EPSCoR Research Infrastructure Improvement Program: Track-2 (RII Track-2 FEC)
Focused EPSCoR Collaborations

PROGRAM SOLICITATION
NSF 15-517

REPLACES DOCUMENT(S):
NSF 13-509

National Science Foundation

Office of International and Integrative Activities
   Office of Experimental Program to Stimulate Competitive Research

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

   February 20, 2015

IMPORTANT INFORMATION AND REVISION NOTES

Any proposal submitted in response to this solicitation should be submitted in accordance with the revised *NSF Proposal & Award Policies & Procedures Guide* (PAPPG) (NSF 15-1). The PAPPG is consistent with, and, implements the new Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (Uniform Guidance) (2 CFR § 200). NSF anticipates release of the PAPPG in the Fall of 2014 and it will be effective for proposals submitted, or due, on or after December 26, 2014. Please be advised that proposers who opt to submit prior to December 26, 2014, must also follow the guidelines contained in NSF 15-1.

- The following EPSCoR jurisdictions are RII-eligible for the FY 2015 RII Track-2 FEC competition: Alabama, Alaska, Arkansas, Delaware, Guam, Hawaii, Idaho, Kansas, Kentucky, Louisiana, Maine, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Mexico, North Dakota, Oklahoma, Puerto Rico, Rhode Island, South Carolina, South Dakota, Vermont, US Virgin Islands, West Virginia, and Wyoming.
- Proposals may only be submitted by domestic (United States) organizations located in RII-eligible jurisdictions, as follows:
    - Institutions of higher education (Ph.D.-granting and non-Ph.D.-granting), acting on behalf of their faculty members, that are accredited in and have a campus in an RII-eligible jurisdiction. Distinct academic campuses (e.g., that award their own degrees, have independent administrative structures, admissions policies, alumni associations, etc.) within multi-campus systems qualify as separate submission-eligible institutions.
    - Not-for-profit, non-degree-granting domestic organizations in RII-eligible jurisdictions, acting on behalf of their employees, that include (but are not limited to) independent museums and science centers, observatories, research laboratories, professional societies, and similar organizations that are directly associated with the Nation's research or educational activities. These organizations must have an independent, permanent administrative organization (e.g., an office of sponsored research) located in an RII-eligible jurisdiction, and have 501(c)(3) tax status.
- There is a limit of a single proposal from each submitting organization.
- Each proposal must have at least one collaborator from an academic institution or organization in a different RII-eligible EPSCoR jurisdiction as a co-Principal Investigator (co-PI). Proposals with a PI and all co-PIs from the same jurisdiction will be returned without review.
- Support for non-lead collaborating institutions should be requested as subawards. Separately submitted collaboratives are not allowed.
- For FY 2015, RII Track-2 FEC proposals promote collaborations among researchers in EPSCoR jurisdictions in themes that are consistent with NSF priorities, including such areas as cognitive science and neuroscience, clean energy, and food security.
- The project title must begin with "RII Track-2 FEC:" and follow with an informative title in the topic area.
- RII Track-2 FEC award amount depends on the size of the collaboration. If two RII-eligible EPSCoR jurisdictions collaborate on a proposal, the award amount may not exceed $1 million per year. If three or more RII-eligible EPSCoR jurisdictions collaborate on a proposal, the award amount may not exceed $1.5 million per year.
- Adherence to guidelines in this solicitation and GPG Chapter II Section B including page, font, and margin requirements will be strictly enforced.
- Page limits apply. See Section V.
- No letters of commitment should be included in Supplementary Documents. See Section V A 10.d.
- Up to a maximum of five letters of support may be included. See Section V A 10.e.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

EPSCoR Research Infrastructure Improvement Program: Track-2 Focused EPSCoR Collaborations (RII Track-2 FEC)

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. A jurisdiction is eligible to participate in EPSCoR programs if its level of NSF research support is equal to or less than 0.75 percent of the total NSF research and related activities budget for the most recent three-year period. 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, Research and Development (R&D) capacity, and hence, its R&D competitiveness.

