Experimental Program to Stimulate Competitive Research: Workshop Opportunities (EPS-WO)

PROGRAM SOLICITATION
NSF 12-588

REPLACES DOCUMENT(S):
NSF 06-613

National Science Foundation

Office of Integrative Activities

Full Proposal Deadline(s) (due by 5 p.m. submitter's local time):

Proposals Accepted Anytime

IMPORTANT INFORMATION AND REVISION NOTES

Acceptance of a White Paper by the NSF EPSCoR Office is required before a full workshop proposal can be submitted. The procedure for doing so is described in Section V.A below. Specific instructions for preparing workshop proposals are available electronically in Grant Proposal Guide (GPG) Chapter II Section D.8 and can be accessed on the NSF website at http://www.nsf.gov/pubs/policydocs/pappguide/nsf10_1/gpg_2.jsp#IID8.

Effective February 2, 2012, new NSF conference or group travel grants, and funding amendments to existing NSF conference or group travel grants, will begin referencing and are subject to the *NSF Conference or Group Travel Grant Special Conditions* (FL 26) dated 2/12. The complete text of the FL 26 (as well as relevant documents) is available electronically on the NSF website at http://www.nsf.gov/awards/managing/special_conditions.jsp.

Important Reminders

A revised version of the *NSF Proposal & Award Policies & Procedures Guide* (PAPPG), NSF 11-1, was issued on October 1, 2010 and is effective for proposals submitted, or due, on or after January 18, 2011. Please be advised that the guidelines contained in NSF 11-1 apply to proposals submitted in response to this funding opportunity for the submission window in 2012. For future opportunities, please check for updates to the PAPPG, which is revised regularly.

Cost Sharing: The PAPPG has been revised to implement the National Science Board's recommendations regarding cost sharing. Inclusion of voluntary committed cost sharing is prohibited. In order to assess the scope of the project, all organizational resources necessary for the project must be described in the Facilities, Equipment and Other Resources section of the proposal. The description should be narrative in nature and must not include any quantifiable financial information. Mandatory cost sharing will only be required when explicitly authorized by the NSF Director. See the PAPP Guide Part I: *Grant Proposal Guide (GPG)* Chapter II.C.2.g(xi) for further information about the implementation of these recommendations.

Data Management Plan: The PAPPG contains a clarification of NSF's long standing data policy. All proposals must describe plans for data management and sharing of the products of research, or justify that such plans are not needed. FastLane will not permit submission of a proposal that is missing a Data Management Plan. The Data Management Plan will be reviewed as part of the intellectual merit or broader impacts of the proposal, or both, as appropriate. Links to data management requirements and plans relevant to specific Directorates, Offices, Divisions, Programs, or other NSF units are available on the NSF website at: http://www.nsf.gov/bfa/dias/policy/dmp.jsp. See Chapter II.C.2.j of the GPG for further information about the implementation of this requirement.

Postdoctoral Researcher Mentoring Plan: Each proposal that requests funding to support postdoctoral researchers must include, as a supplementary document, a description of the mentoring activities that will be provided for such individuals. Please be advised that if required, FastLane will not permit submission of a proposal that is missing a Postdoctoral Researcher Mentoring Plan. See Chapter II.C.2.j of the GPG for further information about the implementation of this requirement.

Any proposal submitted in response to this solicitation should be submitted in accordance with the revised *NSF Proposal & Award Policies & Procedures Guide* (PAPPG) (NSF 16-1), which is effective for proposals submitted, or due, on or after January 25, 2016.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Experimental Program to Stimulate Competitive Research (EPSCoR): Workshop Opportunities (EPS-WO)

Synopsis of Program:

The Experimental Program to Stimulate Competitive Research (EPSCoR) is designed to fulfill the mandate of the National Science Foundation (NSF) to promote scientific progress nationwide. The EPSCoR program is directed at those jurisdictions that have historically received lesser amounts of NSF Research and Development (R&D) funding. Thirty jurisdictions, including twenty-eight states, the Commonwealth of Puerto Rico, and the U. S. Virgin Islands, currently participate in EPSCoR. Through this program, NSF establishes partnerships with government, higher education and industry that are designed to effect sustainable improvements in a jurisdiction's research infrastructure, R&D capacity, and hence, its national R&D competitiveness.

The EPSCoR Office welcomes unsolicited proposals from EPSCoR jurisdictions for workshops involving the EPSCoR community. These workshops will focus on innovative ways to address multi-jurisdictional efforts on themes of regional to national importance with relevance to EPSCoR's goals/objectives and NSF's mission.

Cognizant Program Officer(s):

Please note that the following information is current at the time of publishing. See program website for any updates to the points of contact.

