

Innovation Corps Sites Program (I-Corps Sites)

PROGRAM SOLICITATION

NSF 12-604



National Science Foundation

Office of International and Integrative Activities

Directorate for Biological Sciences

Directorate for Computer & Information Science & Engineering
Division of Advanced Cyberinfrastructure

Directorate for Education & Human Resources

Directorate for Engineering

Directorate for Geosciences

Directorate for Mathematical & Physical Sciences

Directorate for Social, Behavioral & Economic Sciences

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

January 07, 2013

July 01, 2013

First Monday in July, Annually Thereafter

IMPORTANT INFORMATION AND REVISION NOTES

A revised version of the *NSF Proposal & Award Policies & Procedures Guide (PAPPG)*, [NSF 13-1](#), was issued on October 4, 2012 and is effective for proposals submitted, or due, on or after January 14, 2013. Please be advised that the guidelines contained in [NSF 13-1](#) apply to proposals submitted in response to this funding opportunity. Proposers who opt to submit prior to January 14, 2013, must also follow the guidelines contained in [NSF 13-1](#).

Please be aware that significant changes have been made to the PAPPG to implement revised merit review criteria based on the National Science Board (NSB) report, [National Science Foundation's Merit Review Criteria: Review and Revisions](#). While the two merit review criteria remain unchanged (Intellectual Merit and Broader Impacts), guidance has been provided to clarify and improve the function of the criteria. Changes will affect the project summary and project description sections of proposals. Annual and final reports also will be affected.

A by-chapter summary of this and other significant changes is provided at the beginning of both the [Grant Proposal Guide](#) and the [Award & Administration Guide](#).

Please note that this program solicitation may contain supplemental proposal preparation guidance and/or guidance that deviates from the guidelines established in the [Grant Proposal Guide](#).

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Innovation Corps Sites Program (I-Corps Sites)

Synopsis of Program:

The National Science Foundation (NSF) seeks to develop and nurture a national innovation ecosystem that builds upon research to guide the output of scientific discoveries closer to the development of technologies, products and processes that benefit society.

In order to contribute to a national innovation ecosystem, NSF is establishing the NSF Innovation Corps Sites Program (NSF I-Corps Sites). Sites are funded at academic institutions, having already existing innovation or entrepreneurial units, to enable them to:

- Nurture students and/or faculty who are engaged in projects having the potential to be transitioned into the marketplace. I-Corps Sites will provide infrastructure, advice, resources, networking opportunities, training and modest funding to enable groups to transition their work into the marketplace or into becoming I-Corps Team applicants (see NSF Innovation Corps Program, [NSF 11-560](#)).
- Develop formal, active, local innovation ecosystems that contribute to a larger, national network of mentors, researchers, entrepreneurs and investors.

The purpose of an I-Corps Site is to nurture and support multiple, local teams to transition their ideas, devices,

processes or other intellectual activities into the marketplace.

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.

- Errol B. Arkilic, telephone: (703) 292-8095, email: earkilic@nsf.gov
- Rathindra DasGupta, telephone: (703) 292-8353, email: rdasgupt@nsf.gov
- Anita J. La Salle, telephone: (703) 292-5006, email: alasalle@nsf.gov
- Don L. Millard, telephone: (703) 292-4620, email: dmillard@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: Continuing Grant

Estimated Number of Awards: 15 Up to 15 I-Corps Sites awards annually, pending availability of funds.

Anticipated Funding Amount: \$1,500,000

Eligibility Information

Organization Limit:

Proposals may only be submitted by the following:

- Universities and Colleges - Universities and two- and four-year colleges (including community colleges) accredited in, and having a campus located in the US, acting on behalf of their faculty members. Such organizations also are referred to as academic institutions.
- A competitive proposal for an I-Corps Site will be led by an institution having an already existing unit whose goal is to assist faculty, students and other academic personnel to engage in entrepreneurial activities and transition scientific and technological innovations. Such units are typically called: innovation centers, entrepreneurial centers, technology incubators, etc. Their mission is to provide resources to individuals and teams in the form of space, seed funding, entrepreneurial mentoring, curriculum, or other assets needed to transition technology into the marketplace.