RII Track-2 FEC builds inter-jurisdictional collaborative teams of EPSCoR investigators in themes consistent with NSF priorities. Projects are investigator-driven and must involve a collaborative team of investigators from at least two EPSCoR jurisdictions. The Science, Technology, Engineering, and Mathematics (STEM) research and education activities should specifically broaden participation through the inclusion and integration of different types of individuals, institutions, and sectors throughout the project. Proposals must describe a comprehensive and integrated vision to drive discovery and build sustainable STEM capacity that exemplifies diversity of all types (individual, institutional, geographic, and disciplinary).

A single proposal is submitted for a project. Support for non-lead collaborating institutions should be requested as subawards. Separately submitted collaboratives are not allowed. Each participating EPSCoR jurisdiction must have at least one co-PI on the project.

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.

- 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
- Tim M. VanReken, 940, telephone: (703) 292-7378, email: tvanreke@nsf.gov Uma
- D. Venkateswaran, 940, telephone: (703) 292-7732, 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 --- International and Integrative Activities (IIA)
- 47.081 --- Office of Experimental Program to Stimulate Competitive Research

Award Information

Anticipated Type of Award: Cooperative Agreement

Estimated Number of Awards: 5

Anticipated Funding Amount: $7,500,000

Pending the availability of funds.

Eligibility Information

Who May Submit Proposals:

Proposals may only be submitted by the following:

- Organizations that may apply for the RII Track-2 FEC program:

    Submission Eligibility

    The following EPSCoR jurisdictions are RII-eligible for the FY 2015 RII Track-2 FEC competition: Alabama, Alaska, Arkansas, Delaware, Guam, Hawaii, Idaho, Kansas, Kentucky, Louisiana, Maine, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Mexico, North Dakota, Oklahoma, Puerto Rico, Rhode Island, South Carolina, South Dakota, Vermont, US Virgin Islands, West Virginia, and Wyoming.

    Proposals may only be submitted by organizations located in RII-eligible jurisdictions, as follows:

    - Institutions of higher education (Ph.D.-granting and non-Ph.D.-granting), acting on behalf of their faculty members, that are accredited in and have a campus in the United States, its territories or possessions. Distinct academic campuses (e.g., that award their own degrees, have independent administrative structures, admissions policies, alumni associations, etc.) within multi-campus systems qualify as separate submission-eligible institutions.

- Not-for-profit, non-degree-granting domestic U.S. organizations, acting on behalf of their employees, that include (but are not limited to) independent museums and science centers, observatories, research laboratories, professional societies, and similar organizations that are directly associated with the Nation's research or educational activities. These organizations must have an independent, permanent administrative organization (e.g., an office of sponsored research) located in the United States, its territories or possessions, and have 501(c)(3) tax status.

Who May Serve as PI:

Principal Investigators of proposed RII Track-2 FEC projects must be affiliated with research universities, agencies, or organizations in EPSCoR jurisdictions. In addition, the lead Principal Investigator must be employed by the fiscal agent/proposing organization.

Each EPSCoR jurisdiction participating in a project must be represented by a PI or at least one co-PI. The PI and co-PIs must all have disciplinary research expertise in the focus area of the research being proposed.

Limit on Number of Proposals per Organization: 1

Only one RII Track-2 FEC proposal may be submitted in response to this solicitation by an organization in an RII-eligible jurisdiction.

Limit on Number of Proposals per PI or Co-PI: 1

An investigator may serve as PI or Co-PI on only **one** proposal submitted in response to this solicitation.

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. proposer's local time):

  February 20, 2015

Proposal Review Information Criteria

Merit Review Criteria: National Science Board approved criteria. Additional merit review considerations apply. Please see the full text of this solicitation for further information.

Award Administration Information

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

Reporting Requirements: Additional reporting requirements apply. Please see the full text of this solicitation for further information.

TABLE OF CONTENTS

I. INTRODUCTION

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. Criteria for Eligibility to Participate in the Research Infrastructure Improvement Track-2: Focused EPSCoR Collaborations (RII Track-2 FEC)

The following EPSCoR jurisdictions are RII-eligible for the FY 2015 RII Track-2 FEC competition: Alabama, Alaska, Arkansas, Delaware, Guam, Hawaii, Idaho, Kansas, Kentucky, Louisiana, Maine, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Mexico, North Dakota, Oklahoma, Puerto Rico, Rhode Island, South Carolina, South Dakota, Vermont, US Virgin Islands, West Virginia, and Wyoming.

