Dear Colleagues:

The National Science Foundation (NSF) and its staff are deeply concerned for the people and institutions affected by Hurricane Harvey and its aftermath. Now that the consequences of Hurricane Harvey are upon us, new science and engineering questions are being raised. Through this Dear Colleague Letter (DCL), NSF encourages the submission of proposals that seek to address the challenges related to this storm. NSF also will support fundamental science and engineering research projects whose results may enable our country to better prepare for, respond to, recover from, or mitigate future catastrophic events. Research proposals relating to a better fundamental understanding of the impacts of the storm (physical, biological and societal), human aspects of natural disasters (including first responders and the general public), emergency response methods, and approaches that promise to reduce future damage also are welcome.

With NSF support, researchers have a long history of advancing understanding and knowledge about natural and built environments, as well as the relationship between humans and their environments in the context of large-scale disasters. Fundamental science and technological advancements are vital to our continued improvement of disaster preparation and restoration. For example, NSF-funded research has advanced understanding of the mechanisms that cause levee failures, gained new knowledge on the performance of critical infrastructure, and supported efforts to improve flood water decontamination. Researchers also have improved our ability to better predict, with longer lead times, the path of tropical cyclones. NSF support for researchers has led to the deployment of underwater rescue robots in an effort to safeguard emergency workers, developed real-time flood potential models, conducted effectiveness assessments of oil plume dispersants, assessed and advised better hazard-resistant buildings, and developed liquefaction mitigation methods in response to earthquakes. In addition, NSF-funded researchers have made ground-breaking discoveries about the long-term psychological and emotional impacts of national disasters.

Multiple types of proposals may be submitted to conduct new research related to Hurricane Harvey, as follows:

- **Rapid Response Research (RAPID):** Proposals focusing on projects with severe urgency with regard to availability of, or access to, data, facilities or specialized equipment, including quick-response research on natural disasters. RAPID proposal project descriptions are expected to be brief and may not exceed five pages, with a maximum request of $200K for up to one year,
although many are much smaller. See the *NSF Proposal and Award Policies and Procedures Guide* (PAPPG) Chapter II.E.1 for instructions on preparation of a RAPID proposal.

- **Early-concept Grants for Exploratory Research (EAGER):** Proposals to conduct fundamental research representing exploratory work in its early stages on untested, but potentially transformative, research ideas or approaches. This research may be considered especially "high risk-high payoff" in the sense that it, for example, involves radically different approaches, applies new expertise, or engages novel disciplinary or interdisciplinary perspectives. EAGER proposal project descriptions are expected to be brief, and may not exceed eight pages. Requests may be up to $300K and with a maximum award duration of two years. See PAPPG Chapter II.E.2 for instructions on preparation of an EAGER proposal.

- **Supplemental funding requests to existing awards:** Small amounts of supplemental funding and up to six months of additional support may be requested. See PAPPG Chapter VI.E.4 for instructions on preparation of a supplemental funding request.

To submit a RAPID, EAGER or supplemental funding request, investigators must contact the NSF Program Officer most closely related to the proposal topic before submitting, to determine if the proposed activities meet NSF’s guidelines for these types of submissions or whether the proposed work is more suitable for submission as an unsolicited proposal. The contact people listed below, one from each NSF directorate, can help investigators identify the appropriate Program Officer.

Proposals submitted pursuant to this DCL may request the use of NSF-funded advanced computing resources such as Blue Waters or Stampede2. In these cases, investigators must contact the NSF Office of Advanced Cyberinfrastructure (OAC) prior to submission of the proposal.

Proposals may be submitted at any time. To be considered for Fiscal Year 2017 funding, proposals must be received by submitter's local time of 5 p.m. on September 13, 2017.

Investigators with general questions are advised to contact one of the following Directorate liaisons:

**BIO:** Elizabeth Blood, eblood@nsf.gov, (703) 292-4349

**CISE:** David Corman, dcorman@nsf.gov, (703) 292-8745

**EHR:** David Campbell, dcampbel@nsf.gov, (703) 292-5093

**ENG:** Joy Pauschke, jpauschk@nsf.gov, (703) 292-7024

**GEO:** Mike Sieracki, msierack@nsf.gov, (703) 292-7585

**MPS:** John Gillaspy, jgillasp@nsf.gov, (703) 292-7173

**OAC:** Ed Walker, edwalker@nsf.gov, (703) 292-4863

**SBE:** Robert (Bob) 'Connor, roconnor@nsf.gov, (703) 292-7263

Signed by:
James Olds, Assistant Director (AD) BIO
James Kurose, AD CISE
James Lewis, AD EHR
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Fay Cook, AD SBE
Suzanne Iacono, Office Head, OIA