Partnerships for Innovation: Accelerating Innovation Research - Research Alliance (PFI:AIR-RA)

PROGRAM SOLICITATION
NSF 14-612

REPLACES DOCUMENT(S):
NSF 13-591

National Science Foundation

Directorate for Engineering
Industrial Innovation and Partnerships

Letter of Intent Due Date(s) ***(required)*** (due by 5 p.m. proposer's local time)***:***

January 12, 2015

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

February 18, 2015

IMPORTANT INFORMATION AND REVISION NOTES

Minor changes have been made to NSF 13-591; proposers are encouraged to read the full solicitation carefully.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Partnerships for Innovation: Accelerating Innovation Research- Research Alliance (PFI:AIR-RA)

Synopsis of Program:

The NSF Partnerships for Innovation (PFI) program within the Division of Industrial Innovation and Partnerships (IIP) is an umbrella for two complementary subprograms, Accelerating Innovation Research (AIR) and Building Innovation Capacity (BIC). Both programs are concerned with the movement of academic research discoveries into the marketplace, although each focuses on different stages along the innovation spectrum. The PFI:AIR program has two additional subprograms: the PFI:AIR-Technology Translation (See NSF 14-569,) and PFI:AIR- Research Alliance (this solicitation). This PFI:AIR-Research Alliance (RA) solicitation is intended to accelerate the translation and transfer of existing research discoveries into competitive technologies and commercial realities by leveraging the investments NSF has made in research consortia (e.g., Engineering Research Centers, Industry University Cooperative Research Centers, Science and Technology Centers, Nanoscale Science and Engineering Centers, Materials Research Science and Engineering Centers, Centers for Chemical Innovation, and others) and catalyzing academic-based innovation ecosystems. The goal is that these synergistic partnerships and collaborations between government, academia, and other public and private entities will result in new wealth and the building of strong local and regional economies.

WEBINAR: A webinar will be held within 6 weeks of the release date of this solicitation to answer any questions about this solicitation. Details will be posted on the PFI:AIR-RA website (http://www.nsf.gov/eng/iip/pfi/air-ra.jsp) **as they become available**.

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

- Barbara H. Kenny, Program Director, telephone: (703) 292-4667, email: bkenny@nsf.gov

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

- 47.041 --- Engineering

Award Information

Anticipated Type of Award: Standard Grant or Continuing Grant

Estimated Number of Awards: 4 to 8

The budget for the PFI: AIR Research Alliance is up to $800,000 for up to 3 years per award.

Anticipated Funding Amount: $5,000,000

Anticipated Funding Amount is subject to the availability of funds and the quality of proposals received.

Eligibility Information

Who May Submit Proposals:

Proposals may only be submitted by the following:

Academic institutions such as universities, two- and four-year colleges, and non-profits with a campus located in the US and accredited in the US, acting on behalf of their faculty members. The lead (submitting) organization must be an academic institution.

One and only one institution within an NSF-funded research consortium can be the lead/submitting institution. An NSF-funded research consortium is defined as a research partnership between/among universities and other entities that is formed for mutual benefit and funded by the NSF. A research consortium is based on partnerships developed between faculty members, between faculty and industry, between faculty and federal laboratories, and/or between universities to conduct research on problems typically beyond the reach of a single investigator. In addition to having research results and technology ready for translation, an NSF-funded research consortium will have an established network of connections and relationships that can be leveraged to develop and sustain the PFI:AIR-RA innovation ecosystem. Examples of NSF research consortia include but are not limited to NSF centers, such as Engineering Research Centers, Industry University Cooperative Research Centers, Science and Technology Centers, Nanoscale Science and Engineering Centers, Materials Research Science and Engineering Centers, and Centers for Chemical Innovation. Other examples include, but are not limited to, large, multi-year, multi-faculty/institution awards such as CISE Expeditions in Computing, CISE Frontiers, and ENG Emerging Frontiers in Research and Innovation (EFRI).

Who May Serve as PI:

A PI may submit only one proposal to this PFI:AIR-RA solicitation.

Limit on Number of Proposals per Organization:

There is no limit on how many proposals a university may submit, but a particular NSF-funded research consortium may submit only one to this solicitation.