C. RII Track-2 FEC Program

Well-designed collaborative strategies are essential to EPSCoR's goal of enhancing the competitive position of research and research-based education in science and engineering. This approach can help overcome impediments posed by limited infrastructure or human capital within a single jurisdiction and can enable broad engagement at the frontiers of discovery and innovation in science and engineering.

This Research Infrastructure Improvement Track-2: Focused EPSCoR Collaborations (RII Track-2 FEC) solicitation responds directly to national studies and community input, including reports from the National Academy of Sciences, National Academy of Engineering, the Institute of Medicine, the EPSCoR 2020 workshop, and the EPSCoR 2030 workshop. RII Track-2 FEC seeks to build nationally and internationally competitive collaborative teams of EPSCoR investigators by providing a mechanism to coalesce investigator expertise into a critical mass for a sustained, thriving research and education partnership.

EPSCoR support of a proposed research infrastructure improvement activity should not duplicate other available federal, jurisdictional, or institutional resources and should add significant value to increase scientific competitiveness at the national or regional level.

II. PROGRAM DESCRIPTION

RII Track-2 FEC Program Description

The primary driver for RII Track-2 FEC investments is building investigator-driven, inter-jurisdictional research collaborations that have the potential to be nationally and internationally competitive. The project description must include a strong rationale for the collaboration and demonstrate that the partnership is designed to facilitate discovery and innovation in the focus area. RII Track-2 FEC proposals are unique in their integration of researchers into collaborative teams, and must develop a diverse, well-prepared, STEM-enabled workforce necessary to sustain research competitiveness. Recruitment or development of diverse junior faculty is critical in achieving this goal.

Over the long term, RII Track-2 FEC investments are expected to result in sustained improvements in research competitiveness, so that EPSCoR investigators can more successfully pursue significant opportunities of national and international importance in science and engineering research and education. Non-EPSCoR and international collaborations may be included, but no EPSCoR funds should be directed to these institutions.

Central to the success of the proposal is the clear demonstration that the collaboration is well-positioned to produce outcomes that cannot be obtained through the efforts of a single team in a single jurisdiction working independently. The proposal must clearly identify the roles and contributions of each partner in the project, anticipated increases in research capacity and competitiveness,

projected workforce development and educational outcomes, and benefits to the jurisdictions, nation, and society.

To ensure maximum impact of limited EPSCoR funds, requests for funding must:

- Add significantly and measurably to research capability in a designated focus area
- Contribute to the advancement of research and innovation in the proposal's focus area
- Engage the full diversity of the participating jurisdictions' resources in STEM workforce development
- Outline clear plans for the recruitment or development of diverse junior faculty, and
- Present a detailed strategy to generate subsequent, sustained non-EPSCoR funding from federal, jurisdictional, or private sector sources.

Note: In all instances, clear specification of research and education goals, performance metrics, and a timetable for achieving goals is a requirement for EPSCoR support.

RII Track-2 FEC proposals are expected to be investigator-driven collaborations and the PI and co-PIs must all be active researchers in the focus area of the proposal. Proposals should clearly specify research and education goals, a timetable for achieving those goals, and an evaluation plan with measurable performance metrics.

In FY 2015, RII Track-2 FEC proposals must be aligned with NSF priorities, including such areas as cognitive science and neuroscience, clean energy, and food security. The proposed research and education activities, innovation, workforce development efforts, diversity, sustainability and other project activities should be clearly linked to the identified focus area. EPSCoR strives for improvements that will significantly increase the R&D capacity of a jurisdiction and enable stronger competitiveness in Foundation-wide programs, including large scale and cross-cutting competitions. The proposed RII Track-2 FEC activities should not duplicate other ongoing RII activities in the jurisdictions, but may leverage and build upon the existing RII infrastructure.

Eligible Organizations and Activities

RII Track-2 FEC proposals may include support for academic, jurisdictional, profit and non-profit organizations, as well as eligible individuals employed by such organizations. In addition, cooperative programs among research universities within or across EPSCoR jurisdictions, or between a jurisdiction's research universities and predominately undergraduate institutions, especially minority serving institutions within the jurisdictions, qualify for EPSCoR support.

