

SBE Postdoctoral Research Fellowships (SPRF)

PROGRAM SOLICITATION

NSF 12-591

REPLACES DOCUMENT(S):

NSF 09-595



National Science Foundation

Directorate for Social, Behavioral & Economic Sciences
SBE Office of Multidisciplinary Activities

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

October 29, 2012

Last Monday in October, Annually Thereafter

November 12, 2013

IMPORTANT INFORMATION AND REVISION NOTES

Important Notice

Because of the government shutdown, the SPRF October 28, 2013 proposal submission date deadline has been revised to November 12, 2013. All remaining deadline dates for this SPRF solicitation will remain the last Monday of October.

Significant changes in the new SBE MPRF

- Name of the program is changed to "SBE Postdoctoral Research Fellowships (SPRF)". Previously, the program name was "SBE Minority Postdoctoral Research Fellowships (MPRF)".
- The revised program has two tracks: (i) Broadening Participation, SPRF-BP, and (ii) Interdisciplinary Research in Behavioral and Social Sciences, SPRF-IBSS. The BP track subsumes the previous MPRF program, and the IBSS track is a new addition.
- Proposals will be submitted from institutions; roles (PI, co-PI, Senior Personnel) of the sponsoring scientist(s) and the postdoctoral fellowship candidate will be determined according to institutional regulations (previously proposals were submitted by, and awards were made to, individuals).
- Ph.D. degree of the fellowship candidate must have been obtained within 24 months before application deadline (previously was within 30 months) or within 10 months after the application deadline (previously was 12 months).
- The Sponsoring Scientist's statement must be incorporated into the project description as a separate section (previously was submitted as a separate letter).
- Individuals already in full-time tenure-track faculty positions are not eligible to apply (previously they could apply with a letter from the Department Chair stating that if the fellowship were to be awarded, the awardee would be allowed a two-year leave of absence).
- Follow-up Research Starter Grants are no longer offered.
- All awards are for a maximum of two years; three-year awards and third year extensions are not allowed (previously were allowed in special cases).

Important Reminders

A revised version of the *NSF Proposal & Award Policies & Procedures Guide (PAPPG)*, [NSF 11-1](#), was issued on October 1, 2010 and is effective for proposals submitted, or due, on or after January 18, 2011. Please be advised that the guidelines contained in [NSF 11-1](#) apply to proposals submitted in response to this funding opportunity.

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

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

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

SBE Postdoctoral Research Fellowships (SPRF)

Synopsis of Program:

The Directorate for Social, Behavioral and Economic Sciences (SBE) offers Postdoctoral Research Fellowships in two tracks: (i) Broadening Participation (SPRF-BP), and (ii) Interdisciplinary Research in Behavioral and Social Sciences (SPRF-IBSS). See the full text of the solicitation for detailed description of these tracks.

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.

- Fahmida N. Chowdhury - Program Officer, telephone: (703) 292-4672, email: fchowdhu@nsf.gov
- Lisa M. Jackson - Program Specialist, telephone: (703) 292-7882, email: lmjackso@nsf.gov

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

- 47.075 --- Social Behavioral and Economic Sciences

Award Information

Anticipated Type of Award: Fellowship

Estimated Number of Awards: 15

Up to 15 total fellowships contingent upon the quality of the applications and availability of funds.

Anticipated Funding Amount: \$3,000,000 - Maximum anticipated funding amount is approximately \$3,000,000 per year contingent upon the quality of applications and availability of funds.

Eligibility Information

Who May Submit Proposals:

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.
- Non-profit, non-academic organizations: Independent museums, observatories, research labs, professional societies and similar organizations in the U.S. associated with educational or research activities.

Who May Serve as PI:

The Fellowship applicant must be a U.S. citizen, national, or legally admitted permanent resident alien of the United States and meet the additional criteria listed below in the program solicitation.

Limit on Number of Proposals per Organization:

There are no restrictions or limits.

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

The Fellowship candidate may be part of only one proposal, regardless of role (PI, co-PI, or Senior Personnel).

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

C. Due Dates

- Full Proposal Deadline(s) (due by 5 p.m. proposer's local time):
 - October 29, 2012
 - Last Monday in October, Annually Thereafter
 - November 12, 2013

Proposal Review Information Criteria

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

Award Administration Information

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

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

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I. INTRODUCTION

The National Science Foundation offers postdoctoral research fellowships to provide opportunities for recent doctoral graduates to obtain additional training, to gain research experience under the sponsorship of established scientists, and to broaden their scientific horizons beyond their undergraduate and graduate training. Postdoctoral fellowships are further designed to assist new scientists to direct their research efforts across traditional disciplinary lines and to avail themselves of unique research resources, sites, and facilities, including at foreign locations. NSF seeks to promote the participation of scientists from all segments of the scientific community, including those from under-represented groups, in its research programs and activities; the postdoctoral period is considered to be an important level of professional development in attaining this goal.