During the startup phase of NSF's I-Corps Sites Program, collaborative proposals from multiple institutions are discouraged. Exceptions can be made, with the approval of the NSF I-Corps Management Team, for institutions that have collaborative entrepreneurial centers already in place.

PI Limit:

None Specified

Limit on Number of Proposals per Organization:

None Specified

Limit on Number of Proposals per PI: 1

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **Letters of Intent:** Not Applicable
- **Preliminary Proposal Submission:** Not Applicable
- **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:** Not Applicable

C. Due Dates

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

January 07, 2013

July 01, 2013

First Monday in July, Annually Thereafter

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: Standard NSF award conditions apply.

Reporting Requirements: Standard NSF reporting requirements apply.

TABLE OF CONTENTS

Summary of Program Requirements

- I. **Introduction**
- II. **Program Description**
- III. **Award Information**
- IV. **Eligibility Information**
- V. **Proposal Preparation and Submission Instructions**
 - A. **Proposal Preparation Instructions**
 - B. **Budgetary Information**
 - C. **Due Dates**
 - D. **FastLane/Grants.gov Requirements**
- VI. **NSF Proposal Processing and Review Procedures**
 - A. **Merit Review Principles and Criteria**
 - B. **Review and Selection Process**
- VII. **Award Administration Information**
 - A. **Notification of the Award**
 - B. **Award Conditions**
 - C. **Reporting Requirements**
- VIII. **Agency Contacts**
- IX. **Other Information**

I. INTRODUCTION

America's prosperity has originated in part from the ability to capitalize economically on ground -breaking discoveries from science and engineering research. Simultaneously, a knowledgeable, creative workforce has maintained the country's global leadership in critical areas of technology. These important discoveries and capable workforce resulted from substantial, sustained investment in science and engineering. A strong capacity for leveraging fundamental scientific discoveries into powerful engines of innovation is essential to maintain our competitive edge in the future.

Through this initiative, NSF seeks to accelerate the commercialization of new technologies, products and processes that arise from research. NSF investments will strategically strengthen the innovation ecosystem (<http://www.nsf.gov/eng/iip/innovation.pdf>) by addressing the challenges inherent in the early stages of the innovation process. This solicitation will support activities that are designed to overcome many of the obstacles in the path of innovation.

II. PROGRAM DESCRIPTION

The goals of this program are to spur translation of research, to encourage collaboration between academia and industry, and to train students to understand innovation and entrepreneurship. NSF funding through I-Corps Sites enables academic institutions to support teams whose projects are likely candidates for commercialization.

A competitive proposal for an I-Corps Site will be led by an institution having an already existing unit whose goal is to assist faculty, students and other academic personnel to engage in entrepreneurial activities and transition scientific and technological innovations. Such units are typically called: innovation centers, entrepreneurial centers, technology incubators, etc. Their mission is to provide resources to individuals and teams in the form of space, seed funding, entrepreneurial mentoring, curriculum, or other assets needed to transition technology into the marketplace.

The purpose of an I-Corps Site is to nurture and support multiple, local teams that are transitioning their ideas, devices, processes or other intellectual activities into the marketplace. While different institutions may choose different mechanisms for achieving the goals of an I-Corps Site, certain characteristics of a Site must be consistent - the make-up of the teams the Site supports, the origin and nature of the projects, and the kind of support that is provided to the teams by the Site.

A. I-Corps Site Teams

The I-Corps Sites Program funds an institution's entrepreneurial unit. The unit, in turn, provides resources for the creation, development, and nurturing of entrepreneurial teams. Teams formed under the auspices of an I-Corps Site should include an Entrepreneurial Lead (EL), an Academic Lead (AL), and a Mentor.