In all cases, PIs of proposed EPSCoR projects must be affiliated with research universities, agencies, or organizations within the participant jurisdiction. The PI and co-PIs must all have disciplinary expertise in the research area being proposed. Whereas the proposed project may employ collaborations between EPSCoR and non-EPSCoR participants, EPSCoR funding can only be requested and used for the EPSCoR-based components. In addition, all activities carried out under an EPSCoR award are subject to the restrictions concerning eligible STEM disciplines and activities detailed in the NSF Proposal and Award Policy and Procedures (PAPP) Guide found on the NSF website at http://www.nsf.gov/publications/pub_summ.jsp?ods_key=papp.

III. AWARD INFORMATION

- RII Track-2 FEC award amount depends on the size of the collaboration. If institutions from two RII-eligible EPSCoR jurisdictions collaborate on a proposal, the award amount may not exceed $1 million per year. If institutions from three or more RII-eligible EPSCoR jurisdictions collaborate on a proposal, the award amount may not exceed $1.5 million per year.
- Estimated program budget, number of awards and average award size/duration are subject to the availability of funds.

IV. ELIGIBILITY INFORMATION

Who May Submit Proposals:

Proposals may only be submitted by the following:

- Organizations that may apply for the RII Track-2 FEC program:

  Submission Eligibility

  The following EPSCoR jurisdictions are RII-eligible for the FY 2015 RII Track-2 FEC competition: Alabama, Alaska, Arkansas, Delaware, Guam, Hawaii, Idaho, Kansas, Kentucky, Louisiana, Maine, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Mexico, North Dakota, Oklahoma, Puerto Rico, Rhode Island, South Carolina, South Dakota, Vermont, US Virgin Islands, West Virginia, and Wyoming.

  Proposals may only be submitted by organizations located in RII-eligible jurisdictions, as follows:

  - Institutions of higher education (Ph.D.-granting and non-Ph.D.-granting), acting on behalf of their faculty members, that are accredited in and have a campus in the United States, its territories or possessions. Distinct academic campuses (e.g., that award their own degrees, have independent administrative structures, admissions policies, alumni associations, etc.) within multi-campus systems qualify as separate submission-eligible institutions.
  - Not-for-profit, non-degree-granting domestic U.S. organizations, acting on behalf of their employees, that include (but are not limited to) independent museums and science centers, observatories, research laboratories, professional societies, and similar organizations that are directly associated with the Nation's research or educational activities. These organizations must have an independent, permanent administrative organization (e.g., an office of sponsored research) located in the United States, its territories or possessions, and have 501(c)(3) tax status.

Who May Serve as PI:

Principal Investigators of proposed RII Track-2 FEC projects must be affiliated with research universities, agencies, or organizations in EPSCoR jurisdictions. In addition, the lead Principal Investigator must be employed by the fiscal agent/proposing organization.

Each EPSCoR jurisdiction participating in a project must be represented by a PI or at least one co-PI. The PI and co-PIs must all have disciplinary research expertise in the focus area of the research being proposed.

Limit on Number of Proposals per Organization: 1

Only one RII Track-2 FEC proposal may be submitted in response to this solicitation by an organization in an RII-eligible jurisdiction.

Limit on Number of Proposals per PI or Co-PI: 1

An investigator may serve as PI or Co-PI on only **one** proposal submitted in response to this solicitation.

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.

See Chapter II.C.2 of the GPG for guidance on the required sections of a full research proposal submitted to NSF. Please note that the proposal preparation instructions provided in this program solicitation may deviate from the GPG instructions.

The following instructions are specific to proposals submitted to the Research Infrastructure Improvement Program: Track-2 Focused EPSCoR Collaborations (RII Track-2 FEC) competition and supplement the NSF GPG and NSF Grants.gov Application Guide:

- RII Track-2 FEC proposals may only be submitted by institutions in the RII-eligible EPSCoR jurisdictions listed in Section IV of this solicitation. No institution may submit more than one project.
- The proposal section labeled Project Description may not exceed **20 pages**, including text, as well as any graphic or illustrative materials. Page limitations also apply to specific subsections of the proposal. Proposals that exceed the page limitations or that do not contain all items described below will be *returned< without review.*

Note: Proposals that use the maximum number of pages in each subsection of the Project Description will not be in compliance with the overall 20 page limitation.