The goal of the SBE Postdoctoral Research Fellowship (SPRF) program is to enhance the participation of under-represented groups in science and engineering; promote interdisciplinary research; and encourage doctoral-level scientists (who are not yet in full-time positions) to take advantage of the two-year fellowships to prepare for scientific careers in academia, industry, and government.

II. PROGRAM DESCRIPTION

II.1. Areas of Research: The [Directorate for Social, Behavioral and Economic Sciences \(SBE\)](#) supports research in a broad range of disciplines and in interdisciplinary areas through its [Behavioral and Cognitive Sciences \(BCS\) Division](#), [Social and Economic Sciences \(SES\) Division](#), [SBE Office of Multidisciplinary Activities \(SMA\)](#), and [National Center for Science and Engineering Statistics \(NCSES\)](#). The prospective PI-teams (that is, Fellows and Mentors) should visit the web pages hyperlinked in this section to get detailed information of the research fields/themes/topics supported by the SBE Directorate. Any research field within the purview of the SBE sciences, as described in the above web sites, would be welcome. In the case of interdisciplinary research, at least one of the component fields should be within the SBE sciences. A particular, but not exclusive list of topics can be found in a recently published report entitled "[Rebuilding the Mosaic](#)". This report proposes four major topic areas of interest: population change; sources of disparities, for example in social, economic, or health contexts, and processes that alleviate those disparities; communication, language, and linguistics; and technology, new media, and social networks; these interest areas have been condensed from a lengthy and extensive process of community input.

II.2. Tracks: This SPRF program offers two tracks of Fellowships. For both of these tracks, proposals are encouraged from a wide range of doctoral-level investigators including those from groups that continue to be under-represented in their field. Some proposals may contain elements of both tracks; for example, an interdisciplinary proposal may focus on the science of broadening participation. In such cases it will be up to the potential Fellow to choose one dominant track.

Track 1. Broadening Participation (SPRF-BP): The SPRF-BP track offers fellowships in an effort to increase the diversity of researchers who participate in NSF programs in the social, behavioral and economic sciences and thereby increase the participation of scientists from under-represented groups in selected areas of science in the United States. NSF defines broadening participation in terms of individuals from under-represented groups as well as institutions and geographic areas that do not participate in NSF research programs at rates comparable to others. The problem of under-representation in the nation's scientific enterprise has been well-documented and reported in the literature; the BP track of the SPRF program invites proposals that address this issue either through the Fellow's scientific research or through well-designed and meaningful outreach and training activities. The research theme under the BP track can be anything that falls within the SBE sciences (see Section II.1 for details) at NSF, including (but not limited to) research on the topic of broadening participation (see SBE's Dear Colleague Letter [NSF 12-037](#) for more details on the science of broadening participation). The Fellowship proposal as a whole should demonstrate how the proposed activities help increase the participation and advancement of under-represented groups in SBE fields or, in general, STEM fields. The broadening participation issue can be addressed directly (in case the research itself is on that topic), indirectly (through the broader impacts of the research, or by incorporating appropriate training and outreach activities), or both. In addition, successful proposals will demonstrate the integral role that the mentor will play in advancing the postdoctoral applicant's research and future career development.

In addition to the scientific research, all proposals for this (BP) track must include a specific section with the heading "How this fellowship will help broaden the participation of scientists from currently under-represented groups in the United States".

