Ocean Sciences Postdoctoral Research Fellowships (OCE-PRF)
Broadening Participation and International

PROGRAM SOLICITATION
NSF 14-607

REPLACES DOCUMENT(S):
NSF 13-603

National Science Foundation

Directorate for Geosciences
Division of Ocean Sciences

Full Proposal Target Date(s):

December 08, 2014

Second Monday in December, Annually Thereafter

IMPORTANT INFORMATION AND REVISION NOTES

- Moved submission target date to December.
- Established new timeframe for the start of fellowship tenure: Fellowships must begin on the first of the month, between June 1 and December 1 in the year following submission target date.
- Strengthened language to strongly encourage investigators to contact Program Manager in their area of science to assess appropriateness of research topic.
- Clarification in eligibility requirements that Fellow must not have submitted concurrently the same project to another postdoctoral program.

Any proposal submitted in response to this solicitation should be submitted in accordance with the revised NSF Proposal & Award Policies & Procedures Guide (PAPPG) (NSF 15-1), which is effective for proposals submitted, or due, on or after December 26, 2014. The PAPPG is consistent with, and, implements the new Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (Uniform Guidance) (2 CFR § 200).

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Ocean Sciences Postdoctoral Research Fellowships (OCE-PRF)
Broadening Participation and International

Synopsis of Program:

The Division of Ocean Sciences (OCE) offers postdoctoral research fellowships to provide opportunities for scientists early in their careers to work within and across traditional disciplinary lines, develop partnerships, and avail themselves of unique resources, sites and facilities. The fellowship program is intended to recognize beginning investigators of significant potential, and provide them with experience that will establish them in positions of leadership in the scientific community. During tenure, fellows will affiliate with an appropriate research institution(s) and conduct research on topics supported by OCE. The OCE fellowship program has two tracks: 1) Track 1 (Broadening Participation) and 2) Track 2 (International). Fellowships are awards to individuals, not organizations, and are administered by the fellows.

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.

- Gayle Pugh, telephone: (703) 292-7589, email: gpugh@nsf.gov

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

- 47.050 --- Geosciences

Award Information

Anticipated Type of Award: Fellowship

Estimated Number of Awards: 7 to 17

10 fellowships for Track 1 (Broadening Participation) and 7 fellowships for Track 2 (International) per year, contingent upon availability of funds.

Anticipated Funding Amount: $3,098,000

$87,000 per year per fellowship for Track 1 (Broadening Participation) and $97,000 per year per fellowship for Track 2 (International). Track 2 (International) includes a $10,000 per year international allowance in order to help cover some of the additional costs of moving and living outside of the United States.

Eligibility Information

Who May Submit Proposals:

Proposals may only be submitted by the following:

- Only individuals may apply. OCE Postdoctoral Research Fellowships are awards to individuals; proposals must be submitted directly by the fellowship candidate to NSF. The proposal must include a letter(s) from the sponsoring scientist(s) and a letter(s) from the host organization(s). Fellowship activities may be conducted at any appropriate U.S. or foreign host organization, including colleges and universities, private nonprofit research institutes and museums, and government agencies.

Who May Serve as PI:

To be eligible to submit a proposal to the OCE-PRF Program, an individual must, as of the full proposal target date, meet all of the following criteria:

- Be a U.S. citizen, national, or permanent resident (i.e., have a "green card");
- Have earned the doctoral degree, or expect to have earned the doctoral degree prior to the required start date of the fellowship;
- Not have worked for more than a total of 24 full-time-equivalent months in positions that require the doctoral degree. If more than 24 months have elapsed between conferral of the doctoral degree and the OCE-PRF proposal target date, the candidate must include specific language in their Biographical Sketch (discussed below) affirming that they meet this eligibility requirement;
- Present a project plan that falls within the purview of NSF's Division of Ocean Sciences oceanographic research priorities; and
- Not have submitted concurrently the same project to another postdoctoral program.

Proposals that fail to meet the above eligibility requirements will be returned without review.

Limit on Number of Proposals per Organization:

Only individuals may apply. There is no limit on the number of fellowships that an organization may host.

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

One fellowship application per solicitation.

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **Letters of Intent:** Not required

- **Preliminary Proposal Submission:** Not required

- **Full Proposals:**
    - Full Proposals submitted via FastLane: NSF Proposal and Award Policies and Procedures Guide, Part I: Grant Proposal Guide (GPG) Guidelines apply. The complete text of the GPG is available electronically on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg.
    - Full Proposals submitted via Grants.gov: NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov Guidelines apply (Note: The NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide).