- Denise M. Barnes, Office Head (Acting), EPSCoR, 940, telephone: (703) 292-5179, fax: (703) 292-9047, email: dbarnes@nsf.gov
- Kelvin Chu, 940, telephone: (703) 292-7860, email: kchu@nsf.gov
- Sean C. Kennan, 940, telephone: (703) 292-7575, email: skennan@nsf.gov
- Audrey Levine, 940, telephone: (703) 292-7374, email: alevine@nsf.gov
- Timothy M. VanReken, 940, telephone: (703) 292-7378, email: tvanreke@nsf.gov
- Uma D. Venkateswaran, Program Director, EPSCoR, 940, telephone: (703) 292-7732, fax: (703) 292-9047, email: uvenkate@nsf.gov

Applicable Catalog of Federal Domestic Assistance (CFDA) Number(s):

- 47.041 --- Engineering
- 47.049 --- Mathematical and Physical Sciences
- 47.050 --- Geosciences
- 47.070 --- Computer and Information Science and Engineering
- 47.074 --- Biological Sciences
- 47.075 --- Social Behavioral and Economic Sciences
- 47.076 --- Education and Human Resources
- 47.079 --- Office of International Science and Engineering
- 47.083 --- Office of Integrative Activities (OIA)

Award Information

Anticipated Type of Award: Standard Grant

Estimated Number of Awards: 5

Anticipated Funding Amount: $500,000

The anticipated funding amount applies to FY 2013, with similar amounts in subsequent years, pending quality of proposals and availability of funds.

Eligibility Information

Who May Submit Proposals:

Proposals may only be submitted by the following:

- All jurisdictions that currently participate in EPSCoR are eligible to submit workshop proposals. Non-EPSCoR institutions and individuals may participate in the collaborative workshop activities, but they cannot lead the workshop proposal effort, nor can they be recipients of NSF EPSCoR funds. Jurisdictions that are newly eligible for EPSCoR funding must have received a planning grant before submitting proposals to any of the EPSCoR programs.

Who May Serve as PI:

There are no restrictions or limits.

Limit on Number of Proposals per Organization:

There are no restrictions or limits.

Limit on Number of Proposals per PI or Co-PI:

There are no restrictions or limits.

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **Letters of Intent:** Not required

- **Preliminary Proposal Submission:** Not required
- **Full Proposals:**
  - Full Proposals submitted via FastLane: NSF Proposal and Award Policies and Procedures Guide, Part I: Grant Proposal Guide (GPG) Guidelines apply. The complete text of the GPG is available electronically on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg.
  - Full Proposals submitted via Grants.gov: NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov Guidelines apply (Note: The NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide)

B. Budgetary Information

- **Cost Sharing Requirements:**

  Inclusion of voluntary committed cost sharing is prohibited.

- **Indirect Cost (F&A) Limitations:**

  Not Applicable

- **Other Budgetary Limitations:**

  Other budgetary limitations apply. Please see the full text of this solicitation for further information.

C. Due Dates

- **Full Proposal Deadline(s)** (due by 5 p.m. submitter's local time):

  Proposals Accepted Anytime

Proposal Review Information Criteria

Merit Review Criteria:

National Science Board approved criteria apply.

Award Administration Information

Award Conditions:

Additional award conditions apply. Please see the full text of this solicitation for further information.

Reporting Requirements:

Standard NSF reporting requirements apply.

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I. INTRODUCTION

Section 3(e) of the National Science Foundation (NSF) Act of 1950, as amended, states that: "...it shall be an objective of the Foundation to strengthen research and education in the sciences and engineering, including independent research by individuals, throughout the United States, and to avoid undue concentration of such research and education." Through its Congressional mandate, NSF promotes and advances scientific progress nationwide. However, in 1978, public concern about undue geographical concentration of federal funding of academic research and development (R&D) led Congress to further authorize NSF to conduct the Experimental Program to Stimulate Competitive Research (EPSCoR). These Congressional instructions, which established the Experimental Program to Stimulate Competitive Research, have been restated in subsequent Congressional authorizations of the Foundation's budget. Eligibility for EPSCoR participation is restricted to those jurisdictions that have historically received lesser amounts of NSF R&D funding and have demonstrated a commitment to develop their research foundations and to improve the quality of science, technology, engineering, and mathematics (STEM) research conducted at their universities and colleges. Thirty jurisdictions including twenty-eight states, the Commonwealth of Puerto Rico and the U. S. Virgin Islands currently participate in one or more elements of the NSF EPSCoR program.

A. EPSCoR Mission and Goals

The mission of EPSCoR is to assist the National Science Foundation in its statutory function

"to strengthen research and education in science and engineering throughout the United States and to avoid undue concentration of such research and education."

EPSCoR goals are to:

- provide strategic programs and opportunities for EPSCoR participants that stimulate sustainable improvements in their R&D capacity and competitiveness, and
- advance science and engineering capabilities in EPSCoR jurisdictions for discovery, innovation, and overall knowledge-based prosperity.

B. EPSCoR Objectives

The primary objective of EPSCoR is to stimulate research that is fully competitive in the disciplinary and multidisciplinary research programs of the National Science Foundation.

Specific EPSCoR objectives are to:

- catalyze key research themes that empower knowledge generation, dissemination, and application;
- activate effective jurisdictional and regional collaborations that advance scientific research, promote innovation, and benefit society;
- broaden participation in science and engineering (S&E) by institutions, organizations, and people within EPSCoR jurisdictions; and
- use EPSCoR as a testbed for development, implementation, and evaluation of future programmatic experiments that motivate positive change and progression.

Pursuit of these goals and objectives bolsters the capacity of jurisdictions to:

- enhance discovery and learning through utilization of cyberinfrastructure and other evolving technologies;
- develop the diverse, well-prepared, internationally competent and globally engaged Science, Technology, Engineering and Mathematics (STEM) workforce necessary to sustain the nation's competitive edge;
- facilitate knowledge generation leading to economic development; and
- expand the scientific literacy of all citizens, and disseminate to them the importance of STEM research and education.