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

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **Letters of Intent:** Submission of Letters of Intent is required. Please see the full text of this solicitation for further information.
- **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

- **Letter of Intent Due Date(s) *(required)*** (due by 5 p.m. proposer's local time)*:*

  January 12, 2015

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

  February 18, 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: Standard NSF reporting requirements apply.

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I. INTRODUCTION

The National Science Foundation (NSF) supports fundamental research and education in science and engineering to advance basic knowledge and provide benefit to society. The preponderance of NSF-funded research supports the discovery that enables innovation. It lays the scientific and engineering knowledge base for technological innovation to prosper. In synergy with this, research supported by the Division of Industrial Innovation and Partnerships (IIP) aims to systematically facilitate and accelerate the use of basic research results such that discovery is translated to innovation to realize its commercialization potential. IIP supports innovation research built on fundamental research discoveries that exhibit potential for societal and economic impact. In addition to the PFI:AIR-RA program (this solicitation), programs within IIP and NSF that contribute to this mission include: Partnerships for Innovation: Accelerating Innovation Research- Technology Translation (PFI:AIR-TT), Partnerships for Innovation: Building Innovation Capacity (PFI:BIC), Innovation Corps (I-Corps), the Small Business Innovation Research/Small Business Technology Transfer Research (SBIR/STTR), and Grant Opportunities for Academic Liaison with Industry (GOALI). For more information on these programs, please see the Division of Industrial Innovation and Partnerships website: http://www.nsf.gov/div/index.jsp?org=IIP.

II. PROGRAM DESCRIPTION

The Directorate for Engineering (ENG) of the National Science Foundation (NSF) invites requests for funding under the Partnerships for Innovation: Accelerating Innovation Research- Research Alliance (PFI:AIR-RA) solicitation. Through this solicitation, NSF seeks to accelerate the translation and transfer of existing research discoveries into competitive technologies and commercial realities, to promote the development of and/or the extension of an academic-based innovation ecosystem around an NSF-funded research consortium, and to enhance knowledge and practice of innovation in faculty and students.

To accomplish these goals, the solicitation requires a partnership between an NSF-funded consortium, defined below, and two or more separate additional entities. Although two is the minimum requirement and may make sense for some proposals, NSF encourages the participation of multiple entities (three or more) in order to build the necessary relationships required to develop and sustain a viable innovation ecosystem. At least one of the entities must be a third party investor and at least one must be a research partner. "Research partner" and "third party investor" are defined below. It is also allowable that an entity may serve as both a research partner and a third party investor; however, in that case, the proposal must make clear how the entity performs both roles. The expertise of the research entity(s) will complement that of the NSF-funded consortium so that competitive technologies, which neither party could develop as well or rapidly alone, are accelerated to commercial realities and transferred to the marketplace in collaboration with the third-party investor(s). These partnerships and collaborations will link multiple entities such that competitive technologies, which are derived from the NSF-funded consortium research results, are moved more rapidly into marketable solutions through the formation of new start-up businesses or strategic partnerships with existing businesses. Ideally, the relationships developed under this program will be leveraged to enable a sustainable, academic-based innovation ecosystem.

This PFI:AIR-RA solicitation is aimed at technology translation and transfer, e.g., research activities necessary to accelerate the technologies with clear value propositions toward commercial realization. It is an opportunity to develop an innovation “arm” or thrust of an existing research consortium; e.g., a specific set of technology translation efforts in strategic partnerships with third party investor(s) and new research partner(s). A PFI:AIR-RA award will enable 1) faster translation and transfer of research results into new start-up business(es) or existing firms; 2) development or enhancement of a network of connections between the university researchers and others to build a sustainable, academic-based innovation ecosystem; and 3) preparation of students and/or post-doctoral fellows who understand the innovation and entrepreneurship processes.