B. Budgetary Information

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

- **Indirect Cost (F&A) Limitations:** Not Applicable

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

C. Due Dates

- **Full Proposal Target Date(s):**

    December 08, 2014

    Second Monday in December, 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: 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 Division of Ocean Sciences (OCE) offers postdoctoral research fellowships to provide opportunities for scientists early in their careers to work within and across traditional disciplinary lines, develop partnerships, and avail themselves of unique research resources, sites and facilities. The fellowship program is intended to recognize beginning investigators of significant potential, and provide them with experience that will establish them in positions of leadership in the scientific community. During tenure, fellows will affiliate with an appropriate research institution(s) and conduct research on topics supported by OCE. The OCE fellowship program has two tracks:

- Track 1: Broadening Participation

The National Science Foundation is charged with ensuring the vitality of the nation's scientific and technological enterprise. In its 2020 Vision for the National Science Foundation Report (NSB 05-142), the National Science Board articulated a vision for the future of science and technology that includes tapping the talents of all citizens, particularly those belonging to groups that are under-represented in the science and research enterprise. In response to this report, OCE offers postdoctoral research fellowships intended to increase the number of scientists from under-represented groups pursuing research careers in the ocean sciences. In this solicitation, the term under-represented groups will refer to and include the following: veterans, persons with disabilities, African Americans, Hispanics, Native Americans, Alaska Natives, and Pacific Islanders.

- Track 2: International

The National Science Board has repeatedly challenged NSF and the U.S. research community to engage globally. See for example NSB 08-4, titled International Science and Engineering Partnerships: A Priority for U.S. Foreign Policy and Our Nation's Innovation Enterprise. In partnership with NSF's Office of International and Integrative Activities, OCE offers postdoctoral fellowships that support research stays at host institutions outside the United States and involve true intellectual collaboration with foreign scientists.

II. PROGRAM DESCRIPTION

A. Appropriateness for OCE Priorities

Fellowship projects must fall within the purview of OCE, which includes a diversity of disciplinary and cross-disciplinary areas. OCE programs include Biological Oceanography, Chemical Oceanography, Physical Oceanography, Marine Geology and Geophysics, Ocean Drilling, and Ocean Science and Technology. All proposals must include an ocean science research effort; proposals that are solely focused on education will not be considered. **Applicants are strongly encouraged to contact the Program Director in their area of science (see** http://www.nsf.gov/div/index.jsp?div=OCE**) to discuss the appropriateness of their research for funding.**

- **For Track 1 (Broadening Participation) proposals**, applicants must include an explicit plan to broaden the participation of under-represented groups in ocean sciences in the United States. Effective broadening participation activities often leverage resources and programs at the host institution(s) or other organizations, and applicants are encouraged to discuss broadening participation activities in detail with their proposed host institution(s) prior to proposal submission. Applicants may also want to review relevant documents, such as:
    - Journal of Geoscience Education (2007), volume 66 no. 6. (Special issue on Broadening Participation);
    - Expanding Underrepresented Minority Participation: America's Science and Technology Talent at the Crossroads (2011), Committee on Underrepresented Groups and the Expansion of the Science and Engineering Workforce Pipeline; Committee on Science, Engineering, and Public Policy; Policy and Global Affairs; National Academy of Sciences, National Academy of Engineering, and Institute of Medicine. National Academies Press (http://www.nap.edu/catalog.php?record_id=12984);
    - Report to the President "Engage to Excel: producing one million additional college graduates with degrees in science, technology, engineering, and mathematics" (2012), Executive Office of the President, President's Council of Advisors on Science and Technology (http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast-engage-to-excel-final_2-25-12.pdf); and
    - Institute for Broadening Participation (http://www.ibparticipation.org/).

OCE and NSF's Office of International and Integrative Activities (IIA) are cooperating to support OCE-PRF fellows who wish to pursue significant international research collaborations.

Track 1 (Broadening Participation) applicants who propose a combined total of 9 months or longer at a foreign location(s) may request an international allowance of up to $10,000 per year to cover international travel and living costs. See IIA guidelines for details.

- **For Track 2 (International) proposals,** researchers have the opportunity to conduct extended research abroad and establish international collaborations early in their careers. The purpose is to promote collaborative relationships between U.S. scientists and foreign host scientists that would not be possible without support from this fellowship. For Track 2 (International), applicants must propose a sponsoring scientist who is affiliated with an appropriate non-U.S. foreign host institution(s) outside the United States, projects must involve true intellectual collaboration with the foreign scientist(s), and fellows must spend their entire fellowship term at the foreign institution(s). The broader impacts of a Track 2 proposal are not required to focus on broadening participation because the Fellows will not be residing in the U.S. Track 2 (International) applicants cannot request an international research location in their country of origin. Track 2 (International) awards include a $10,000 per year international allowance in order to help cover some of the additional costs of moving and living outside of the United States. See IIA guidelines for details.