C. EPSCoR Investment Strategies

EPSCoR's investment portfolio is aligned with the Foundation's strategic goals of TRANSFORM THE FRONTIERS, INNOVATE FOR SOCIETY, and PERFORM AS A MODEL ORGANIZATION:

- Transform the Frontiers - Emphasize interdisciplinary and system-oriented approaches that often lead to transformational concepts; integrate research and education; ensure a healthy balance of new investigators, broad participation throughout the Science & Engineering (S&E) community, and support for students and postdoctoral researchers involved in research projects; and enhance research infrastructure and promote data access to support researchers' and educators' capabilities and enable transformation at the frontiers.
- Innovate for Society - Make investments that lead to results and resources that are useful to society; engage stakeholders directly in identifying key societal needs and ensuring communication about those needs with NSF staff; and build the capacity of the nation's citizenry for addressing societal challenges through S&E.
- Perform as a Model Organization - Achieve management excellence through leadership, accountability, and personal responsibility.

EPSCoR uses three major investment strategies to achieve its goal of improving the R&D competitiveness of researchers and institutions within EPSCoR jurisdictions. These strategies are Research Infrastructure Improvement Program awards, Co-Funding of disciplinary and multidisciplinary research, and Outreach and Workshops.

- Research Infrastructure Improvement Program (RII). EPSCoR RII Track-1 awards provide up to $4 million per year for up to five years. They are intended to improve the research competitiveness of jurisdictions by improving their academic research infrastructure in areas of science and engineering supported by the National Science Foundation and critical to the particular jurisdiction's science and technology initiative or plan. These areas must be identified by the jurisdiction's EPSCoR steering committee as having the best potential to improve the jurisdiction's future R&D competitiveness.
- Co-Funding of Disciplinary and Multidisciplinary Research. EPSCoR co-invests with NSF Directorates and Offices in the support of meritorious proposals from individual investigators, groups, and centers in EPSCoR jurisdictions that are submitted to the Foundation's research and education programs, and crosscutting initiatives. These proposals have been merit reviewed and found worthy of recommendation for award by the managing program, but could not be funded without the combined, leveraged support of EPSCoR and the Research and Education Directorates. Co-funding leverages EPSCoR investment and facilitates participation of EPSCoR scientists and engineers in Foundation-wide programs and initiatives.
- Outreach and Workshops. The EPSCoR Office considers requests for support of workshops, conferences, and other EPSCoR community-based activities designed to explore opportunities in emerging areas of science and engineering, and

to share best practices in design and implementation of strategic planning, diversity, communication, cyberinfrastructure, evaluation, and other areas of importance to EPSCoR jurisdictions. The EPSCoR Office also supports outreach travel that enables NSF staff from all Directorates and Offices to work with the EPSCoR research and education community regarding NSF opportunities, priorities, programs, and policies. Such travel also serves to more fully acquaint NSF staff with the science and engineering accomplishments, ongoing activities, and new directions and opportunities for research and education in the jurisdictions.

This solicitation describes the EPSCoR Workshop Opportunities program.

II. PROGRAM DESCRIPTION

EPSCoR Workshop Opportunities Program Description

The EPSCoR Office welcomes unsolicited proposals from EPSCoR jurisdictions for certain types of timely workshops that are of interest in engaging the broad EPSCoR community. Below are the general parameters that should guide the identification of potential workshop topics and the preparation and submission of the workshop proposals. Please also refer to the NSF GPG, Chapter II.D.8.

Workshops should address multi-jurisdictional efforts that need collaboration for optimal success. Speakers from non-EPSCoR institutions can be involved in the workshop, and funding for their travel expenses can be provided by the workshop award, but funding cannot go to non-EPSCoR institutions.

- Workshops should address major regional or national themes of relevance to EPSCoR's goals/objectives and NSF's mission.
- Workshops may have as their goal the development of high quality collaborations that are capable of competing for major funding from non-EPSCoR programs.
- Workshops should address multi/interdisciplinary perspectives common to major initiatives in science and engineering.
- Workshops should have appropriate representation of underrepresented groups.
- Workshops are **not** intended solely for within-jurisdiction or single institution planning activities. Research Infrastructure Improvement (RII) planning efforts by EPSCoR jurisdictional committees accomplish these types of activities.
- Workshops are **not** to be used for new RII proposal development by a single jurisdiction. However, in those cases where multiple jurisdictions have similar thematic plans and there is value in collaboration among jurisdictions on a common theme, then a workshop might be appropriate. Jurisdictions considering such collaborative projects should contact the NSF EPSCoR Office to outline their plan and to obtain advice on the suitability of a potential workshop proposal.

A successful workshop proposal will demonstrate a compelling rationale, with clear goals, a committed leadership team, institutional support, leveraged resources, and strategic planning. Inclusivity of groups underrepresented in STEM must be evident at all levels, from the planning committee to the final participants. The level of inclusivity, and measures of workshop programmatic success, must be obtained through evaluation and feedback. A plan for long-term and widespread dissemination of results must also be included.