NSF-funded research consortium

An NSF-funded research consortium is defined as a research partnership between/amongst universities and other entities that is formed for mutual benefit and funded by the NSF. A research consortium is based on partnerships developed between faculty members, between faculty and industry, between faculty and federal laboratories, and/or between universities to conduct research on problems typically beyond the reach of a single investigator. In addition to having research results and technology ready for translation, an NSF-funded research consortium will have an established network of connections and relationships that can be leveraged to develop and sustain the PFI:AIR-RA innovation ecosystem. Examples of NSF research consortia include but are not limited to NSF centers, such as Engineering Research Centers, Industry University Cooperative Research Centers, Science and Technology Centers, Nanoscale Science and Engineering Centers, Centers for Chemical Innovation, and Materials Research Science and Engineering Centers. Other examples include, but are not limited to, large, multi-year, multi-faculty/institution awards such as CISE Expeditions in Computing, CISE Frontiers, and Emerging Frontiers in Research and Innovation (EFRI).

One and only one academic institution within the NSF-funded research consortium can be the lead/submitting institution. The NSF-funded research consortium must be funded currently by NSF, or have had NSF funding 3 years or less prior to the Letter of Intent due date. If the research consortium is not currently under NSF support but within 3 years of the end of that support, it must still be functioning as a research partnership between/amongst universities and other entities and be in good standing. Additional information is required in supplementary documents to provide evidence of good standing.

The narrative must provide a clear description of how a PFI:AIR-RA award would leverage the existing network of connections and established collaborations between the researchers of the existing NSF-funded research consortium. While it is not required that every participant in the underlying NSF-funded research consortium be a part of the proposed PFI:AIR-RA, it is encouraged that the proposed work takes advantage of the relevant existing expertise of current participants in the underlying research consortium as appropriate. In addition, it should be clear how a PFI:AIR-RA award would leverage the core technical capabilities and expertise of the underlying research consortium to accelerate its research results and technology developments for commercial use.

If the PI of the PFI:AIR-RA proposal is not the PI of the NSF-funded research consortium, the proposal must include a letter from the PI of the NSF-funded research consortium that describes how the work proposed leverages the core mission and research/technology capabilities of the research consortium.

Research partner

The purpose of the research partner(s) is to add a complementary skill set(s) to the underlying NSF-funded research consortium so that competitive technologies, which neither party could develop as well or rapidly alone, are accelerated to commercial realities and transferred to the marketplace. The proposal must clearly describe the role of the research partner(s), the skill set they add to the underlying research consortium and how this will help accelerate the transfer of consortium technologies. Examples of potential research partners include another research consortium or academic institution, an industry entity, a small business (for eligibility, see: http://sbir.gov/sites/default/files/elig_size_compliance_guide.pdf), or a federal laboratory. This solicitation is interested in catalyzing new partnerships while leveraging the existing ones. The proposed PFI:AIR-Research Alliance must have at least one research partner as one of the required minimum of two entities partnering with the NSF-funded research consortium in the Alliance.

A research partner may also contribute as a third party investor; however, the proposal must clearly describe both roles.

Third-party investor

In order for research to lead to competitive innovation, it is essential that third-party investment is in place as a means to accelerate the innovation towards commercialization. The collaboration among the third-party investor, the NSF-funded research consortium, and the research partner(s) will create an academic-based innovation ecosystem that offers a cost-effective, timely, and risk-reduced approach for potential investors to participate in research and development leading to new products, processes, systems or services having high commercial impact. A third-party investor may include such entities as a company, a venture capital firm, one or more individual "angel" investor(s), federal (non-SBIR), state, or local government, or any combination of the above.

The maximum award size for the PFI:AIR-RA is up to $800,000 for up to 3 years per award, commensurate with the planned activities. Prior to submission of a PFI:AIR-RA proposal, the proposer must secure third-party investment commitment for the full duration of the proposal (See the *Special Award Conditions* section of this solicitation). The total NSF proposal budget must not exceed the total investment from the third-party investor(s). The third-party investment(s) can be cash, liquid assets, or tangible financial instruments. Up to 25 percent of the third-party investment may be intangible assets (e.g., "in-kind"). Please note that third-party investment funding should be maintained separately from the NSF research award funding.