Track 2. Interdisciplinary Research in Behavioral and Social Sciences (SPRF-IBSS): The SPRF-IBSS track aims to support interdisciplinary training where at least one of the disciplinary components is an SBE science. As defined by the National Academies, "Interdisciplinary research is a mode of research by teams or individuals that integrates information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines or bodies of specialized knowledge to advance fundamental understanding or to solve problems whose solutions are beyond the scope of a single discipline or area of research practice" (National Academies' Report "Facilitating Interdisciplinary Research, 2004" and the [NSF Interdisciplinary Research web site](#)). The proposal must be motivated by a compelling research question (within the fields of social, behavioral and economic sciences) that requires an interdisciplinary approach for successful investigation. As a result, applicants should demonstrate the need for new or additional skills and expertise beyond his or her core doctoral experience to achieve advances in the proposed research. To acquire the requisite skills and competencies (which may or may not be within SBE sciences), a mentor in the designated field must be selected so that the postdoctoral research fellow and his or her mentor will complement, not reinforce, each other's expertise. Proposals in the IBSS track will be evaluated on three general dimensions of interdisciplinarity: first, the interdisciplinarity of the Fellow-Mentor team; second, the research approach used, emphasizing the integration of different kinds of methods from different fields; and third, the expected intellectual significance of the research results, emphasizing the degree to which results would enhance theories or methodological approaches (or both) or have other stimulating and catalytic impact across a range of fields. Successful proposals will demonstrate the integral role that the mentor will play in advancing the postdoctoral applicant's investigation of driving research questions and future career development. Please also see the Dear Colleague Letter issued by NSF/SBE ([NSF 12-030](#)) for more details on interdisciplinary research in the SBE sciences.

In addition to the scientific research, all proposals for this track (SPRF-IBSS) must include a specific section with the heading "Why this project requires interdisciplinary training beyond my core doctoral experiences".

A. Location of Work (Host Institution, same as Awardee Organization)

The Fellow must affiliate with a host institution during the entire tenure of the fellowship, and the Fellowship proposal must be submitted through this institution. Research and training supported by the SBE Postdoctoral Research Fellowships may be conducted at the following types of institutions:

- 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.
- Non-profit, non-academic organizations: Independent museums, observatories, research labs, professional societies and similar organizations in the U.S. associated with educational or research activities.

Note: The "Location of Work" does not constrain the Fellow to spend the entire Fellowship tenure at that location. If required for the project, the Fellow can spend extended periods of time outside of the official location of work; for example, travel to other locations or to foreign countries, as needed for data collection, field research, or collaborative activities, will be allowed. International research activities and collaboration are welcome. Under specific guidelines from NSF's Office of International Science and Engineering (OISE), extra travel and research expenses may be allowed. See <http://www.nsf.gov/od/oise/iprffapp.jsp> for details.

B. Sponsoring Scientist(s)/Mentor(s)

The SPRF is a supervised research award, and each Fellow must have at least one Sponsoring Scientist (also known as Mentor), who is a faculty member at the submitting organization. The Sponsoring Scientist(s) should be chosen with great care as they are crucial to the success of the proposal. If a Fellow has more than one mentor, then one of the mentors must be chosen as the "Lead Mentor" and this person must be a faculty member at the submitting organization, while additional mentors may be from other institutions. Regardless of the number of mentors, the fellowship proposal requires a single (combined) Sponsoring Scientist statement, incorporated into the 10-page Project Description as a separate section with the heading "Sponsoring Scientist Statement".

Any changes in scope, location or sponsorship after an award is made must be approved by NSF via the "Change in Scope" or "PI Transfer" modules in FastLane.

III. AWARD INFORMATION

Duration and Tenure: The fellowships are for two years. Fellowship tenure begins on the first of the month only and may commence at the Fellow's request between June and September of the award year. Fellowships may not be renewed. NSF enables career-life balance through a variety of mechanisms. Support to address dependent care issues may be available for awardees. For more information, please see <http://www.nsf.gov/career-life-balance/>.

Budget: The fellowship budget should include the following:

1. An annual salary of \$45,000 for the Fellow, plus fringe benefits per institutional rates.
2. Research and travel expenses up to \$10,000 per year. Travel expenses are meant for the Fellow, but may include no more than one trip for the Mentor(s), if justified and necessary for the project.
3. Applicable indirect costs based on the awardee's current Federally negotiated indirect cost rate agreement.
4. Additional travel expenses of up to \$10,000 may be requested if the Fellowship project includes an international component. See <http://www.nsf.gov/od/oise/prffapp.jsp> for details.

IV. ELIGIBILITY INFORMATION

Who May Submit Proposals:

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.
- Non-profit, non-academic organizations: Independent museums, observatories, research labs, professional societies and similar organizations in the U.S. associated with educational or research activities.

Who May Serve as PI:

The Fellowship applicant must be a U.S. citizen, national, or legally admitted permanent resident alien of the United States and meet the additional criteria listed below in the program solicitation.

Limit on Number of Proposals per Organization:

There are no restrictions or limits.

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

The Fellowship candidate may be part of only one proposal, regardless of role (PI, co-PI, or Senior Personnel).