A list of workshop participants must be sent to the NSF EPSCoR Office immediately after the event has concluded. At the conclusion of each workshop award period, a comprehensive report on the workshop and its products, including specific implementation plans for the next steps, must be submitted to the NSF EPSCoR Office and published on the relevant jurisdictions' web sites.

III. AWARD INFORMATION

Limitation of Awards:

- Proposal budgets for workshops generally request up to $100,000 for a project period not to exceed one year
- The estimated program budget, number of awards and average award size and duration are subject to the availability of funds each fiscal year

IV. ELIGIBILITY INFORMATION

Who May Submit Proposals:

Proposals may only be submitted by the following:

- All jurisdictions that currently participate in EPSCoR are eligible to submit workshop proposals. Non-EPSCoR institutions and individuals may participate in the collaborative workshop activities, but they cannot lead the workshop proposal effort, nor can they be recipients of NSF EPSCoR funds. Jurisdictions that are newly eligible for EPSCoR funding must have received a planning grant before submitting proposals to any of the EPSCoR programs.

Who May Serve as PI:

There are no restrictions or limits.

Limit on Number of Proposals per Organization:

There are no restrictions or limits.

Limit on Number of Proposals per PI or Co-PI:

There are no restrictions or limits.

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

Full Proposal Preparation Instructions: Proposers may opt to submit proposals in response to this Program Solicitation via Grants.gov or via the NSF FastLane system.

- Full proposals submitted via FastLane: Proposals submitted in response to this program solicitation should be prepared and submitted in accordance with the general guidelines contained in the NSF Grant Proposal Guide (GPG). The complete text of the GPG is available electronically on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from nsfpubs@nsf.gov. Proposers are reminded to identify this program solicitation number in the program solicitation block on the NSF Cover Sheet For Proposal to the National Science Foundation. Compliance with this requirement is critical to determining the relevant proposal processing guidelines. Failure to submit this information may delay processing.

- Full proposals submitted via Grants.gov: Proposals submitted in response to this program solicitation via Grants.gov should be prepared and submitted in accordance with the NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov. The complete text of the NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at: (http://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide). To obtain copies of the Application Guide and Application Forms Package, click on the Apply tab on the Grants.gov site, then click on the Apply Step 1: Download a Grant Application Package and Application Instructions link and enter the funding opportunity number, (the program solicitation number without the NSF prefix) and press the Download Package button. Paper copies of the Grants.gov Application Guide also may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from nsfpubs@nsf.gov.

In determining which method to utilize in the electronic preparation and submission of the proposal, please note the following:

Collaborative Proposals. All collaborative proposals submitted as separate submissions from multiple organizations must be submitted via the NSF FastLane system. Chapter II, Section D.4 of the Grant Proposal Guide provides additional information on collaborative proposals.

Acceptance of a White Paper by the EPSCoR Office is required before a workshop proposal can be submitted. White Papers may be submitted to the EPSCoR Office Head via email at any time.

Proposals must follow the guidelines in the NSF Grant Proposal Guide, Chapter II, Section D.8.

The workshop proposal development process is outlined below.

1 - Identify the workshop theme: The first step in the proposal development process is to identify the theme or topic of the workshop. Ideally, EPSCoR community interest in the topic should be substantial and may be gauged by use of a survey or focused conversations. A Steering Committee should be formed to verify the concept within the greater body of knowledge in the field, ensuring that it is not duplicative of other efforts, and to obtain data supporting the theme or concept. Each participating jurisdiction should be asked to provide the contact information for a person with whom the Steering Committee can communicate, and to provide a synopsis of the jurisdiction's interest in the topic. The NSF EPSCoR Office should also be consulted during the initial preparation phase.

2 - Draft the White Paper: Detailed planning of the workshop, the interest of the EPSCoR community, and the workshop preparation timeline should be drafted in a White Paper which must not exceed 5 pages. During the White Paper preparation process,

- Consult with the NSF EPSCoR Program Office
- Consult with the NSF Program Officers in the research area(s) of interest
- Determine availability and interest of prospective speakers and participants
- Address the inclusivity of groups underrepresented in STEM areas in the array of speakers and participants
- Discuss methods of dissemination, evaluation and assessment, and desired outcomes/deliverables

3 - Submit the White Paper to the NSF EPSCoR Office for review: Allow one month for the NSF EPSCoR Office to review the White Paper. If the White Paper is approved, preparation of a proposal may proceed. Extensive comments by the EPSCoR Office may require the revision and resubmission of the White Paper.

4 - Prepare and submit proposal: Feedback obtained from the review of the White Paper by the NSF EPSCoR Office must be incorporated into the proposal. While the shorter White Paper may summarize some aspects of the workshop, the proposal must explicitly address one or more of the EPSCoR objectives listed in section I.B above, and follow the GPG guidelines.

Suggested Timeline:

1. allow four to six months for initial preparation
2. allow one month for White Paper preparation
3. allow one month for the NSF EPSCoR office to review White Paper
4. submit the proposal at least six months prior to the target date for the workshop

B. Budgetary Information

Cost Sharing:

Inclusion of voluntary committed cost sharing is prohibited.

Other Budgetary Limitations:

Proposal budgets for such workshops generally request up to $100,000 for a project period not to exceed one year.

