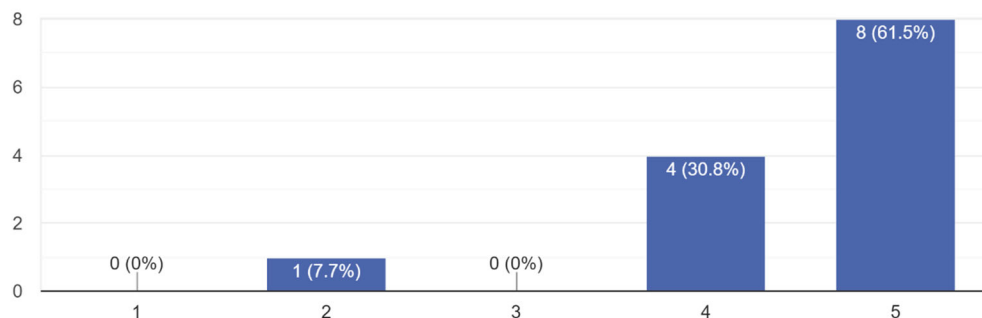


Comments:

- Great to put into perspective the common challenges and the road to success.

Open Discussion on Diversity Issues

13 responses



Please expand on the discussion as you wish:

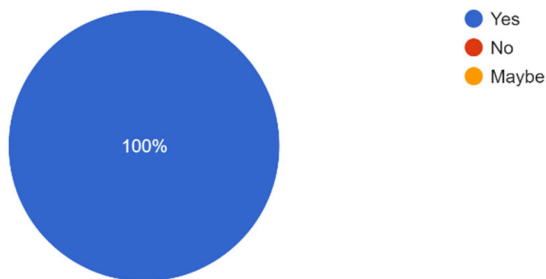
- more time needed for this topic. would have been good to discuss ways of developing effective collaborations and opportunities for URM faculty to be more engaged within the hazards community.
- Excellent opportunity to see different perspectives on the important impact that a diversified team has on contributing to improve the quality on the higher education system.



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The National Science Foundation should increase its efforts to facilitate the STEM participation of URG

13 responses



How:

- Offering more grant programs exclusively available for minority serving institutions
- Some NSF programs are requiring BP plans and I think that's a great start!
- NSF should host a URG or BPE symposium as part of the CMMI annual meeting
- Funding requirements should include a certain percent of members in research groups from URG.
- Increasing support for research experiences involving high school and undergraduate students, outreach to minority serving institutions and supporting collaborations that engage marginalized communities in more applied research.
- Strategic connection of mentors and junior faculty/post docs/PhD students who may lack appropriate support at their home institutions/departments
- Supporting workshops like this one where PIs can interact and build teams. Maybe come with some 1-page ideas and build real-time collaborations at the workshops.
- REU are only for one student. Is there one that could help more than just few students experience ?

Beyond just NSF, in my experience or observation, URG participation in STEM can be improved by:

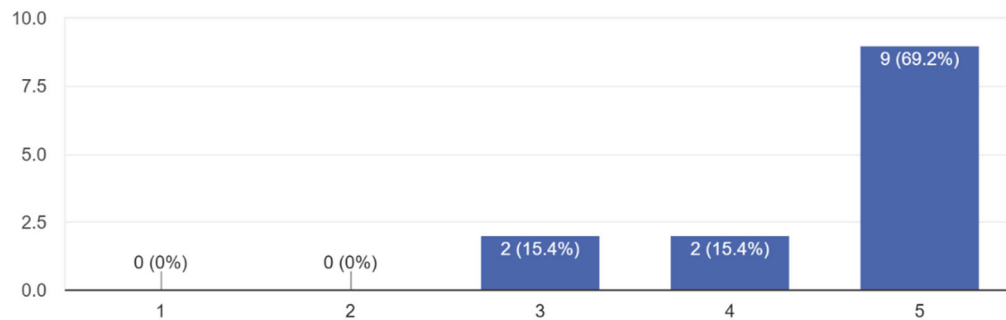
- 8 responses
- Using evidence based strategies for recruitment and retention in higher education.
- Reaching URG when in High-School or first two years of college. Also have a variety of topics, from latest and greatest to more social- and climate-conscious topics.
- Yes
- Increasing the number of UR faculty members in STEM programs in order to reach students with their similar background and experiences. In addition, outreach activities focused on STEM opportunities for high school students should have several faculty members and/or STEM undergraduate/graduate students from URG.
- Recruiting and grooming undergraduate students from underrepresented groups and developing pipelines through community initiatives to both recruit and demonstrate the importance of STEM projects.
- leaders who value and prioritize the success of URG
- continuing the network through communicating....slack is 1 great way.
- Role models in leadership positions



