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NATIONAL SCIENCE FOUNDATION
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NSF 17-047

Dear Colleague Letter: Public Participation in Science, Technology, Engineering, and Mathematics Research: Capacity-building, Community-building, and Direction-setting

January 23, 2017

Dear Colleagues:

With this Dear Colleague Letter (DCL), the National Science Foundation's (NSF) Directorates for Computer and Information Science and Engineering (CISE), Education and Human Resources (EHR), Geosciences (GEO), Social, Behavioral, and Economic Sciences (SBE), Engineering (ENG), Mathematics and Physical Sciences (MPS) (Divisions of Physics and Materials Research, only) and the Office of International Science and Engineering (OISE) announce their intention to support proposals aimed at capacity-building, community-building, and direction-setting for Public Participation in STEM Research (PPSR), in alignment with the Foundation's PPSR Agency Priority Goal for fiscal years (FY) 2016-2017. See <https://www.performance.gov/content/invest-strategically-public-participation-science-technology-engineering-and-mathematics?view=public> for more information about this goal.

In PPSR, members of the public partner with scientists and engineers to solve complex problems through participating in some or all of the formulation of questions and experiments; collection and analysis of data; and interpretation, use, and publication of results. Encompassing citizen science, citizen sensing, crowdsourcing, community science, and related approaches, PPSR also benefits public participants by providing opportunities to learn, addressing questions of concern to the participants and their communities, and contributing to science and engineering.

To help researchers, practitioners, and participants in PPSR learn from each other's experiences, collaboratively pursue PPSR challenges, and plan future PPSR efforts, NSF encourages through this DCL proposals to coordinate PPSR efforts at large, medium, and small scale. Specifically, NSF encourages proposals for (a) Research Coordination Networks (RCN) to build PPSR capacity and community; (b) conference proposals to bring together specific communities and to envision future directions for PPSR activities; and (c) PPSR-focused supplements to existing NSF-funded awards that enhance existing research activities through the introduction of PPSR components. Specifically:

1. RCN proposals to support PPSR can be centered in a specific domain or field, or aimed more broadly at PPSR as a whole. In either case, they should address the goals around capacity-

- building, community-building, and direction-setting for PPSR. RCN proposals should be submitted in accordance with the guidance for general proposals in the RCN program solicitation (https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=11691).
2. Conference proposals of up to \$50,000 to support capacity- and community-building as well as direction-setting for PPSR efforts are encouraged. These proposals should include plans for concrete outputs that advance PPSR in the target community, as well as specific plans to recruit a variety of researchers, practitioners, and participants in PPSR. Conferences connected to standing conferences, public-facing science and engineering events, and other professional meetings are encouraged to increase potential reach. Conference proposals should be submitted in accordance with the instructions for submitting conference proposals in the NSF *Proposal and Award Policies and Procedures Guide (PAPPG)* available at: https://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf17001.
 3. Supplemental funding requests that introduce a PPSR component to an existing NSF-funded project should include a clear description of the PPSR-related activities, the specific benefits to both the intellectual merit and broader impacts of the existing project, and advisory or collaborating mentor(s) with relevant expertise to support the PPSR aspects. Supplemental proposals should request no more than 20% of the original award budget. Additional information about requesting supplemental support is contained in the NSF *Proposal and Award Policies and Procedures Guide (PAPPG)* available at: https://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf17001.

Note that each program may not support submission of all three proposal categories, and an email documenting NSF Program Officer approval to submit a proposal is needed. Thus, an interested Principal Investigator (PI) should email a one-page summary of the proposal concept to the cognizant Program Officer for the corresponding program of interest. To support administration, the PPSR DCL email alias (PPSR@nsf.gov) should be copied on these messages. If approved, email documentation from an NSF Program Officer confirming approval to submit a proposal must be titled "PPSR DCL - Program Officer Concurrence Email" and uploaded in the Supplementary Documentation section of FastLane.

PPSR proposals in response to this DCL should consider one or more key challenges and opportunities around PPSR. Some examples are listed below.

Novel research: designing PPSR mechanisms that expand the kinds, domains, and scopes of research beyond what is currently conducted; and developing novel processes and projects that go beyond existing PPSR approaches.

Data management: ensuring data quality, provenance, curation, security, sharing, and stewardship, which are concerns for all projects but can be exacerbated in the large-scale, volunteer, distributed data collection and analysis contexts that characterize PPSR; and for participants, identity management and privacy.

Team composition, recruitment, and structuring: developing strategies and mechanisms to recruit, include, organize, train, retain, educate, and provide authentic scientific experiences and other real benefits to diverse participants from all parts of society, who bring and contribute a range of insights and ideas.

Project infrastructure: providing and maintaining effective, usable instruments, interfaces, platforms, and infrastructures for conducting PPSR projects.

The practice and science of PPSR: advancing scientific understanding of PPSR as a method, including how to structure PPSR projects, support and measure both scientific effectiveness and participant learning and engagement, learn how well PPSR works in a given context, and develop best practices for PPSR.

Titles for RCN and conference proposals pursuant to this DCL should begin with "PPSR:". Proposals and supplemental funding requests pursuant to this DCL may be submitted through April 11, 2017.

For general inquiries, email PPSR@nsf.gov.

Sincerely,

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