The RII Track-2 FEC proposal must include the following elements:

1. NSF Cover Sheet. The project title must begin with "RII Track-2 FEC:" and follow with an informative title in the topic area. The PI must be a researcher from the submitting jurisdiction and all other participating jurisdictions should have at least one co-PI listed on the cover sheet.

2. Project Summary (1 page maximum). Provide an overview, which briefly describes: the vision and goals of the collaboration; a statement of the objectives and methods to be employed; expected impacts of the proposed activities; and plans for sustaining collaborations and impacts beyond the award period. In separate statements provide a succinct summary of the intellectual merit and broader impacts of the proposed project. Proposals that do not contain the Project Summary, including an overview and separate statements on intellectual merit and broader impacts *will not be accepted by FastLane or will be returned without review*.

3. Table of Contents. The Table of Contents is automatically generated and cannot be edited.

4. Project Description (20 pages maximum). The project description is the centerpiece of the RII Track-2 FEC proposal. In addition to the requirements contained in GPG Chapter II C.2.d, the project description must include clear and succinct goals, objectives, and activities for the proposed research, education, workforce development, project evaluation, and sustainability beyond the project period. This section of the proposal should present the activities to be accomplished by the RII Track-2 FEC project in a clear, compelling way and describe how the activities for which NSF support is being requested will lead to long-lasting impacts.

The project description must clearly document the role of each team in the project activities and the contributions of each faculty-level participant in achieving and implementing the proposed collaborative activities and goals. The proposal should summarize the coordination and synergy among the collaborators and specify the role of each of the faculty-level investigators. The proposal should define the leveraging role for the proposed NSF EPSCoR RII Track-2 FEC project within the broader context of other NSF

investments and present a viable plan for increasing competeness in the focus area of the proposal.

Proposals must articulate clear plans for research, diverse workforce development, with particular emphasis on junior faculty, project evaluation and sustainability of activities beyond the project period. A key component is a comprehensive and integrated vision to drive discovery. Proposals should also include a strong rationale for the establishment of the collaboration and clearly demonstrate that the collaboration is well-positioned to produce results that cannot be obtained by researchers in a single jurisdiction.

A timeline for meeting the project goals and milestones must be included. The requested NSF support should be consistent with the project scope and activities. The project description must detail the coordination of the collaboration, roles and responsibilities of key personnel, and an implementation plan. A clear description of how the project builds future leadership in the focus area of the proposal through the recruitment, training, and participation of junior faculty should be provided. Mechanisms for formative and summative evaluation of the project's progress should be described; the evaluation plan should also include how the project leadership will respond to evaluation findings and adjust strategies, if needed, to accomplish goals during the course of the project.

Elements of the project description are:

4.1 Status and Overview (2 pages maximum). Describe the motivation and rationale for establishing the collaboration, including new opportunities to address one of the NSF priority areas including but not limited to cognitive science and neuroscience, clean energy, and food security.

4.2 Results from Relevant Prior Support (2 pages maximum). A section on results from relevant prior NSF support must be included and the relevance of that support to the proposed activities explained. This section should include a description of the activities and impacts of previous NSF awards, including major accomplishments in both intellectual merit and broader impacts. In addition, this section should summarize the coordination and synergy among EPSCoR and other NSF investments in the jurisdiction.

4.3 Research, Collaboration, and Workforce Development (18 pages maximum). The Research, Collaboration, and Workforce Development program is the focal point from which all other project elements derive. This plan is the primary element that will be judged during the merit review process for intellectual merit and broader impacts according to NSF merit review procedures. Provide a concise description of the long-term research and education goals and intellectual focus, and describe the planned activities in sufficient detail to enable their scientific merit and broader impacts to be assessed. Present proposed research in the context of other efforts in the field (with appropriate references), state the major challenges, and comment on novelty and/or originality of the proposed approach. Include detailed plans for recruitment or development of diverse junior faculty, and plans to prepare them for future leadership roles. The Research, Collaboration, and Workforce Development description must contain sufficient details regarding the scientific hypotheses, goals, and research and training methods (laboratory, field, theoretical, computational, or other) such that experts in the field of proposed research or closely related fields may accurately judge the intellectual merit and broader impacts of the proposed research.