The **Entrepreneurial Lead** could be a Post-Doctoral scholar, graduate student, undergraduate or other student, or professional staff, with relevant knowledge of the technology and a deep commitment to investigate the commercial landscape surrounding the innovation. In rare circumstances, with approval of a cognizant NSF I-Corps Program Officer, it also could be the AL. The Entrepreneurial Lead should also be capable and have the will to support the transition of the technology, should the project demonstrate the potential for commercial viability.

The **Mentor** will typically be an experienced or emerging entrepreneur with proximity to the institution and experience in transitioning technology out of academic labs. The Mentor is a third-party resource and may be recommended by the proposing institution or may be an employee of the institution. The Mentor will be responsible for guiding the team forward and tracking progress.

The **Academic Lead** will be responsible for overall project management. The AL must have an academic appointment that would normally qualify the AL to submit proposals or play the role of a PI in subsequent submissions to NSF.

B. I-Corps Site Projects

Site team ideas or projects can originate from student work, research (funded or unfunded), institutional, or industrial projects. The topical focus of a project must be in an area(s) of science, technology, engineering, or mathematics normally supported by the National Science Foundation.

C. I-Corps Site Team Support

The scope of the funding that an I-Corps Site may expend on teams can include, but is not limited to: acquisition of modest amounts of equipment or materials needed to fabricate prototypes; travel expenses to consult with potential clients or experts; training or education related to entrepreneurial immersion; or, other resources needed to directly advance the goals of transitioning a team's project into the marketplace. I-Corps Site support for an institution's entrepreneurial teams should not be used for legal or administrative costs. Exceptions to the direct support of teams can be made for the costs of planning technical meetings for the direct benefit of entrepreneurial teams, providing those meetings contribute to the commercialization of team projects.

The expectation is that an I-Corps Site will contribute \$1,000 to \$3,000 total to individual teams sponsored by the I-Corps Site and that the duration of the support will typically range from 1 to 3 months. I-Corps Sites are expected to fund at least 30 teams per year.

D. I-Corps Site Outcomes Expectations

The purpose of an I-Corps Site is to nurture and support multiple, local teams that are transitioning their ideas, devices, processes or other intellectual activities into the marketplace. A Site's entrepreneurial curriculum model should demonstrate consistency with (but not necessarily duplicate) the NSF I-Corps curriculum that can be found at www.nsf.gov/i-corps. Some of the possible outcomes from an I-Corps Site's team mentorship and guidance are:

- Direct commercialization of team projects
- Applications submitted by Site Teams to NSF's I-Corp Program
- New start-up businesses
- Licensing agreements
- Creation of business plans suitable for review by third-party investors

In addition, all I-Corps Site supported teams will make "go/no-go" decisions about commercialization within six months of receiving support from their I-Corps Site. Sites are expected to track teams' progress using appropriate survey tools and retain the data resulting from those surveys.

III. AWARD INFORMATION

Anticipated Type of Award: Continuing Grant

Estimated Number of Awards: 15 Up to 15 I-Corps Sites awards annually, pending availability of funds.

Anticipated Funding Amount: \$1,500,000

IV. ELIGIBILITY INFORMATION

Organization Limit:

Proposals may only be submitted by the following:

- Universities and Colleges - Universities and two- and four-year colleges (including community colleges) accredited in, and having a campus located in the US, acting on behalf of their faculty members. Such organizations also are referred to as academic institutions.
- A competitive proposal for an I-Corps Site will be led by an institution having an already existing unit whose goal is to assist faculty, students and other academic personnel to engage in entrepreneurial activities and transition scientific and technological innovations. Such units are typically called: innovation centers, entrepreneurial centers, technology incubators, etc. Their mission is to provide resources to individuals and teams in the form of space, seed funding, entrepreneurial mentoring, curriculum, or other assets needed to transition technology into the marketplace.

During the startup phase of NSF's I-Corps Sites Program, collaborative proposals from multiple institutions are discouraged. Exceptions can be made, with the approval of the NSF I-Corps Management Team, for institutions that have collaborative entrepreneurial centers already in place.