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The workshop has motivated me to develop NHERI-related research proposal and to use the UF NHERI Facility

13 responses

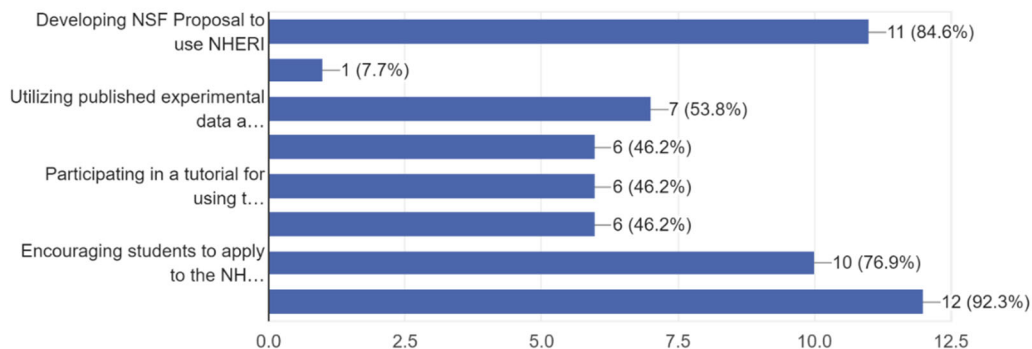


Reminder, this survey is anonymous, so please follow up with us to pursue your ideas:

- Yes I will.

I would be interested in exploring the following: (click all that apply)

13 responses



The workshop discussions and agenda left out the following important topics:

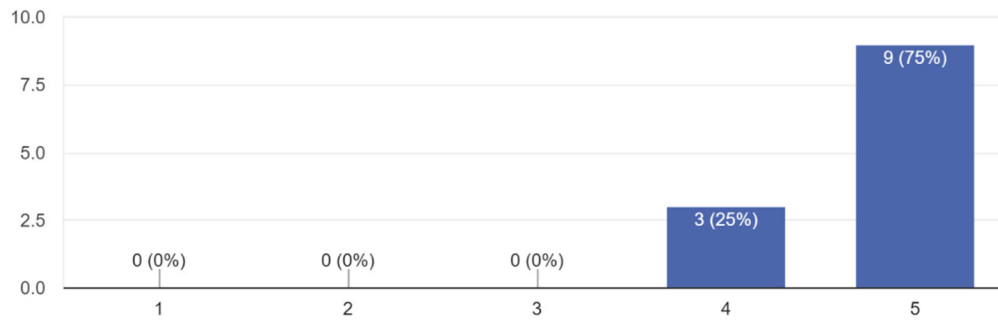
- Engaging URG students in NHERI research outside of REUs
- Scholarly contributions with NHERI and ufnHERI.
- A networking session.
- I think the workshop was very comprehensive and gave lots of space for input. Topics that weren't included on the agenda per se were raised in the discussion, so nothing else to add!



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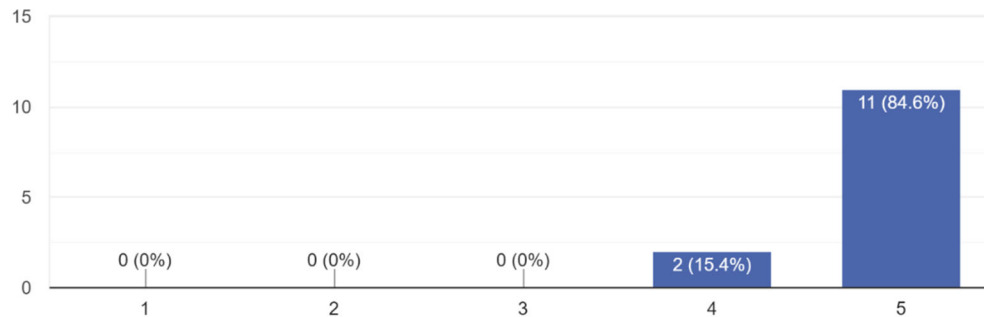
Talk by David O. Prevatt: Opportunities in Natural Hazards Research -
Introduction - Quality of Presentation

12 responses



Talk by Forrest Masters: NHERI Program Overview and introduction to
facility - Quality of Presentation

13 responses



Comments:

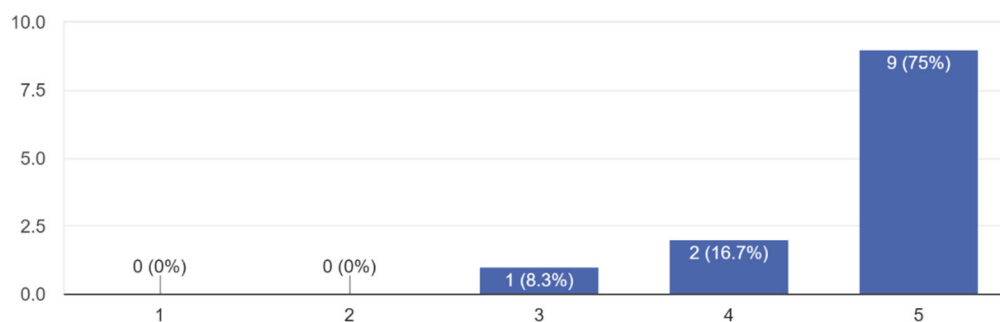
- A bit too long.



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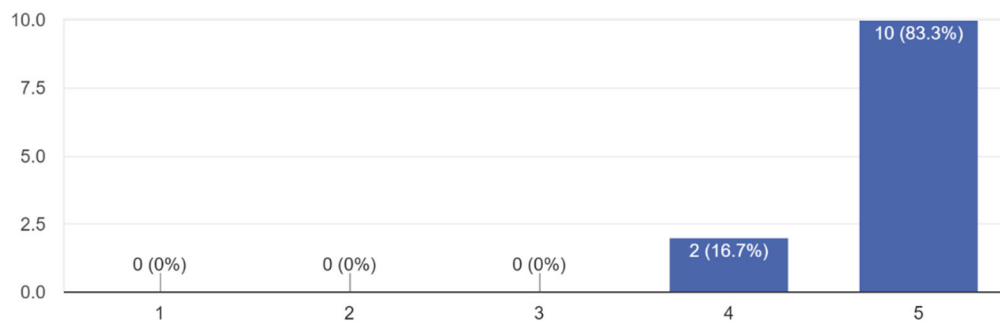
Talk by Jennifer Bridge: Working with ufNHERI Experimental Facility - Quality of Presentation

12 responses



Tour by Kurt Gurley: ufNHERI Wind Facility Tour - Quality of the tour

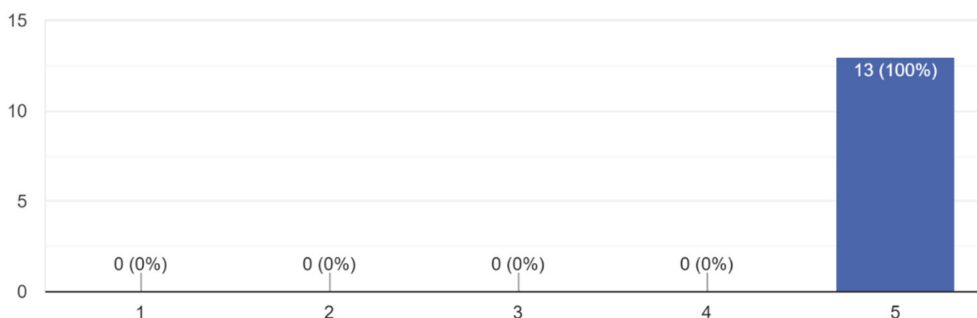
12 responses



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How likely are you to recommend others to participate in future ufNHERI workshops?

13 responses



Please suggest names/emails of colleagues who may benefit from attendance at our future workshops:

- Catherine Armwood (carmwood@tnstate.edu), Claudia Wilson (claudia.wilson@nmt.edu), Hans Louis-Charles (hlouischarles@unomaha.edu), Marccus Hendricks (mdh1@umd.edu), Tierra Bills (tbills@umich.edu)
- Rodrigo Sarlo, sarlo@vt.edu Juan Ocampo, mailto:jocampo@stmarytx.edu, Hiram Moya, mailto:Hiram.Moya@UTRGV.edu

Finally, please provide any thoughts you may have to improve future ufNHERI workshops:

- add one more day to allow for more interaction and engagement between the participants and organizers
- Excellent!! Everything was great!!
- At some point it might be nice to start involving upper level graduate students to start grooming the next generation of scholars early and plugging them into the network.
- a 1 day workshop made it easy for me to attend, however a 2 day workshop might have been more fruitful. I think its worth thinking about. It was really great that there wasn't a lot of focus on challenges, but rather the focus was on solutions. I left feeling inspired and supported
- Great workshop and start to bring this unique group of researchers together.
- Hands on activity