In addition to providing the evidence for intellectual merit and broader impacts of the research and education activities, this section should:

- Identify the faculty-level participants and estimate the numbers of postdoctoral, graduate, and undergraduate research participants. Briefly outline the resources (available and planned) to accomplish the research goals.
- Clearly establish the means of developing a coordinated, collaborative approach involving investigators across different institutions and jurisdictions. Describe interactions with other groups and organizations within the jurisdictions, and at the national and international levels, as appropriate. The research and education program description must demonstrate how the collaboration will advance research, education, and workforce development. The narrative should demonstrate how the collaboration's activities advance the frontiers of knowledge and future research competitiveness of the participating jurisdictions in the proposed research areas.
- Provide relevant baseline data regarding any of the research, education, workforce development, or other project targets and goals. (For example, in cases where quantitative goals or targets are proposed, baseline data regarding the current situation or past performance should be given).

4.3.1 *Collaborations and Partnerships*. Interdisciplinary collaborative research brings with it the challenge of integrating researchers from different institutions and fields into productive research teams. This section must clearly present the rationale for the composition of the teams, a description of the leadership structure, and the context for establishing the collaboration. Explain the research expertise of the PIs and co-PIs relevant to the project research activities. Summarize the coordination and synergy among the collaborators and specify the role of each of the faculty-level investigators. Describe mechanisms that foster collaboration across the teams and risk-mitigation strategies. Indicate how each of the faculty-level participants will collaboratively address all aspects of the project, including specific roles for team members. Present compelling ways in which the project leadership plans to coordinate the activities into a cohesive project with well-articulated goals and strategies to achieve them.

4.3.2 *Workforce Development*. The Workforce Development Plan must include the recruitment or development of diverse junior faculty in the focus area. Describe mechanisms to attract and mentor these individuals. RII Track-2 FEC project narratives should include diversity improvement strategies.

The scope of RII Track-2 FEC activities must include STEM workforce development activities that are integrated with the research and education program and contribute to the preparation of a diverse, new cadre of skilled researchers, innovators, and educators. The research and educational training should be designed to provide students with skills to work easily across disciplinary and other perceived boundaries and to interface with stakeholders such as academe, industry, government, and the general public. The proposed program should present an implementation strategy with initial baseline assessment, clearly articulated goals, milestones, and timelines.

The proposal should describe mentoring and professional development of students and junior faculty. The narrative should indicate synergies between proposed workforce development activities and other NSF investments in the jurisdiction that focus on strengthening STEM workforce development.

4.4 Evaluation and Assessment Plan (2 pages maximum). The development of the Evaluation and Assessment plan should occur as an integral part of the project design to aid in the identification of outcomes and impacts for goals and objectives. Provide a formative and summative evaluation and assessment plan, including goals, metrics, and milestones. **The plan must include metrics for the strength of the collaboration and workforce development, including submission of collaborative proposals and associated awards, collaborative publications, progression of junior faculty, innovations, research results, longitudinal tracking of undergraduate, graduate, and post docs, and how the collaborative efforts are strengthened with time.** Summarize how the metrics will be used to assess and evaluate the impacts and achievements of the project activities. The plan must detail annual metrics that indicate how the project is progressing towards developing and strengthening collaborations and meeting project goals, as well as mechanisms and strategies for course-corrections based on evaluation feedback.

4.5 Sustainability Plan (2 pages maximum). Provide a plan for long-term sustainability of the proposed activities. Describe the strategy for sustaining the impacts and achievements of the project beyond the award performance period. **The plan must provide realistic, annual metrics for submissions of proposals to specific NSF programs by the project team in the focus area topic.** The plan should also include how proposed new faculty hires, if any, will be supported beyond the award period.