Additional Eligibility Info:

SBE Postdoctoral Research Fellowship candidates must meet all the following criteria:

- Be a U.S. citizen, national, or legally admitted permanent resident alien of the United States.
- Obtained the Ph.D. degree within 24 months before the SPRF application deadline date, or will obtain the Ph.D. degree within 10 months after the SPRF application deadline date.
- Not already in a full-time tenure-track faculty position.

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.

Important Proposal Preparation Information: FastLane will check for required sections of the full 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.

Application Preparation Instructions:

All page limits include pictures, figures, tables, graphics, etc. Applicants are urged to take special care to strictly adhere to page limitations. Proposals that do not conform to the requirements will be returned without review.

From the applicant, a complete postdoctoral fellowship proposal consists of:

- *Cover Sheet* - Program Solicitation, Directorate, and Program should be selected. The Fellowship applicant and his or her mentor ("Sponsoring Scientist") should be listed as PI and co-PI, in any order suitable and acceptable to the submitting organization. If the submitting organization's internal rules prohibit the Fellowship applicant to be named as PI or co-PI, then the Fellow applicant can be named "Senior Personnel".
- *Biographical Sketches* - limited to two pages for each person, following NSF format as per GPG, for the Fellowship Applicant and the Sponsoring Scientist(s).
- *Abstract of Ph.D. Thesis Research* (Supplementary Docs - one page)
- *Project Summary* - one page, and must explicitly and individually address both intellectual merit and broader impacts of the research and training plan. Note: Without the explicit mention and description of the intellectual merit and broader impacts in the project summary, the application will be returned without review.
- *Project Description* - 10 pages maximum, which must include the Sponsoring Scientist Statement (see details of Project Description components in the next section).
- *References Cited* - required as a separate form, outside of the 10-page limit.
- *Current and Pending Support* - This proposal is considered a pending activity and should be listed on the form for all PIs and senior personnel.
- *Budget and Budget Justification* - Budgetary limitations apply (see details under the Budgetary Information section).
- *Facilities, Equipment, and Other Resources* - As specified in [Chapter II, Section C.2.i of the NSF Grant Proposal Guide](#), include an aggregated description of the resources that the organization will provide to the project, should it be funded. Such information must be provided in this section, in lieu of other parts of the proposal (e.g., budget justification, project description). The description should be narrative in nature and must not include any quantifiable financial information.
- *Data Management Plan* - see http://www.nsf.gov/sbe/sbe_data_management_plan.jsp.
- *Postdoctoral Mentoring Plan* - This 1-page supplementary document must clearly present the Sponsoring Scientist's planned mentoring activities for the Fellow, for the Fellow's independent future career development and intellectual growth. Joint research activities of the Fellow and the mentor(s) should not be presented in detail here - the right place for those details is the "Sponsoring Scientist Statement" within the 10-page Project Description.

Additional Instructions for Project Description

- The project description addresses what the Fellow hopes to accomplish during the fellowship period and how it relates to her/his career goals. It also addresses how (for the BP Track) the participation of under-represented minorities will be increased in the field, in SBE sciences or beyond, or (for IBSS Track) how the project will impact some specific fields or potentially help the emergence of some new subfields at the intersection of several areas of scientific interest. The proposal should be developed in collaboration with the sponsoring scientist(s), but the planned research should be the independent work of the applicant, not part of ongoing work of the mentor(s).
- Limited amounts of teaching activity (no more than one course per year) may be incorporated into the proposal, if such teaching experience is valuable for the Fellow's future career development. In such cases the Sponsoring Scientist statement must include the motivation and justification for this teaching plan.

The project description should consist of:

- An introduction or background section;
- A statement of research objectives, methods, and significance;
- A brief description of planned teaching or instructional activities, if any, with justification of why and how this activity is valuable for the Fellow;
- A statement of training objectives and career goals for the Fellow, and an explanation of how this project will help achieve those goals;
- A justification of the choice of Sponsoring Scientist(s) and host institution;
- A specific section describing either the Broadening Participation or the Interdisciplinary nature of the project, as appropriate for Track I or Track II (see Section II.1 and II.2 of this document for details);
- A section entitled "Sponsoring Scientist Statement" detailing the involvement of the mentor(s) in the research project, and the mentor's justification for any proposed teaching activities for the Fellow. Note: A separate document containing general mentoring activities should be presented in the "Postdoctoral Mentoring Plan", which is to be submitted in the "Supplementary Documents" section, outside of the 10-page project description.