III. AWARD INFORMATION

Anticipated Type of Award: Continuing Grant or Standard Grant

Estimated Number of Awards: 4 to 8

The budget for the PFI:AIR Research Alliance is up to $800,000 for up to 3 years per award.

Anticipated Funding Amount: $5,000,000

Estimated program budget, number of awards and average award size/duration are subject to the availability of funds.

Full Proposals submitted on February 15, 2015 will have an approximate award start date of August 1, 2015.

IV. ELIGIBILITY INFORMATION

Who May Submit Proposals:

Proposals may only be submitted by the following:

Academic institutions such as universities, two- and four-year colleges, and non-profits with a campus located in the US and accredited in the US, acting on behalf of their faculty members. The lead (submitting) organization must be an academic institution.

One and only one institution within an NSF-funded research consortium can be the lead/submitting institution. An NSF-funded research consortium is defined as a research partnership between/among universities and other entities that is formed for mutual benefit and funded by the NSF. A research consortium is based on partnerships developed between faculty members, between faculty and industry, between faculty and federal laboratories, and/or between universities to conduct research on problems typically beyond the reach of a single investigator. In addition to having research results and technology ready for translation, an NSF-funded research consortium will have an established network of connections and relationships that can be leveraged to develop and sustain the PFI:AIR-RA innovation ecosystem. Examples of NSF research consortia include but are not limited to NSF centers, such as Engineering Research Centers, Industry University Cooperative Research Centers, Science and Technology Centers, Nanoscale Science and Engineering Centers, Materials Research Science and Engineering Centers, and Centers for Chemical Innovation. Other examples include, but are not limited to, large, multi-year, multi-faculty/institution awards such as CISE Expeditions in Computing, CISE Frontiers, and ENG Emerging Frontiers in Research and Innovation (EFRI).

Who May Serve as PI:

A PI may submit only one proposal to this PFI:AIR-RA solicitation.

Limit on Number of Proposals per Organization:

There is no limit on how many proposals a university may submit, but a particular NSF-funded research consortium may submit only one to this solicitation.

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

Additional Eligibility Info:

No collaborative proposals submitted as simultaneous proposal submissions for a joint project from different organizations (with each organization requesting a separate award) will be accepted.

The submitting institution and the PI of the PFI:AIR-RA project must be engaged actively in the research consortium, and the proposal must show strong evidence of this. The research consortium must be active (e.g., still under an active NSF award) or within 3 years of the end of the NSF research consortium grant at the Letter of Intent due date. If the research consortium is within 3 years of the end of the NSF research consortium grant, it must still be functioning as a research partnership between/amongst universities and other entities and be in good standing. Additional information is required in supplementary documents to provide evidence of good standing.

The PI on the PFI:AIR-RA proposal does not have to be the PI (e.g., Director) of the NSF-funded research consortium. However, if not, a letter from the PI of the NSF-funded research consortium must accompany the proposal that describes how the work proposed leverages the core mission and research/technology capabilities of the research consortium.

The proposal must include partnership and collaboration with a minimum of *two* entities outside of the underlying NSF-funded research consortium. Although two is the minimum requirement and may make sense for some proposals, NSF encourages participation of multiple entities (three or more) in order to build the necessary relationships required to develop and sustain a viable innovation ecosystem. At least one of the entities must be a research partner, and at least one of these entities must be a third party investor. Examples of potential research partners include another research consortium or academic institution, an industry entity, a small business, or a federal laboratory. If one of the partners is a multi-organization entity, it counts as a single partner. A research partner may also contribute as a third party investor.

The research partner(s) either will be budgeted for a subaward or will bring their own funding to the partnership. In the case of a partnership with a federally-funded National Laboratory or FFRDC (Federally Funded Research and Development Center), that center or agency must co-fund its portion of the effort because, in general, NSF funds cannot be used to support other federally-funded centers.

The PFI:AIR-RA proposal must include collaboration with a third-party investor(s). Examples of third-party investor(s) include such entities as a company, a venture capital firm, an individual "angel" investor, federal (non-SBIR), state or local government, or any combination of the above.