PI Limit:

None Specified

Limit on Number of Proposals per Organization:

None Specified

Limit on Number of Proposals per PI: 1

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

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

- Full proposals submitted via FastLane: Proposals submitted in response to this program solicitation should be prepared and submitted in accordance with the general guidelines contained in the NSF Grant Proposal Guide (GPG). The complete text of the GPG is available electronically on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from nsfpubs@nsf.gov. Proposers are reminded to identify this program solicitation number in the program solicitation block on the NSF Cover Sheet For Proposal to the National Science Foundation. Compliance with this requirement is critical to determining the relevant proposal processing guidelines. Failure to submit this information may delay processing.
- Full proposals submitted via Grants.gov: Proposals submitted in response to this program solicitation via Grants.gov should be prepared and submitted in accordance with the NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov. The complete text of the NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at: (http://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide). To obtain copies of the Application Guide and Application Forms Package, click on the Apply tab on the Grants.gov site, then click on the Apply Step 1: Download a Grant Application Package and Application Instructions link and enter the funding opportunity number, (the program solicitation number without the NSF prefix) and press the Download Package button. Paper copies of the Grants.gov Application Guide also may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from nsfpubs@nsf.gov.

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

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

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 Preparation of an NSF I-Corps Sites Proposal

Proposals submitted to the I-Corps Sites Program deviate from the traditional format of a research proposal as described in NSF's GPG.

An I-Corps Sites proposal consists of the following parts:

Cover Sheet:

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

Project Summary:

The Project Summary 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. In addition to the overview, the one-page summary **MUST** have the following components:

1. A summary limited to 300 words addressing the *Intellectual Merits* of the proposed activity. No proprietary information should be included in the summary.

2. A summary limited to 300 words addressing the *Broader Impacts* of the proposed activity. Describe the potential societal and commercial impact of the proposed Site.

Table of Contents:

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

Project Description:

An I-Corps Sites proposal should include information organized in the most effective way to present a compelling story about why the proposed Site should be funded and why it will be effective in preparing teams to commercialize their projects. The Project Description is limited to 15 pages and should address the bulleted topics listed below. For each topic listed, where appropriate, describe how the feature or activity will change if an I-Corps Sites award is made to your institution.

- Your center's history and current status including a URL that can be used to explore your institution's entrepreneurial activities.
- A description of how your entrepreneurial center is managed and functions including lead personnel.
- Describe the innovation-services the center currently provides.
- How is the center currently funded?
- Describe business, industry, governmental, and community connections and how they are maintained by the center.
- Describe physical facilities, available resources and staffing.
- What is the role of your institution's faculty and in-residence personnel? What is the role of venture capitalists and mentors?
- How do you recruit individuals or teams to receive support from your center? How are they vetted? How many individuals or teams do you assist each year?
- What efforts are made to recruit and support underrepresented participants?
- Describe technology innovation practices, resources provided, entrepreneurial training, mentoring, commercialization launches, coaching, and curriculum used in your center.
- Enumerate noteworthy start-up success stories, competitions that were held, and/or publicity your center or projects received.
- What assessment/evaluation and follow-up do you do with respect to projects that have been supported and/or launched by your center?

Please note that per guidance in the GPG, the Project Description must contain, as a separate section within the narrative, a discussion of the broader impacts of the proposed activities. You can decide where to include this section within the Project Description.

References Cited

Provide a comprehensive listing of relevant reference sources, including patent citations.

Biographical sketches

A biographical sketch for each team member (two pages maximum per team member) must be provided, highlighting technical expertise and track records in successful technology and business development and be prepared in accordance with the requirements specified in the GPG. Exhaustive academic resumes are not appropriate.

Proposal Budget

Funding for the I-Corps Sites Program is limited to a maximum of \$100,000 per year for a maximum of 3 years.

The bulk of the funding should be expended on entrepreneurial teams and the activities needed to pursue commercialization of their products, processes or ideas.

The budget should include funds for PI travel to one I-Corps Sites meeting per year.

The I-Corps Sites Program will not fund legal or administrative expenses for commercialization.

