



Call for Applications: CUAHSI is Seeking Theme Leaders for the 2019 National Water Center Innovators Program Summer Institute

Summary

The Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUAHSI) is soliciting applications for faculty Theme Leaders to help organize and provide science leadership for the 2019 National Water Center (NWC) Innovators Program Summer Institute. The Summer Institute (SI) will host 25-30 resident graduate students who will work on collaborative projects to advance NWC goals. For their role in the SI Theme Leaders will receive a \$10,000 honorarium, as well as travel and subsistence support while on site at the NWC. We anticipate the selecting three to five Theme Leaders.

Background

The National Water Center Innovators Program was established as a partnership between CUAHSI and the National Weather Service to engage the academic research community in the enhancement of the National Water Model. The intent is to create an innovation incubator where students from many universities can exchange ideas and advance concepts that, although they may be analyzed only for a short time or on a small study area, are illustrative of issues that affect the performance of the National Water Model. Earlier sessions of the SI prototyped conversion of grid-based WRF-Hydro output to representation of streamflow on the NHDPlus network, utilized the Height Above Nearest Drainage (HAND) method for estimating extent of flood inundation, and explored alternative formulations for the linear reservoir approximation used in representing groundwater within the National Water Model.

2019 will be the fifth session of the SI, which is a seven-week program during which graduate students are resident at the National Water Center from June 10 – July 25, 2019. Students will apply to attend the program in the Fall of 2018. Fellows will be selected by incoming Theme Leaders, CUAHSI staff, and NWC staff in early January 2019. Students are grouped into teams organized around projects defined by the Theme Leaders or self-selected by students. Students work with Theme Leaders, NWC staff, and others to rapidly prototype new ideas related to use or application of the NWM. While there may be some overlap with the students' individual MS/PhD research projects, the expectation is that the work and research done during the Summer Institute will be a separate, self-contained project. Students receive full travel and subsistence support for the SI.

Position Description

Theme Leaders will work with NWC and CUAHSI staff to develop project ideas that support themes identified by the National Weather Service. The projects may be at any scale—local, regional, or continental—but findings of the research should be transferable to other locations and/or applicable at continental scale. Theme Leaders should help students to develop creative projects that can be successfully completed within the timeframe and data resources available. Several of the 2016 projects were published in 2017 and 2018 featured collections of JAWRA, and planning for another featured

collection based on 2018 outcomes is underway, and we would anticipate that Theme Leaders would work to ensure that project outcomes include the potential for such a publication.

Although Theme Leaders are expected to participate on-site and provide instruction during the first two weeks of the SI and participate on site during the final week of the SI for a Capstone event; additional travel by Theme Leaders to the NWC will be supported by CUAHSI as needed. When not on site, Theme leaders are expected to be available for remote consultation by holding scheduled “office hours” to meet with their groups. Each Theme Leader should expect approximately 2-4 project groups to be formed under their theme.

Additional responsibilities for Theme Leaders include attending a planning meeting at the NWC, tentatively scheduled for the week of January 22, 2019 and conducting webinars (usually one or two) during Spring 2019 to prepare students for the SI, to introduce the theme concepts, and to describe potential projects; CUAHSI will facilitate the webinars.

In 2019, CUAHSI and the NWC will focus on the underlying science of the National Water Model, investigating selected hydrologic and hydraulic process. In particular, the 2019 SI intends to address challenges associated with coupled inland-coastal hydraulics, scaling hydrologic and hydraulic models from small basins to regional watersheds, utilizing hydroinformatics to address flood inundation, and support remote sensing of water information through engagement with the computer science community.

Eligibility

Full-time faculty at any US-based institution or affiliated organizations, are eligible to serve as a Theme Leader. Selected Theme Leaders will be subject to NOAA security clearance requirements for access to the NWC. In the past, CUAHSI has supported Theme Leader collaborators and post-docs to participate in part of the SI to bring additional ideas and content to the activity.

Application Instructions

To apply, please submit the following items by **November 18, 2018**:

- Current CV
- Responses to the following questions (not to exceed 2 pages total):
 1. How will you contribute to one of the desired themes?
 2. What are potential projects under this theme that would be appropriate for the SI?
 3. How will you contribute to one of the stated themes and advance the National Water Model?
 4. What are the data and computing resources do you anticipate needing to accomplish your educational objectives? Are there any prerequisites you would require?
 5. What training do you propose to offer during the first two weeks of the Summer Institute?
 6. How will you use the results of the SI in your own research?

Submit the application (CV and responses) as a single pdf file and as an email attachment to Danielle Tijerina at dtijerina@cuahsi.org by 11:59 PM ET on **November 18, 2018**.

Questions can be directed to Jerad Bales (jdbales@cuahsi.org).

Additional Resources

Additional information regarding the Summer Institute can be found:

- [CUAHSI NWM Summer Institute Informational Website](#)
- [CUAHSI Technical Report on the 2016 Summer Institute](#)
- [CUAHSI Technical Report on the 2017 Summer Institute](#)
- [CUAHSI Technical Report on the 2018 Summer Institute](#)
- [2016 Summer Institute Video](#)