Note: It is the responsibility of the award recipients to discuss the appropriate intellectual property policies, including patent disclosures and filings, with the third-party investor(s) and research partners. NSF is not responsible for the type of agreement reached between grantees, research partners and third-party investors. Submit with the proposal a letter stating that a cooperative research agreement (CRA; see example from the SBIR/STTR program) will be provided upon recommendation of an award. If an award is recommended, the partners must follow-up by providing a signed, written CRA that has been negotiated with the partners and third-party investors before NSF funding will be released.

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

Letters of Intent*(required):*

Submission of a Letter of Intent (LOI) from the lead institution is mandatory. Letters of intent are to be submitted via FastLane which is available at http://fastlane.nsf.gov/. The LOI allows the NSF to examine the proposals with respect to the eligibility requirements, to identify correctible issues, and to categorize proposals in order to prepare for the proposal review process. The LOI will not be used to eliminate or deter full proposal submissions.

Enter the requested core Letter of Intent information as prompted by FastLane. The "synopsis" and the "other comments" data fields each can contain a maximum of 2,500 characters. Note that the LOIs are restricted as to the number of data fields and the number of characters in each of the "additional information" data fields, described below, that can be entered in FastLane.

In the synopsis field, provide a description of the technology(s) to be translated and/or transferred, the targeted market space, and how the proposed partnership(s) and collaboration(s) will accelerate that transfer and contribute to the development of an innovation ecosystem. In the "other comments" field, if the underlying NSF research consortium award has expired within 3 years of the LOI due date, provide a brief description of evidence that shows the research consortium is still functioning as a research partnership between/amongst universities and other entities and is in good standing.

Additionally, complete these “additional information” data fields for the LOI:

Name the underlying NSF Research Consortium *(255 chars)* - Identify the underlying NSF research consortium by NSF award number and by title and its main area of research and technical expertise.

List of Partner(s) and Third Party Investors *(255 chars)* - Provide identification of the anticipated research partner(s) and the third-party investor(s).

Letter of Intent Preparation Instructions:

When submitting a Letter of Intent through FastLane in response to this Program Solicitation please note the conditions outlined below:

- Sponsored Projects Office (SPO) Submission is required when submitting Letters of Intent
- A Minimum of 0 and Maximum of 4 Other Senior Project Personnel are allowed
- A Minimum of 0 and Maximum of 4 Other Participating Organizations are allowed
- Name of the underlying NSF research consortium is required when submitting Letters of Intent
- List of Partner(s) is required when submitting Letters of Intent
- Submission of multiple Letters of Intent is not allowed

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.

Important Proposal Preparation Information: FastLane will check for required sections of the proposal, in accordance with *Grant Proposal Guide* (GPG) instructions described in Chapter II.C.2. The GPG requires submission of: Project Summary; Project Description; References Cited; Biographical Sketch(es); Budget; Budget Justification; Current and Pending Support; Facilities, Equipment & Other Resources; Data Management Plan; and Postdoctoral Mentoring Plan, if applicable. If a required section is missing, **FastLane will not accept the proposal.**

Please note that the proposal preparation instructions provided in this program solicitation may deviate from the GPG instructions. If the solicitation instructions do not require a GPG-required section to be included in the proposal, insert text or upload a document in that section of the proposal that states, "Not Applicable for this Program Solicitation." Doing so will enable FastLane to accept your proposal.

Guide to Submission of a Proposal:

Note: the submission criteria outlined below are in addition to requirements contained within the NSF Grant Proposal Guide (GPG) or NSF Grants.gov Application Guide. In addition, proposers are reminded to comply with the Conflict of Interest certification requirements described in the NSF GPG, Chapter II.C.1e, and in the NSF Award and Administration Guide (AAG), Chapter IV.A. See http://nsf.gov/publications/pub_summ.jsp?ods_key=papp

A well-constructed PFI:AIR-RA proposal should convey how the project will accomplish the following goals:

Expected accomplishments of PFI:AIR-RA

- The proposed work will accomplish translational or use-inspired research to enable the translation and transfer of research results and/or innovative technologies with clear value propositions into new start-up businesses or existing firms.
- The proposed work will result in the development and/or enhancement of an academic-based innovation ecosystem with a strategic network of connections between university researchers, the business community, and others that accelerate innovation.
- At the end of the proposed work, there will be measurable evidence of a developing and sustainable academic-based innovation ecosystem, as documented using the proposer's assessment method(s) and success metric(s).
- The proposed work will result in students who understand innovation and are prepared to be entrepreneurially competitive.