C. Due Dates

- **Full Proposal Deadline(s)** (due by 5 p.m. submitter's local time):

  Proposals Accepted Anytime

Acceptance of a White Paper by the EPSCoR Office is required before a workshop proposal can be submitted. White Papers may be submitted to the EPSCoR Office via email at any time.

D. FastLane / Grants.gov Requirements

For Proposals Submitted Via FastLane:

To prepare and submit a proposal via FastLane, see detailed technical instructions available at: https://www.fastlane.nsf.gov/a1/newstan.htm. For FastLane user support, call the FastLane Help Desk at 1-800-673-6188 or e-mail fastlane@nsf.gov. The FastLane Help Desk answers general technical questions related to the use of the FastLane system. Specific questions related to this program solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this funding opportunity.

For Proposals Submitted Via Grants.gov:

Before using Grants.gov for the first time, each organization must register to create an institutional profile. Once registered, the applicant's organization can then apply for any federal grant on the Grants.gov website. Comprehensive information about using Grants.gov is available on the Grants.gov Applicant Resources webpage: http://www.grants.gov/web/grants/applicants.html. In addition, the NSF Grants.gov Application Guide (see link in Section V.A) provides instructions regarding the technical preparation of proposals via Grants.gov. For Grants.gov user support, contact the Grants.gov Contact Center at 1-800-518-4726 or by email: support@grants.gov. The Grants.gov Contact Center answers general technical questions related to the use of Grants.gov. Specific questions related to this program solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this solicitation.

Submitting the Proposal: Once all documents have been completed, the Authorized Organizational Representative (AOR) must submit the application to Grants.gov and verify the desired funding opportunity and agency to which the application is submitted. The AOR must then sign and submit the application to Grants.gov. The completed application will be transferred to the NSF FastLane system for further processing.

Proposers that submitted via FastLane are strongly encouraged to use FastLane to verify the status of their submission to NSF. For proposers that submitted via Grants.gov, until an application has been received and validated by NSF, the Authorized Organizational Representative may check the status of an application on Grants.gov. After proposers have received an e-mail notification from NSF, Research.gov should be used to check the status of an application.

VI. NSF PROPOSAL PROCESSING AND REVIEW PROCEDURES

Proposals received by NSF are assigned to the appropriate NSF program for acknowledgement and, if they meet NSF requirements, for review. All proposals are carefully reviewed by a scientist, engineer, or educator serving as an NSF Program Officer, and usually by three to ten other persons outside NSF either as *ad hoc* reviewers, panelists, or both, who are experts in the particular fields represented by the proposal. These reviewers are selected by Program Officers charged with oversight of the review process. Proposers are invited to suggest names of persons they believe are especially well qualified to review the proposal and/or persons they would prefer not review the proposal. These suggestions may serve as one source in the reviewer selection process at the Program Officer's discretion. Submission of such names, however, is optional. Care is taken to ensure that reviewers have no conflicts of interest with the proposal. In addition, Program Officers may obtain comments from site visits before recommending final action on proposals. Senior NSF staff further review recommendations for awards. A flowchart that depicts the entire NSF proposal and award process (and associated timeline) is included in the GPG as Exhibit III-1.

A comprehensive description of the Foundation's merit review process is available on the NSF website at: http://www.nsf.gov/bfa/dias/policy/merit_review/.

Proposers should also be aware of core strategies that are essential to the fulfillment of NSF's mission, as articulated in *Investing in Science, Engineering, and Education for the Nation's Future: NSF Strategic Plan for 2014-2018*. These strategies are integrated in the program planning and implementation process, of which proposal review is one part. NSF's mission is particularly well-implemented through the integration of research and education and broadening participation in NSF programs, projects, and activities.

One of the strategic objectives in support of NSF's mission is to foster integration of research and education through the programs, projects, and activities it supports at academic and research institutions. These institutions must recruit, train, and prepare a diverse STEM workforce to advance the frontiers of science and participate in the U.S. technology-based economy. NSF's contribution to the national innovation ecosystem is to provide cutting-edge research under the guidance of the Nation's most creative scientists and engineers. NSF also supports development of a strong science, technology, engineering, and mathematics (STEM) workforce by investing in building the knowledge that informs improvements in STEM teaching and learning.

NSF's mission calls for the broadening of opportunities and expanding participation of groups, institutions, and geographic regions that are underrepresented in STEM disciplines, which is essential to the health and vitality of science and engineering. NSF is committed to this principle of diversity and deems it central to the programs, projects, and activities it considers and supports.

A. Merit Review Principles and Criteria

The National Science Foundation strives to invest in a robust and diverse portfolio of projects that creates new knowledge and enables breakthroughs in understanding across all areas of science and engineering research and education. To identify which projects to support, NSF relies on a merit review process that incorporates consideration of both the technical aspects of a proposed project and its potential to contribute more broadly to advancing NSF's mission "to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes." NSF makes every effort to conduct a fair, competitive, transparent merit review process for the selection of projects.