5. References Cited. References cited in the project description should be listed in this section. See GPG Chapter II Section C.2.e. While there is no established page limitation for the references, this section must include bibliographic citations only and must not be used to provide parenthetical information outside of the 20-page Project Description.

6. Biographical Sketches. Include a biographical sketch for each faculty-level participant according to standard NSF grant proposal guidelines. Include names and affiliations of doctoral and postdoctoral advisors, and all PhD students supervised.

7. Budget Pages and Budget Justification. Budget should be consistent with and appropriate to the scope of the activities presented in the project description. Prepare budget pages for each year of support (1-4) and budget justification (not to exceed three pages). A four-year cumulative budget page will be automatically generated. Budget for participating institutions in the collaboration should be included as subawards. Each institution that receives a subaward must submit separate budget and budget justifications (not to exceed three pages).

8. Current and Pending Support. List current and pending support for each faculty level and equivalent investigator. (Include this proposal at the top of the list of current and pending support.) See GPG Chapter II Section C.2.h.

9. Facilities, Equipment, and Other Resources. Each EPSCoR jurisdiction in the collaboration should provide a description of available facilities, equipment, and other relevant resources. See GPG Chapter II Section C.2.i.

10. Supplementary Documentation (in addition to those required by the GPG)

- List of Participants. Provide a list of participating senior investigators (faculty level and equivalent) by name, organization, and departmental affiliation.
- List of all institutions and companies involved in the project.
- List of conflicts. A single, alphabetically ordered list of all people, in the academic or professional community, who have collaborated with (within the last 48 months), or have been a Ph.D. advisee or advisor of, any of the personnel involved in the proposed project including all advisory boards. In this list, please include, next to the name of each conflicted individual, that individual's institution or company and the name of the project member with whom he or she has the conflict of interest. It is not necessary to list, as collaborators, personnel who are simply employees of an institution or company involved in the project. The list must be ordered alphabetically by the first column, i.e. the last names of the conflicted individuals. Note that past or present association with an individual as a thesis advisor or thesis student presents a lifelong conflict of interest with that individual. All thesis advisees supervised must be listed in this table, not just those supervised within the last 48 months. See http://www.nsf.gov/publications/pub_summ.jsp?ods_key=form1230p for additional details. No Letters of
- Collaboration should be included; for both the established and new collaborations included in this project, the role and extent of involvement should be clearly outlined in the project description.
- Up to a maximum of five Letters of Support from partnering institutions/organizations or jurisdictional officials may be included.

B. Budgetary Information

Cost Sharing: Inclusion of voluntary committed cost sharing is prohibited

Other Budgetary Limitations:

- Funding requests can be for durations of up to 4 years. RII Track-2 FEC award amount depends on the size of the collaboration. If institutions from two RII-eligible EPSCoR jurisdictions collaborate on a proposal, the award amount may not exceed $1 million per year. If institutions from three or more RII-eligible EPSCoR jurisdictions collaborate on a proposal, the award amount may not exceed $1.5 million per year.
- Budgets should include sufficient funding for participation in annual jurisdictional and regional EPSCoR conferences. In addition, budgets should request support for evaluative activities including EPSCoR Reporting Core (ERcore) reporting, site visits and/or reverse site visits.
- Budgets for participating institutions must be included as subawards to the budget of the submitting institution. Only the budget of the submitting institution may include subawards (i.e., no subawards may appear in the budgets of subawardee institutions).
- Subawards to institutions in non-EPSCoR jurisdictions are not allowed. NSF EPSCoR reserves the right to disallow any such costs prior to making an award.
- Financial compensation for the external evaluator(s) must be included in the budget of the submitting institution under NSF budget line G.3 (Consultant Services). No other form of financial compensation for external evaluation services will be allowed.

C. Due Dates

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

    February 20, 2015

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://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.

Additional Solicitation Specific Review Criteria

Reviewers for the RII Track-2 FEC competition will also consider the following specific aspects of intellectual merit and broader impacts, as applicable:

- Research Enterprise – what is the potential of the project to advance the relevant fields of science and engineering while simultaneously enhancing research competitiveness and developing research capacity and infrastructure in the jurisdictions? How will the proposed activities contribute to the national and international recognition of the project participants and participating institutions? What is the potential of the project to increase the capacity of the participating institutions and capability of project participants to propose and implement research activities in the future? How will the project result in research infrastructure improvements in the jurisdictions (including physical, cyber, and human)?