B. Host Organization(s)

The fellow must affiliate with a host organization(s). Appropriate organizations include U.S. and foreign colleges and universities, private nonprofit research institutes and museums, and government agencies. Multiple host organizations are permitted, and may be particularly appropriate to pursue interdisciplinary work, collaborative opportunities, and activities related to broadening participation. Regardless of the number of host organizations proposed, a primary host organization must be identified.

In general, NSF expects that the fellowship will support work at an organization(s) other than the fellow's graduate institution or organization of current affiliation. Consequently, candidates proposing to be hosted by their graduate/current organization must present strong justification and must clearly explain the benefits of this choice to their research, and to their broadening participation and/or international collaboration goals. Such proposals will be evaluated in the context of the potential benefits of this choice versus benefits that might be expected from expanding professional contacts and diversifying professional experience at a new organization.

C. Sponsoring Scientist(s)

In addition to affiliation with a host organization(s), the candidate must identify a sponsoring scientist(s) who will provide mentoring and guidance for the research, as well as for the broadening participation and/or international collaboration goals. If more than one sponsor is proposed, one must be named lead sponsor and the roles of the other sponsors must be clearly stated in the project description.

The candidate is responsible for making all arrangements with the host organization(s) and sponsoring scientist(s). An important basis for judging the proposal will be the degree to which the letter(s) from the sponsoring scientist(s) describes and offers research, broadening participation and/or international collaboration, and mentoring opportunities that could not be pursued without fellowship support.

III. AWARD INFORMATION

Duration and Tenure:

Up to 24 full-time-equivalent months of support may be requested. Fellowship tenures must begin on the first of the month between June 1 to December 1 in the year following the submission target date.

Interruptions in tenure or extensions without additional cost to NSF are permitted only for extenuating circumstances beyond the control of the fellow and require NSF approval.

Within the fellowship period, one month per year of fellowship duration may be used for paid leave, including parental or family leave. The paid leave cannot be used to increase the level of NSF support beyond the duration of the fellowship. NSF enables career-life balance through a variety of mechanisms. For more information, please see http://www.nsf.gov/career-life-balance/.

Candidates selected to receive fellowships will be contacted by NSF and asked to provide additional information, such as acceptance forms and starting certificates. Successful candidates who have not completed the PhD at the time of proposal

submission must provide certification of the completion of all PhD degree requirements before receiving their fellowship award. Normally fellowships will be held at organizations specified in the proposal, but under certain circumstances and with suitable justification, fellows may transfer during the tenure of the fellowship to a new organization upon approval by NSF.

Fellowships are not renewable.

During the period of the fellowship, no additional appointment or fellowship may be held without prior permission of the cognizant NSF program officer.

If a Fellow chooses to accept employment (i.e. a tenure-track position) during the first year of the Fellowship, the fellowship stipend and allowance will be terminated upon the start of the new position.

Stipend and Allowances:

The annual fellowship amount of $87,000 consists of two types of payments:

1. An annual stipend of $62,000, typically paid in monthly installments directly to the fellow as an electronic funds transfer into a personal account at a financial institution; and
2. An annual fellowship allowance of $25,000, typically paid as a lump sum directly to the fellow in the same manner, and intended to cover costs such as:

- Expenses directly related to the conduct of the proposed research, broadening participation and/or international goals, including but not limited to materials and supplies, equipment, computing resources, access to databases, domestic and international travel, publication charges, and subscription fees;
- Expenses in support of the fellow, such as office space, general purpose supplies and use of equipment, facilities and other institutional resources; and
- Expenses in support of fringe benefits, which may include but are not limited to individual or family health insurance provided through a group or individual plan, dental and/or vision insurance, disability insurance, retirement savings, dependent care, and moving expenses.

Track 2 (International) awards will include a $10,000 per year international allowance in order to help cover some of the additional costs of moving and living outside of the United States.

An international allowance of up to $10,000 per year may also be requested by Track 1 (Broadening Participation) applicants who propose 9 months or longer at a foreign location(s). Expenses can include travel and living costs for the fellow and his/her dependents, and must be detailed in the budget justification. See IIA guidelines for details.

Both Track 1 and Track 2 fellowship budgets can be increased to include a Facilitation Award for Scientists and Engineers with Disabilities (FASED). When requesting FASED funding, applicants should contact the OCE-PRF program officer prior to applying.