1. Merit Review Principles

These principles are to be given due diligence by PIs and organizations when preparing proposals and managing projects, by reviewers when reading and evaluating proposals, and by NSF program staff when determining whether or not to recommend proposals for funding and while overseeing awards. Given that NSF is the primary federal agency charged with nurturing and supporting excellence in basic research and education, the following three principles apply:

- All NSF projects should be of the highest quality and have the potential to advance, if not transform, the frontiers of knowledge.
- NSF projects, in the aggregate, should contribute more broadly to achieving societal goals. These "Broader Impacts" may be accomplished through the research itself, through activities that are directly related to specific research projects, or through activities that are supported by, but are complementary to, the project. The project activities may be based on previously established and/or innovative methods and approaches, but in either case must be well justified.
- Meaningful assessment and evaluation of NSF funded projects should be based on appropriate metrics, keeping in mind the likely correlation between the effect of broader impacts and the resources provided to implement projects. If the size of the activity is limited, evaluation of that activity in isolation is not likely to be meaningful. Thus, assessing the effectiveness of these activities may best be done at a higher, more aggregated, level than the individual project.

With respect to the third principle, even if assessment of Broader Impacts outcomes for particular projects is done at an aggregated level, PIs are expected to be accountable for carrying out the activities described in the funded project. Thus, individual projects should include clearly stated goals, specific descriptions of the activities that the PI intends to do, and a plan in place to document the outputs of those activities.

These three merit review principles provide the basis for the merit review criteria, as well as a context within which the users of the criteria can better understand their intent.

2. Merit Review Criteria

All NSF proposals are evaluated through use of the two National Science Board approved merit review criteria. In some instances, however, NSF will employ additional criteria as required to highlight the specific objectives of certain programs and activities.

The two merit review criteria are listed below. **Both** criteria are to be given **full consideration** during the review and decision-making processes; each criterion is necessary but neither, by itself, is sufficient. Therefore, proposers must fully address both criteria. (GPG Chapter II.C.2.d.i. contains additional information for use by proposers in development of the Project Description section of the proposal.) Reviewers are strongly encouraged to review the criteria, including GPG Chapter II.C.2.d.i., prior to the review of a proposal.

When evaluating NSF proposals, reviewers will be asked to consider what the proposers want to do, why they want to do it, how they plan to do it, how they will know if they succeed, and what benefits could accrue if the project is successful. These issues apply both to the technical aspects of the proposal and the way in which the project may make broader contributions. To that end, reviewers will be asked to evaluate all proposals against two criteria:

- **Intellectual Merit:** The Intellectual Merit criterion encompasses the potential to advance knowledge; and
- **Broader Impacts:** The Broader Impacts criterion encompasses the potential to benefit society and contribute to the achievement of specific, desired societal outcomes.

The following elements should be considered in the review for both criteria:

1. What is the potential for the proposed activity to
    a. Advance knowledge and understanding within its own field or across different fields (Intellectual Merit); and
    b. Benefit society or advance desired societal outcomes (Broader Impacts)?
2. To what extent do the proposed activities suggest and explore creative, original, or potentially transformative concepts?
3. Is the plan for carrying out the proposed activities well-reasoned, well-organized, and based on a sound rationale? Does the plan incorporate a mechanism to assess success?
4. How well qualified is the individual, team, or organization to conduct the proposed activities?
5. Are there adequate resources available to the PI (either at the home organization or through collaborations) to carry out the proposed activities?

Broader impacts may be accomplished through the research itself, through the activities that are directly related to specific research projects, or through activities that are supported by, but are complementary to, the project. NSF values the advancement of scientific knowledge and activities that contribute to achievement of societally relevant outcomes. Such outcomes include, but are not limited to: full participation of women, persons with disabilities, and underrepresented minorities in science, technology, engineering, and mathematics (STEM); improved STEM education and educator development at any level; increased public scientific literacy and public engagement with science and technology; improved well-being of individuals in society; development of a diverse, globally competitive STEM workforce; increased partnerships between academia, industry, and others; improved national security; increased economic competitiveness of the United States; and enhanced infrastructure for research and education.

Proposers are reminded that reviewers will also be asked to review the Data Management Plan and the Postdoctoral Researcher Mentoring Plan, as appropriate.

B. Review and Selection Process

Proposals submitted in response to this program solicitation will be reviewed by

a combination of external and internal reviewers.

In addition to the NSF review criteria of intellectual merit and broader impacts, the EPSCoR workshop proposals will be evaluated on likely regional and national outcomes, motivation for the proposed collaborative activity, and strategic relevance to research and education capability enhancement for the EPSCoR participants.

Reviewers will be asked to evaluate proposals using two National Science Board approved merit review criteria and, if applicable, additional program specific criteria. A summary rating and accompanying narrative will generally be completed and submitted by each reviewer and/or panel. The Program Officer assigned to manage the proposal's review will consider the advice of reviewers and will formulate a recommendation.

After scientific, technical and programmatic review and consideration of appropriate factors, the NSF Program Officer recommends to the cognizant Division Director whether the proposal should be declined or recommended for award. NSF strives to be able to tell applicants whether their proposals have been declined or recommended for funding within six months. Large or particularly complex proposals or proposals from new awardees may require additional review and processing time. The time interval begins on the deadline or target date, or receipt date, whichever is later. The interval ends when the Division Director acts upon the Program Officer's recommendation.