The proposal consists of the following parts:

A. Cover Sheet The cover sheet is automatically generated by FastLane or Grants.gov based on information entered into the "Cover Sheet" module.

B. Project Summary (one-page limit)

The Project Summary should be written in the third person and consists of an overview, a statement on the intellectual merit of the proposed activity, and a statement on the broader impacts of the proposed activity.

The summary MUST clearly address the following items:

Box 1: Overview, Key Words: A summary paragraph that shall begin as follows: "This Accelerating Innovation Research Alliance project ...". The key words/phrases should identify the areas of technical expertise in science and engineering, which are to be invoked in reviewing the proposal; and the areas of application that are the initial target markets of the technologies. Also include in this section the number assigned to the corresponding LOI submission and the NSF award number of the underlying NSF research consortium award.

Box 2: Intellectual Merit: A summary paragraph addressing the intellectual merits of the proposed activity, e.g. areas where the project will advance knowledge. No proprietary information should be included in the summary.

Box 3: Broader Impact: A summary paragraph that describes the potential societal, economic, commercial and educational impacts of the project and the technology(s) to be transferred.

The aggregate of the three text boxes cannot exceed 4,600 characters, including spaces.

C. Table of Contents The table of contents is automatically generated by FastLane or Grants.gov.

D. Project Description (cannot exceed 15 pages)

The project description must include the following:

- An overview of the lineage of the technology(s) to be translated and transferred and how they derived/developed from the research of the NSF-funded research consortium.
- A description of the technology(s) to be translated and/or transferred, the targeted market space, and why that technology is believed to be competitive in that particular market space, e.g. a discussion of the perceived value proposition.
- The research plan to achieve the intended technology(s) translation and transfer, including milestones with specific objectives, tasks, and resulting outputs (e.g. early-stage prototype, fully-functional prototype).
    - Identify the technology/knowledge gaps to be addressed and how the research plan addresses them.
    - Identify and discuss the roles each of the partners will play in executing the research plan and how each entity's capabilities enable the goals of the RA award to be achieved.
- A discussion of the qualifications of the team and how the research partnership leverages the research and technology capabilities of the underlying research consortium and of the research partner(s) to accelerate competitive innovation that neither party could develop as well or as rapidly alone.
- A discussion of the role of the collaboration with the third-party investor(s) and how that collaboration enables the acceleration of the transfer of innovative technologies from the research consortium to commercial realities.
- A discussion of how the proposed partnership(s) and collaboration(s) contribute to the development/enhancement of a sustainable academic-based innovation ecosystem. In particular, how the ecosystem is expected to develop, grow and ultimately become sustainable.
- A proposed assessment plan that will gauge the success of the research partnership(s) and third-party collaboration(s) in creating and sustaining an academic-based innovation ecosystem that more rapidly translates consortium derived technologies into commercial use. Include a discussion of the development of and justification for the appropriate stated success metrics.
- An education plan that shows how participating students and/or post-doctoral fellows will learn about innovation, entrepreneurship, and the process of research translation, transformation, transition, and transfer.
- A specific statement that the award recipients have discussed the appropriate intellectual property policies, including patent disclosures and filings, research partners and third-party investors. NSF is not responsible for the type of agreement reached between award recipients, research partners, and third-party investors.

Patentable ideas, trade secrets, privileged or confidential commercial or financial information, disclosure of which may harm the proposer, should be included in proposals only when such information is necessary to convey an understanding of the proposed project. Such information must be clearly marked in the proposal and be appropriately labeled with a legend such as, "The following is (proprietary or confidential) information that (name of proposing organization) requests not be released to persons outside the Government, except for purposes of review and evaluation." The box for "Proprietary or Privileged Information" must be checked on the Cover Sheet when the proposal contains such information.