Applicants whose research involves human subjects or vertebrate animals must be aware of the regulations and guidelines pertaining to these types of research. Successful applicants must provide NSF with documentation that the research has been reviewed and approved by the appropriate institutional committees, giving assurance of compliance with all Federal policies on research using humans and the care and use of animals. These requirements are relevant to both laboratory and field projects. Acknowledgement of human subjects or use of animals in the research should be noted on the cover sheet. Documentation of approval for use of human subjects or vertebrate animal must be provided at the time an award is recommended.

Special certifications and permits must be provided when projects involve collecting in foreign countries, endangered species, or hazardous materials. Some applications may require other documentation before the final decision can be made, e.g., government permits, letters of collaboration, and commitments from private sources. Applicants must submit the information when requested by

the NSF Program Officer managing the program.

B. Budgetary Information

Cost Sharing: Inclusion of voluntary committed cost sharing is prohibited

Other Budgetary Limitations:

Other budgetary limitations apply. Please see the below budget preparation instructions.

Budget Preparation Instructions:

The fellowship budget, prepared in consultation with the submitting institution's Sponsored Research Office, should include the following:

- An annual salary of \$45,000 for the Fellow, plus fringe benefits per institutional rates. The Fellow can be named as PI, co-PI or Senior Personnel, as per submitting institution's regulations. *In order to comply with NSF's cost sharing policy, senior project personnel may no longer be listed in Section A of the NSF Budget with person-months entered, but no corresponding salary requested. Therefore, if the Sponsoring Scientist(s) is named as a PI or co-PI, their name(s) must be removed from Section A of the NSF Budget. A description of the Sponsoring Scientist(s) involvement in the project must be provided in the Project Description as described above.* Research and travel expenses up to \$10,000 per year. Travel expenses are meant for the Fellow, but may include no more than one trip for the Mentor(s), if justified and necessary for the project. For projects involving significant international activities, extra travel and research expenses may be allowed under specific guidelines from NSF's Office of International Science and Engineering (OISE). See <http://www.nsf.gov/od/oise/iprffapp.jsp> for details.
- Applicable indirect costs based on the awardee's current Federally negotiated indirect cost rate.

C. Due Dates

- Full Proposal Deadline(s) (due by 5 p.m. proposer's local time):
 - October 29, 2012
 - Last Monday in October, Annually Thereafter
 - November 12, 2013

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 [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

SBE Postdoctoral Research Fellowship proposals will be reviewed by a panel of disciplinary and interdisciplinary experts as appropriate, spanning all areas of SBE sciences. Extra ad-hoc reviews may also be sought if deemed necessary. In addition to the regular NSF review criteria, reviewers/panelists will also consider the following criteria for Fellowship proposals:

- How does the project broaden the perspectives and experiences of the Fellowship applicant and prepare him or her for a research career?
- Is the Sponsoring Scientist a good match to the Fellow's proposed project, and does the Sponsoring Scientist's involvement in the project strike the right balance between supervisory guidance and the Fellow's independent growth?
- How well-developed are the Postdoctoral Mentoring Plan and the Data Management Plan?
- For Track I (BP): How do the proposed activities help increase (directly, indirectly, or both; via the research, or training and outreach activities, or both) the participation and advancement of under-represented groups in SBE fields or, in general, STEM fields?
- For Track II (IBSS): How do the proposed activities train the fellow in the interdisciplinary fields and what is the potential contribution of this research on the emerging field(s) identified by this proposal?

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:

If the Fellow accepts another position/employment, the Fellowship must be terminated prior to starting the new position, and all unused funds from this award returned to the NSF.

The Fellow must fulfill all requirements for the Doctoral degree before the official start date of the award; failure to do so will result in the cancellation of the grant.

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.

Special Reporting Requirements

In the case of these fellowships, since the PI may be the Sponsoring Scientist rather than the Fellow, it is expected the reports will be created jointly by the Fellow and the Sponsoring Scientist. The actual submission on FastLane will be done by the PI.

Within 90 days after termination or expiration of the fellowship, the PI is required to submit a final project report via FastLane. All SPRF reports must contain a subsection on either broadening participation activities (for Track I) or interdisciplinary research impacts (for Track II), in the "Activities and Findings" section.

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:

- Fahmida N. Chowdhury - Program Officer, telephone: (703) 292-4672, email: fchowdhu@nsf.gov
- Lisa M. Jackson - Program Specialist, telephone: (703) 292-7882, email: lmjacks@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 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: nspubs@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 3145-0023. Public reporting burden for this collection of information is estimated to average 12 hours per response, including the time for reviewing instructions. Send comments regarding the burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to:

Suzanne H. Plimpton
Reports Clearance Officer
Office of the General Counsel
National Science Foundation
Arlington, VA 22230

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