



**National Science Foundation**  
**4201 Wilson Boulevard**  
**Arlington, Virginia 22230**

**NSF 14-054**

**Dear Colleague Letter - Support for Natural Hazards Engineering Research Infrastructure and Research during FY 2015-FY 2019**

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National Science Foundation  
Directorate for Social, Behavioral & Economic Sciences (SBE)

March 20, 2014

Dear Colleagues:

The purpose of this Dear Colleague Letter (DCL) is to inform the natural hazards engineering research community of two forthcoming program solicitations anticipated to be issued by the National Science Foundation's (NSF) Directorate for Engineering, Division of Civil, Mechanical and Manufacturing Innovation, between April and June 2014, for the following: (1) operations of natural hazards engineering research infrastructure for FY 2015-FY 2019 and (2) research on multi-hazard resilient and sustainable civil infrastructure. NSF does not intend to provide additional information beyond this DCL until the program solicitations and any accompanying Frequently Asked Questions are issued, as those will be the official issuances for these competitions and take precedence over the information in this DCL. The anticipated due dates for full proposals submitted to these solicitations will be 90 days following the publication date.

**ELIGIBILITY INFORMATION**

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Proposals responding to either solicitation must be submitted by academic institutions, i.e., universities or two- and four-year colleges (including community colleges) accredited in, and having a campus located in, the U.S., acting on behalf of their faculty members.

**PROGRAM DESCRIPTIONS**

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**Operations of Natural Hazards Engineering Research Infrastructure (NHERI) for FY 2015-2019**

NHERI will be an NSF-supported multi-user facility operating earthquake engineering and wind engineering research infrastructure. The NHERI solicitation will replace solicitation NSF 13-537, George E. Brown, Jr. Network for Earthquake Engineering Simulation Operations FY 2015-FY 2019 (NEES2 Ops), to broaden support for natural hazards research infrastructure. NEES2 will now be recomputed as part of the larger NHERI. NSF will support up to 10 awards to establish NHERI as follows:

- a. NHERI Coordination Office (NCO) - one award. The NCO will coordinate NHERI-wide activities and awardees, such as, but not limited to, setting policies and procedures for NHERI, running quarterly meetings of the council of NHERI awardees, coordinating transparent scheduling of facility users, and convening the natural hazards engineering research community to develop a decadal science plan for FY 2020-2029.
- b. Cyberinfrastructure - one award. This awardee will operate a production quality, cyberinfrastructure platform with near 100% uptime, which includes middleware, an open source curated and archival repository for earthquake and wind engineering experimental and simulation data and post-

disaster, rapid response research data, and access to high performance computing resources, and delivers and supports community-driven computational, simulation, collaborative, and educational tools.

- c. Computational Simulation Center - one award. The center will develop community-driven, open source computational and simulation tools for natural hazards engineering research. These tools will be integrated by the cyberinfrastructure awardee into the cyberinfrastructure platform for delivery and community use.
- d. Post-disaster, rapid response research facility - one award. This facility will be supported for: (1) equipment, instrumentation, and other resource acquisition to build the experimental, information technology, and support capabilities to collect perishable research data following a natural hazards disaster and (2) subsequent operations of the facility to assist researchers with national and global deployment.
- e. Experimental research facilities, to include a mix of earthquake engineering and wind engineering facilities - up to six awards. Support will be provided for “multi-user ready” facilities with: (1) unique, fully operational equipment, instrumentation, and data acquisition, (2) qualified staffing to train and serve a broad external user base, (3) capability in real-time/near real-time to upload experimental metadata and data to the cyberinfrastructure data repository, and (4) demonstrated facility excellence in management, safety, and service to users.

NHERI will be part of NSF’s multi-user facilities portfolio. More information about NSF-supported facilities is available at [http://www.nsf.gov/bfa/lfo/lfo\\_documents.jsp](http://www.nsf.gov/bfa/lfo/lfo_documents.jsp): *Large Facilities Manual, NSF13-038*, and *NSF/BFA Business Systems Review (BSR) Guide, NSF 13-100*.

## **Research on Multi-hazard Resilient and Sustainable Civil Infrastructure**

Interdisciplinary research is needed to advance the fundamental engineering science base for our nation’s next generation civil infrastructure (e.g., buildings and other structures) to achieve lifecycle performance goals for multi-hazard resilience and sustainability. Such research involves the integration of research on single- and multi-hazard resilience of civil infrastructure with research on sustainable civil infrastructure such as green design, construction, maintenance, operations, and deconstruction for recycle/reuse; alternative energy resources and efficiencies for civil infrastructure; and sustainable construction materials. This research may use NHERI experimental facilities and cyberinfrastructure resources when operational. This solicitation will replace solicitation NSF 13-544, NEES Research (NEESR) Planning Grants, and support up to 10 awards.

## **FURTHER INFORMATION**

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Program Contact: Questions or comments should be directed to Joy Pauschke, NEES Operations and Research Program Director, 703-292-7024, [jpauschk@nsf.gov](mailto:jpauschk@nsf.gov).

Sincerely,

George Hazelrigg  
Acting Director, Division of Civil, Mechanical and Manufacturing Innovation  
National Science Foundation