Please note that per guidance in the GPG, the Project Description must contain a discussion of the broader impacts of the proposed activities. For this solicitation, the discussion of the broader impacts should be integrated into appropriate sections in order to describe the societal, economic, and/or commercial benefit that would be derived from the proposed activities. In addition, the broader impacts on students should be discussed in terms of how students will gain innovation experience beyond their normal research activities by participation in the proposed project.

E. References Cited

Provide a comprehensive listing of relevant reference sources, including patent citations. If there are no references cited in this proposal, include a statement to that effect in this module.

F. Biographical Sketches

Include short bios (two pages maximum) for each of the team members, including graduate students and post-doctoral fellows, if known, highlighting their technical expertise and track records in successful technology and/or business development. Biographical sketches for non-academic participants need not follow the academic bio sketch format, but rather one appropriate to their respective backgrounds. Regardless, all participants listed as either "co-PIs or "Non co-PI/Senior Personnel" must submit a bio sketch of no more than two pages.

G. Budget and Sub-budgets

The NSF Summary Proposal Budget is generated in FastLane or Grants.gov. Prepare a budget for each year. The system will

automatically generate a cumulative budget for the entire project. Costs for travel for the PI to make one trip to the D.C. area to report on the accomplishments and future plans at the required mid-term (18 months) review should be included in the requested budget (minimum of $2000) and spelled out explicitly in the budget justification. Additional travel costs can be budgeted for a research partner and a third-party investor to travel for this same purpose.

A budget justification is required for each item in the budget; it should explicitly state how and where the requested NSF funds will be spent.

The maximum award size will be $800,000 for up to 3 years, per award, pending the achievement of intermediate milestones as specified in the research plan and reported in the annual report in each year. The award will be made as a Continuing Grant or a Standard Grant. The proposal should budget 35 percent of the requested funding for the first year, 35 percent for the second year, and 30 percent for the third year.

H. Current and Pending Support

The proposal should provide information regarding all research to which the PI and co-PIs(s), or other senior personnel either have committed time or have planned to commit time. For all ongoing or proposed projects, the following information should be provided for the PI, co-PI(s), and senior personnel:

- Name of sponsoring organization and award number;
- Title and performance period of the award/proposal; and
- Person-months/calendar months (per year) devoted to the project by the PI, co-PI(s), and each of the senior personnel.

***Current and Pending Support must be uploaded into the system. The proposal being submitted under this solicitation is considered "pending" and therefore MUST appear in the Current and Pending Support module.**

I. Facilities, Equipment, and Other Resources

Discuss requirements for and the availability of equipment, instrumentation, and facilities required for the proposed work.

J. *Supplementary Documents*

Proposals missing any of these documents will be returned without review.

- *Letters of Commitment-third party investors.* Letters of commitment from the third-party investors must be provided at the time of submission of the proposal. **Such letters must specify the total investment, timing and nature of the commitment, i.e., "cash" or "in-kind" commitment.**
- *Letters of Commitment-research partners.* Letters of commitment from the research partners must be provided at the time of submission of the proposal. Such letters must specify the anticipated role of the research partner. If an entity is both a third party investor and a research partner, one letter is sufficient provided that both sets of information are provided in the letter.
- *PI Letter.* If the PI of the PFI:AIR Research Alliance proposal is **not** the PI (e.g., Director) of the NSF-funded research consortium, the proposal must include a letter from the PI of the NSF-funded research consortium that describes how the work proposed leverages the core mission of the research consortium.
- *Allocation of Funding Table*. A table that shows how NSF funding is planned to be allocated across proposed tasks for each year. There should be a column for each year and a row for each proposed task.
- *Table of Third Party Investments.* A table that summarizes each of the identified third party investors, the amount of investment, the nature of the investment (cash or in-kind) and the timing of the investment. There should be four columns total with one column for the investors, one column for the amount, one column for the nature (cash or in-kind), and one column for the timing, with each row corresponding to one investor.
- *Letter of Cooperative Research Agreement*. A letter stating that a CRA(s) will be provided upon recommendation of the award must be submitted with the proposal. If an award is recommended, the partners must follow-up by providing a signed, written CRA(s) that has been negotiated with the partners and third-party investors before NSF funding will be released.
- *Evidence that the research consortium is in good standing for post-NSF funding (within 3 years) applicants.* For the timeframe since the end of NSF funding, the following are required and must be submitted as part of the supplemental documents:
    - A table with a list of grants received by the research consortium and, for each grant, provide: the associated PI/co-PIs, the associated senior personnel, the funding type (e.g., research, instrumentation, education, infrastructure, and so forth), the funding amount, the funding source, and the grant duration and date of award.
    - The number and type of students (MS and PhD) who were funded by the research consortium-funded and who graduated each year since NSF funding concluded.
    - A statement by the research consortium PI (Director), and co-signed by a reporting research administrator, describing the type of ongoing partnership(s) and research/education/commercial activities that comprise the research consortium.
- *Data Management Plan*. A Data Management Plan is required for all proposals submitted to NSF. Consult the data management requirements in the GPG: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg.
- *Postdoctoral Research Mentoring Plan*. ***If applicable***, a postdoctoral mentoring plan.
- *Other Supplementary Docs.* ***If applicable,*** letters regarding Use of Human subjects, e.g., Institutional Review Board or IACUC approval of animal use.

