



TO: Dr. Kelly Rusch, VP for Research and Creative Activity,
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FROM: The Implementation Group

DATE: 23 February 2016

SUBJECT: Analysis of National Science Foundation (NSF) FY 2016 Inclusion across
the Nation of Communities of Learners of Underrepresented Discoverers
in Engineering and Science (NSF INCLUDES) Program Solicitation

Details

- DATE OF RELEASE – 22 February 2016
- STABLE LINK – http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf16544
- PRIMARY AGENCY – National Science Foundation
- TOTAL FUNDING - \$12,500,000

Executive Summary

NSF INCLUDES is focused on diversity, inclusion, and broadening participation in science, technology, engineering, and mathematics (STEM) fields. It supports efforts to build the STEM workforce, including improving the preparation, increasing the participation, and ensuring the contributions of underrepresented groups, such as women, members of racial and ethnic groups, persons with disabilities, and persons with low socio-economic status.

In FY 2016, NSF seeks proposals for Design and Development Launch Pilots to catalyze the formation of NSF INCLUDES Alliances. NSF has allocated \$12.5M for an anticipated 30-40, two-year awards at up to \$300,000 each.

Institutions may lead only one proposal in this competition. An individual may serve as PI on only one proposal and may be co-PI on up to three proposals. A mandatory pre-proposal is due 15 April 2016 with full proposals due on 24 June 2016.

Summary

NSF INCLUDES aims to improve the preparation, increase the participation, and ensure the contributions of individuals from groups that have traditionally been underrepresented and underserved in the STEM enterprise, including women, members of racial and ethnic groups, persons with disabilities, and persons with low socio-economic status. The goal of this effort is to transform the STEM enterprise at all levels in order to fully engage the nation's talent. NSF is particularly interested in using approaches to scaling and growth such as collective impact, networked communities and strategic partnerships.

NSF INCLUDES seeks to develop networks that involve representative organizations and consortia from different sectors that are committed to a common agenda to solve a specific STEM inclusion problem at scale. This is a decade-long initiative to ensure that women, blacks, Hispanics, and people with disabilities are represented in percentages comparable to their representation in the U.S. population.

NSF 16-544 requires proposers to submit a preliminary proposal that outlines the major goals of the project and the program components. Pre-proposals have a highly defined structure:

1. Project Summary (1 page) - An overview of the proposed Design and Development Launch Project, addressing separately the intellectual merit and broader impacts. The summary should be written in the third person, informative to those working in the same or related field(s), and understandable to a scientifically or technically literate reader.
2. Project Description (5 page maximum) containing the two following sections:
 - a. Personnel (1 page. Any remaining space should be left blank.) - A list of project personnel plus each person's institutional affiliation, and a minimal description of that person's role(s) in the project. The list should have two sections: (1) PI(s), co-PI(s), and sub-award lead senior investigators; and (2) any other senior personnel.
 - b. Project (4 page maximum) addressing separately both the intellectual merit and broader impacts. This section must address the following questions:
 - i. What broadening participation (BP) challenge(s) will be

- addressed and, if successfully addressed, what will be the contribution to BP in the Nation's scientific workforce?
- ii. What is the preliminary strategic plan to address the BP challenge(s), including goals and measurable objectives?
 - iii. Which objectives will be addressed by the pilot, and why will successfully addressing these objectives position the PIs to launch a successful NSF INCLUDES Alliance that will continue to address the BP challenge(s) and lead to information for improved BP at a national scale?
 - iv. Who are the initial and proposed partners and what is the evidence that the partnership will be able to use social innovation frameworks such as collective impact to achieve the goals of the project?
 - v. How will the pilot project's activities contribute to next steps for a research agenda and/or development plan to improve inclusion in STEM through an NSF INCLUDES Alliance?

References are limited to 3 pages and no budget information should be submitted. Preliminary proposals are due 15 April 2016. NSF will communicate the decision to Invite/Do Not Invite for full proposals.

While NSF 16-544 does not articulate solicitation-specific merit review criteria, it is clear that at least the pre-proposals will be evaluated using the criteria below. Pre-proposals should:

- determine the challenge to be addressed;
- organize the set of partners that will participate in the project;
- identify the lead partner who has the demonstrated capacity and vision to develop, manage, and lead a collective effort;
- identify a common agenda in which participants share a vision for change that reflects a collective understanding of the BP challenge;
- delineate an approach to solving the challenge problem through agreed upon goals, objectives, strategies, and activities;
- describe agreed-upon ways to measure and report success, including the selection of an external evaluator with demonstrated qualifications to develop a comprehensive evaluation plan; and

- develop an integrated and coordinated strategic plan that facilitates the accomplishment and implementation of a set of specified action items, including progress indicators.

Analysis

NSF 16-544 is the initial component of a three-part, multi-year effort. This first stage seeks pilot projects that present innovative ways for solving a BP challenge in STEM. Successful proposals will identify a specific goal and measurable objectives, along with an argument that the set of partners being assembled includes all who are needed to successfully address the objective. The plan must articulate its potential for scaling. The planning and start-up activities are aimed at engaging appropriate communities in testing the feasibility of developing a full-scale plan and process for change, including identifying other support mechanisms for sustaining the efforts.

The second component of NSF INCLUDES is the INCLUDES Alliance, expected to be released in FY 2017. Up to five alliances will be funded for 5 years, at up to \$2,500,000 per year each. There will be an expectation that each Alliance proposal will build from a Design and Development Launch Pilot that develops and adds new partners, collaborators, or networks. NSF INCLUDES Alliances will leverage existing Design and Development Launch Pilots, programs, people, organizations, and institutions to form NSF's "next generation" BP Investments.

The third component of NSF INCLUDES is the Backbone Organization. In FY 2016, NSF will issue a call for conference and workshop proposals to inform the design of the Backbone Organization infrastructure for NSF INCLUDES. This is discussed in a Dear Colleague Letter (DCL) from Dr. Cordova (NSF 16-048)¹.

Several foundational documents serve as the impetus and guides for NSF INCLUDES. Ideas and language from these documents feature heavily in the DCL and the solicitation, and Principal Investigators are strongly encouraged to use these documents to frame the pre-proposal.

¹ <http://www.nsf.gov/pubs/2016/nsf16048/nsf16048.jsp>

1. Hunt, V., Layton, D., & Prince, S. (February, 2015). Diversity Matters. McKinsey & Company.
2. Committee on Equal Opportunities in Science and Engineering (CEOSE) 2011-2012 Biennial Report to Congress.²
3. Committee on Equal Opportunities in Science and Engineering (CEOSE) Broadening Participation in STEM.³

² http://www.nsf.gov/od/oia/activities/ceose/reports/Full_2011-2012_CEOSE_Report_to_Congress_Final_03-04-2014.pdf

³ http://www.nsf.gov/od/oia/activities/ceose/documents/2013-2014%20CEOSE%20Biennial%20Report%20to%20Congress_Final%20Version_09-08-2015.pdf