Current and Pending Support

The proposal should provide information regarding all research to which the Principal Investigator (PI) and Co-PIs have committed time or have planned to commit time. If none, state NONE. **Current and Pending Support must be uploaded for each of the team members. Note that this proposal is considered "pending" and therefore MUST appear on each Current and Pending Support submission.**

Facilities, Equipment, and Other Resources

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

B. Budgetary Information

Cost Sharing: Inclusion of voluntary committed cost sharing is prohibited

C. Due Dates

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

January 07, 2013

July 01, 2013

First Monday in July, Annually Thereafter

D. FastLane/Grants.gov Requirements

- **For Proposals Submitted Via FastLane:**

Detailed technical instructions regarding the technical aspects of preparation and submission via FastLane are 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.

Submission of Electronically Signed Cover Sheets. The Authorized Organizational Representative (AOR) must electronically sign the proposal Cover Sheet to submit the required proposal certifications (see Chapter II, Section C of the Grant Proposal Guide for a listing of the certifications). The AOR must provide the required electronic certifications within five working days following the electronic submission of the proposal. Further instructions regarding this process are available on the FastLane Website at: <https://www.fastlane.nsf.gov/fastlane.jsp>.

- **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://www07.grants.gov/applicants/app_help_reso.jsp. In addition, the NSF Grants.gov Application Guide provides additional technical guidance regarding 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.

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 [Empowering the Nation Through Discovery and Innovation: NSF Strategic Plan for Fiscal Years \(FY\) 2011-2016](#). 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 core strategies 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 provide abundant opportunities where individuals may concurrently assume responsibilities as researchers, educators, and students, and where all can engage in joint efforts that infuse education with the excitement of discovery and enrich research through the variety of learning perspectives.

Another core strategy in support of NSF's mission is broadening 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 will be charged to consider the following additional criteria when reviewing I-Corps Sites proposals:

- Does this institution's entrepreneurial center have clearly-defined goals and a proven track-record of providing assistance in transitioning academic projects into the marketplace?
- Is there sufficient and appropriate leadership, staffing, and in-residence personnel to manage the additional load that an I-Corps Site may induce?
- Are the innovation-services the center currently provides in line with the expectations of the I-Corps Sites Program?
- Will the majority of the Site's proposed budget be expended on services for and direct support to teams?
- Does the center maintain a network of business, industry, governmental, and community connections? How are those networks utilized to the advantage of the people and projects served by the center?
- Does the center have processes in place for pursuing and tracking new ideas, projects, and people for support? Does the support extend to student teams? Do faculty play an active role in advising and mentoring student projects? Are efforts made to recruit and support underrepresented participants?
- Does the center have a formal curriculum in place for entrepreneurial training?
- Does the center provide noteworthy start-up success stories?
- Are assessment/evaluation and follow-up processes in place to measure success and track supported projects?

B. Review and Selection Process

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

Reviewers will be asked to formulate a recommendation to either support or decline each proposal. 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 is striving to be able to tell applicants whether their proposals have been declined or recommended for funding within six months. The time interval begins on the deadline or target date, or receipt date, whichever is later. The interval ends when the Division Director accepts the Program Officer's recommendation.

A summary rating and accompanying narrative will be completed and submitted by each reviewer. In all cases, reviews are treated as confidential documents. Verbatim copies of reviews, excluding the names of the reviewers, 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.

In all cases, 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 and 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.

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 letter, 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 letter; (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 letter. 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.

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:

- Errol B. Arkilic, telephone: (703) 292-8095, email: earkilic@nsf.gov
- Rathindra DasGupta, telephone: (703) 292-8353, email: rdasgupt@nsf.gov
- Anita J. La Salle, telephone: (703) 292-5006, email: alasalles@nsf.gov
- Don L. Millard, telephone: (703) 292-4620, email: dmillard@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, "My NSF" 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. "My NSF" also is available on NSF's website at <http://www.nsf.gov/mynsf/>.

Grants.gov provides an additional electronic capability to search for Federal government-wide grant opportunities. NSF funding opportunities may be accessed via this new 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
Division of Administrative Services
National Science Foundation
Arlington, VA 22230

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