- Jurisdictional Impacts - How are the proposed project elements (including infrastructure improvement, education, and workforce development) aligned with the research themes? How will the plans and activities lead to sustainable improvements in workforce preparation and the competitiveness of the jurisdictions? How do the proposed activities promote organizational connections and linkages within the jurisdiction, as well as between private and public sectors? What meaningful impacts on capacity and capability in the jurisdictions are expected as a result of this proposed project? How does the project advance innovation, technology transfer, potential commercialization, and/or national research competitiveness? What is the level of integration among shared facilities and research partners? How does each proposed component contribute to an identifiable strategy for intensifying competitiveness in research and innovation? How do the proposed activities add value at the institutional, jurisdictional, and regional levels in research, education, and innovation? How well do the proposed partnerships and collaborations advance the project goals?

- Integration of Project Elements - How well are the different aspects - research, education, discovery, innovation, workforce development, sustainability, project coordination, and evaluation - described and integrated in the project? What are the innovative ways in which the project addresses these components in tandem? What benefits or added value will be realized as a result of integrating the project elements? What is the potential of the project to reach its education and workforce development goals and objectives as a result of the proposed research, and vice versa (ie, what is the potential of the research goals and objectives to be achieved as a result of integrating with the other project elements)?

- Workforce Development – How will the workforce development activities enhance the career development of junior faculty,

especially in the scientific fields relevant to the proposed research? What is the potential for the proposed activities to recruit or develop junior faculty in the focus area of the proposal? How do the activities prepare junior faculty for sustained productivity? What interdisciplinary mentoring opportunities are available for junior faculty? What is the potential to engage other dimensions of the STEM pipeline (including community colleges, or non-traditional students and institutions) in the research activities? What novel and effective ways are proposed to attract, mentor, and develop non-traditional populations and groups underrepresented groups? What is the potential of the proposed activities to broaden participation (e.g., of women and underrepresented groups in STEM, persons with disabilities, economically disadvantaged, rural, and/or first generation college students, and institutions, including minority serving institutions and 2- and 4-year institutions) in STEM, and in particular in the proposed research and education activities? What is the basis for the selection of specific diversity activities, and how well is it justified? What is the potential to enhance participation and research capacity in the field(s) of proposed research at participating minority-serving institutions, including Historically Black Colleges and Universities (HBCUs) and Tribal Colleges and Universities (TCUs)? How effectively will the diverse populations and institutions be engaged in the research and education activities?

- Interjurisdictional Collaboration - Are the PI and co-PIs active researchers in the focus areas being proposed, and have recent publications or extramural awards in the focus area that indicate that they can form the intellectual nucleus for a sustained collaborative effort? How do the research activities in different jurisdictions support and foster a sustained collaborative effort?

B. Review and Selection Process

Proposals submitted in response to this program solicitation will be reviewed by Ad hoc Review and/or Panel Review.

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 be completed and submitted by each reviewer. 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:

The annual and final reports must include identification of numbers of women and members of other underrepresented groups in faculty and staff positions and as participants in the activities funded by the award.

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 at least 90 days prior to the end of the current budget period. (Some programs or awards require submission of more frequent project reports). Within 90 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.

Please see the full text of this solicitation for further information.

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:

- 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
- Tim M. VanReken, 940, telephone: (703) 292-7378, email: tvanreke@nsf.gov
- Uma D. Venkateswaran, 940, telephone: (703) 292-7732, 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 at https://public.govdelivery.com/accounts/USNSF/subscriber/new?topic_id=USNSF_179.

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**   (703) 292-5111
>   (NSF Information Center)**:**
>
> - **TDD (for the hearing-impaired):**   (703) 292-5090
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> - **To Order Publications or Forms:**
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>   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
Arlington, VA 22230

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The National Science Foundation, 4201 Wilson Boulevard, Arlington, Virginia 22230, USA
Tel: (703) 292-5111, FIRS: (800) 877-8339 | TDD: (800) 281-8749

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