K. Single Copy Documents

Proposers are encouraged to supply an annotated list of suggested reviewers complete with contact information.

B. Budgetary Information

Cost Sharing: Inclusion of voluntary committed cost sharing is prohibited.

Other Budgetary Limitations:

NSF will not provide salary support for personnel employed by Federal Agencies or Federally Funded Research and Development Centers.

C. Due Dates

- **Letter of Intent Due Date(s)** ***(required)*** (due by 5 p.m. proposer's local time)***:***

  January 12, 2015

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

  February 18, 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

In making the final award decisions, NSF also may consider the following:

- Geographic distribution and diversity of academic institutions involved in the partnership
- Distribution of technology or industry sectors served

Additional Review criteria:

- The strength of the lineage of the technologies to the NSF-funded research consortium.
- The effectiveness of the proposed plans to translate and transfer the technology(s) into commercial realities (products, processes, and systems).
- The quality of the research plan, milestones, and deliverables.
- The quality and appropriateness of the research partnership(s).
- The commitment of the third-party investors.
- The effectiveness of the proposed plans, partnership(s), and collaboration(s) in catalyzing or enhancing a sustainable, academic-based innovation ecosystem.

- The effectiveness of the assessment plan and the relevance of the proposer's success metrics to the anticipated results.
- The net added value of the proposed work to the participating students.
- If the research consortium is no longer funded by NSF, the strength of the evidence that the research consortium is still functioning as a research partnership between/amongst universities and other entities and is in good standing.

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:

Prior to submission of a PFI:AIR-RA proposal, the proposer must secure third-party investment commitment for the full duration of the proposal. The total NSF proposal budget must not exceed the total investment from the third-party investor(s). The third-party investment(s) can be cash, liquid assets, or tangible financial instruments. Up to 25 percent of the third-party investment may be intangible assets (e.g., "in-kind"). Please note that third-party investment funding should be maintained separately from the NSF research award funding.

If selected for award, initial release of NSF funds for years one and two (e.g. 70 percent of budget) shall be contingent upon receipt of third party investor(s) funding of 30 percent of total committed cash investment prior to award and a letter of commitment from third party investor(s) that the remaining 70 percent of the cash investment will be available prior to year three. The final 30 percent of NSF funding for year three will be released providing the following conditions are satisfied:

- The PI of the NSF-funded PFI:AIR RA award, at least one research partner, and at least one third-party investor (representing a minimum of two of the partnering entities) must present and pass a mid-term review to be held in the D.C. area; details will be provided after the award is made. The presentation must show the accomplishments for the previous 18 months relative to the milestones proposed and the updated research and collaboration plans for the following 18

months, to be approved by an NSF review team.
- Receipt of the remaining 70 percent of the committed third-party cash investment prior to the start of the third year.

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.

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:

- Barbara H. Kenny, Program Director, telephone: (703) 292-4667, email: bkenny@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** (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
Arlington, VA 22230