After programmatic approval has been obtained, the proposals recommended for funding will be forwarded to the Division of Grants and Agreements for review of business, financial, and policy implications. After an administrative review has occurred, Grants and Agreements Officers perform the processing and issuance of a grant or other agreement. Proposers are cautioned that only a Grants and Agreements Officer may make commitments, obligations or awards on behalf of NSF or authorize the expenditure of funds. No commitment on the part of NSF should be inferred from technical or budgetary discussions with a NSF Program Officer. A Principal Investigator or organization that makes financial or personnel commitments in the absence of a grant or cooperative agreement signed by the NSF Grants and Agreements Officer does so at their own risk.

Once an award or declination decision has been made, Principal Investigators are provided feedback about their proposals. In all cases, reviews are treated as confidential documents. Verbatim copies of reviews, excluding the names of the reviewers or any reviewer-identifying information, are sent to the Principal Investigator/Project Director by the Program Officer. In addition, the proposer will receive an explanation of the decision to award or decline funding.

VII. AWARD ADMINISTRATION INFORMATION

A. Notification of the Award

Notification of the award is made to *the submitting organization* by a Grants Officer in the Division of Grants and Agreements. Organizations whose proposals are declined will be advised as promptly as possible by the cognizant NSF Program administering the program. Verbatim copies of reviews, not including the identity of the reviewer, will be provided automatically to the Principal Investigator. (See Section VI.B. for additional information on the review process)

B. Award Conditions

An NSF award consists of: (1) the award notice, which includes any special provisions applicable to the award and any numbered amendments thereto; (2) the budget, which indicates the amounts, by categories of expense, on which NSF has based its support (or otherwise communicates any specific approvals or disapprovals of proposed expenditures); (3) the proposal referenced in the award notice; (4) the applicable award conditions, such as Grant General Conditions (GC-1)*; or Research Terms and Conditions* and (5) any announcement or other NSF issuance that may be incorporated by reference in the award notice. Cooperative agreements also are administered in accordance with NSF Cooperative Agreement Financial and Administrative Terms and Conditions (CA-FATC) and the applicable Programmatic Terms and Conditions. NSF awards are electronically signed by an NSF Grants and Agreements Officer and transmitted electronically to the organization via e-mail.

*These documents may be accessed electronically on NSF's Website at http://www.nsf.gov/awards/managing/award_conditions.jsp?org=NSF. Paper copies may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from nsfpubs@nsf.gov.

More comprehensive information on NSF Award Conditions and other important information on the administration of NSF awards is contained in the NSF *Award & Administration Guide* (AAG) Chapter II, available electronically on the NSF Website at http://www.nsf.gov/publications/pub_summ.jsp?ods_key=aag.

Special Award Conditions:

A list of Workshop participants must be sent to the NSF EPSCoR Office immediately after the event has concluded.

The final report must include identification of numbers of women and members of other underrepresented groups in the faculty and staff positions involved in planning and running the workshop, and as the faculty, staff, student and postdoctoral participants in the workshop activities. Additionally, the final report must include results of evaluation, dissemination impacts, and follow-up implementation plans (if any).

C. Reporting Requirements

For all multi-year grants (including both standard and continuing grants), the Principal Investigator must submit an annual project report to the cognizant Program Officer no later than 90 days prior to the end of the current budget period. (Some programs or awards require submission of more frequent project reports). No later than 120 days following expiration of a grant, the PI also is required to submit a final project report, and a project outcomes report for the general public.

Failure to provide the required annual or final project reports, or the project outcomes report, will delay NSF review and processing of

any future funding increments as well as any pending proposals for all identified PIs and co-PIs on a given award. PIs should examine the formats of the required reports in advance to assure availability of required data.

PIs are required to use NSF's electronic project-reporting system, available through Research.gov, for preparation and submission of annual and final project reports. Such reports provide information on accomplishments, project participants (individual and organizational), publications, and other specific products and impacts of the project. Submission of the report via Research.gov constitutes certification by the PI that the contents of the report are accurate and complete. The project outcomes report also must be prepared and submitted using Research.gov. This report serves as a brief summary, prepared specifically for the public, of the nature and outcomes of the project. This report will be posted on the NSF website exactly as it is submitted by the PI.

More comprehensive information on NSF Reporting Requirements and other important information on the administration of NSF awards is contained in the NSF *Award & Administration Guide* (AAG) Chapter II, available electronically on the NSF Website at http://www.nsf.gov/publications/pub_summ.jsp?ods_key=aag.

VIII. AGENCY CONTACTS

Please note that the program contact information is current at the time of publishing. See program website for any updates to the points of contact.

General inquiries regarding this program should be made to:

- Denise M. Barnes, Office Head (Acting), EPSCoR, 940, telephone: (703) 292-5179, fax: (703) 292-9047, email: dbarnes@nsf.gov
- Kelvin Chu, 940, telephone: (703) 292-7860, email: kchu@nsf.gov
- Sean C. Kennan, 940, telephone: (703) 292-7575, email: skennan@nsf.gov
- Audrey Levine, 940, telephone: (703) 292-7374, email: alevine@nsf.gov
- Timothy M. VanReken, 940, telephone: (703) 292-7378, email: tvanreke@nsf.gov
- Uma D. Venkateswaran, Program Director, EPSCoR, 940, telephone: (703) 292-7732, fax: (703) 292-9047, email: uvenkate@nsf.gov

For questions related to the use of FastLane, contact:

- FastLane Help Desk, telephone: 1-800-673-6188; e-mail: fastlane@nsf.gov.

For questions relating to Grants.gov contact:

- Grants.gov Contact Center: If the Authorized Organizational Representatives (AOR) has not received a confirmation message from Grants.gov within 48 hours of submission of application, please contact via telephone: 1-800-518-4726; e-mail: support@grants.gov.

IX. OTHER INFORMATION

The NSF website provides the most comprehensive source of information on NSF Directorates (including contact information), programs and funding opportunities. Use of this website by potential proposers is strongly encouraged. In addition, "NSF Update" is an information-delivery system designed to keep potential proposers and other interested parties apprised of new NSF funding opportunities and publications, important changes in proposal and award policies and procedures, and upcoming NSF Grants Conferences. Subscribers are informed through e-mail or the user's Web browser each time new publications are issued that match their identified interests. "NSF Update" also is available on NSF's website.

Grants.gov provides an additional electronic capability to search for Federal government-wide grant opportunities. NSF funding opportunities may be accessed via this mechanism. Further information on Grants.gov may be obtained at http://www.grants.gov.

ABOUT THE NATIONAL SCIENCE FOUNDATION

The National Science Foundation (NSF) is an independent Federal agency created by the National Science Foundation Act of 1950, as amended (42 USC 1861-75). The Act states the purpose of the NSF is "to promote the progress of science; [and] to advance the national health, prosperity, and welfare by supporting research and education in all fields of science and engineering."

NSF funds research and education in most fields of science and engineering. It does this through grants and cooperative agreements to more than 2,000 colleges, universities, K-12 school systems, businesses, informal science organizations and other research organizations throughout the US. The Foundation accounts for about one-fourth of Federal support to academic institutions for basic research.

NSF receives approximately 55,000 proposals each year for research, education and training projects, of which approximately 11,000 are funded. In addition, the Foundation receives several thousand applications for graduate and postdoctoral fellowships. The agency operates no laboratories itself but does support National Research Centers, user facilities, certain oceanographic vessels and Arctic and Antarctic research stations. The Foundation also supports cooperative research between universities and industry, US participation in international scientific and engineering efforts, and educational activities at every academic level.

Facilitation Awards for Scientists and Engineers with Disabilities provide funding for special assistance or equipment to enable persons with disabilities to work on NSF-supported projects. See Grant Proposal Guide Chapter II, Section D.2 for instructions regarding preparation of these types of proposals.

The National Science Foundation has Telephonic Device for the Deaf (TDD) and Federal Information Relay Service (FIRS) capabilities that enable individuals with hearing impairments to communicate with the Foundation about NSF programs, employment or general information. TDD may be accessed at (703) 292-5090 and (800) 281-8749, FIRS at (800) 877-8339.

The National Science Foundation Information Center may be reached at (703) 292-5111.

The National Science Foundation promotes and advances scientific progress in the United States by competitively awarding grants and cooperative agreements for research and education in the sciences, mathematics, and engineering.

To get the latest information about program deadlines, to download copies of NSF publications, and to access abstracts of awards, visit the NSF Website at http://www.nsf.gov

- **Location:** 4201 Wilson Blvd. Arlington, VA 22230
- **For General Information** (NSF Information Center)**:** (703) 292-5111
- **TDD (for the hearing-impaired):** (703) 292-5090
- **To Order Publications or Forms:**

  Send an e-mail to: nsfpubs@nsf.gov

  or telephone: (703) 292-7827
- **To Locate NSF Employees:** (703) 292-5111

PRIVACY ACT AND PUBLIC BURDEN STATEMENTS

The information requested on proposal forms and project reports is solicited under the authority of the National Science Foundation Act of 1950, as amended. The information on proposal forms will be used in connection with the selection of qualified proposals; and project reports submitted by awardees will be used for program evaluation and reporting within the Executive Branch and to Congress. The information requested may be disclosed to qualified reviewers and staff assistants as part of the proposal review process; to proposer institutions/grantees to provide or obtain data regarding the proposal review process, award decisions, or the administration of awards; to government contractors, experts, volunteers and researchers and educators as necessary to complete assigned work; to other government agencies or other entities needing information regarding applicants or nominees as part of a joint application review process, or in order to coordinate programs or policy; and to another Federal agency, court, or party in a court or Federal administrative proceeding if the government is a party. Information about Principal Investigators may be added to the Reviewer file and used to select potential candidates to serve as peer reviewers or advisory committee members. See Systems of Records, NSF-50, "Principal Investigator/Proposal File and Associated Records," 69 Federal Register 26410 (May 12, 2004), and NSF-51, "Reviewer/Proposal File and Associated Records," 69 Federal Register 26410 (May 12, 2004). Submission of the information is voluntary. Failure to provide full and complete information, however, may reduce the possibility of receiving an award.

An agency may not conduct or sponsor, and a person is not required to respond to, an information collection unless it displays a valid Office of Management and Budget (OMB) control number. The OMB control number for this collection is 3145-0058. Public reporting burden for this collection of information is estimated to average 120 hours per response, including the time for reviewing instructions. Send comments regarding the burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to:

Suzanne H. Plimpton
Reports Clearance Officer
Office of the General Counsel
National Science Foundation
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