IV. ELIGIBILITY INFORMATION

Who May Submit Proposals:

Proposals may only be submitted by the following:

- Only individuals may apply. OCE Postdoctoral Research Fellowships are awards to individuals; proposals must be submitted directly by the fellowship candidate to NSF. The proposal must include a letter(s) from the sponsoring scientist(s) and a letter(s) from the host organization(s). Fellowship activities may be conducted at any appropriate U.S. or foreign host organization, including colleges and universities, private nonprofit research institutes and museums, and government agencies.

Who May Serve as PI:

To be eligible to submit a proposal to the OCE-PRF Program, an individual must, as of the full proposal target date, meet all of the following criteria:

- Be a U.S. citizen, national, or permanent resident (i.e., have a "green card");
- Have earned the doctoral degree, or expect to have earned the doctoral degree prior to the required start date of the fellowship;
- Not have worked for more than a total of 24 full-time-equivalent months in positions that require the doctoral degree. If more than 24 months have elapsed between conferral of the doctoral degree and the OCE-PRF proposal target date, the candidate must include specific language in their Biographical Sketch (discussed below) affirming that they meet this eligibility requirement;
- Present a project plan that falls within the purview of NSF's Division of Ocean Sciences oceanographic research priorities; and
- Not have submitted concurrently the same project to another postdoctoral program.

Proposals that fail to meet the above eligibility requirements will be returned without review.

Limit on Number of Proposals per Organization:

Only individuals may apply. There is no limit on the number of fellowships that an organization may host.

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

One fellowship application per solicitation.

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

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

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

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

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.

Registration for Fellowship Candidates

Before starting proposal preparation, the applicant must be registered as an individual. To register as a new individual in FastLane go to: https://www.fastlane.nsf.gov/cgi-bin/N1CheckROB. To register as a new individual in Grants.gov go to: http://www.grants.gov/applicants/individual_registration.jsp. **Fellowship proposals must be submitted by the Fellowship applicant, not by the applicant's current or proposed organizational Sponsored Projects Office (SPO).** The applicant serves as his/her own SPO and Authorized Organizational Representative (AOR) for the purposes of any research administration functions in FastLane or Grants.gov.

Proposals must include all of the following items. *In cases where requirements given in this document differ from those given in the NSF Grant Proposal Guide (GPG), this solicitation takes precedence.*

1. NSF Cover Sheet. FastLane Users: Select the OCE-PRF program solicitation number shown at the beginning of this solicitation from the drop-down menu. Grants.gov Users: The program solicitation number will be pre-populated by Grants.gov on the NSF Grant Application Cover Page. The title must start with "OCE-PRF Track 1 (Broadening Participation):" or "OCE-PRF Track 2 (International):", followed by a descriptive title of the research. If the project will involve international partners, check the "International Cooperative Activities" box and identify the country/countries involved.
2. Information about Principal Investigators/Project Directors.
3. Table of Contents. This form will be automatically generated by FastLane or Grants.gov.
4. Project Summary, not more than one page in length, that includes an overview of the project and separate statements that clearly address the intellectual merit and broader impacts. In addition, the Project Summary must also identify (in the overview section):
   - Proposed sponsoring scientist(s) and
   - Proposed host organization(s).
5. Project Description, not to exceed 10 single-spaced pages (including any figures, pictures and tables), which must include the following:
   - Research plan;
   - For Track 1 (Broadening Participation): Description of specific plans for broadening participation of under-represented groups in ocean sciences in the United States. (For Track 1 (Broadening Participation) applicants proposing extended periods in foreign countries, note that the broadening participation goal specifies "in the United States." Please explicitly address this.);
   - For Track 2 (International): Description of how the project will involve true intellectual collaboration with foreign scientists;
   - Justification for the choice of the host organization(s) and sponsoring scientist(s) that relates the proposed fellowship work to available expertise, facilities and resources;
   - Statement about the array of expected broader impacts; and
   - Description of the candidate's long-term career goals and the role of this postdoctoral experience in achieving them.

   Special certifications and permits may be required when projects involve human subjects, vertebrate animals, endangered species, hazardous materials, collecting in foreign countries, or other elements. The research plan should provide general information on these matters and address feasibility. If selected, candidates must submit required documentation to the NSF program officer before a fellowship award can be processed.

6. References cited. See guidance contained in the Grant Proposal Guide.
7. Biographical Sketch, not to exceed two pages. The Biographical Sketch must include identification of U.S. citizenship or permanent resident status, and the month and year when PhD was (or is expected to be) received. If more than 24 months have elapsed between the date that the doctoral degree was conferred and the OCE-PRF proposal target date, the Biographical sketch must include the following statement: "**I affirm that I have not worked for more than 24 full-time-equivalent months in positions for which the doctoral degree was a requirement.**" Do not include personal information such as birth date or place of birth. Only the applicant's Biographical Sketch should be uploaded in this section. Biographical Sketches for sponsoring scientists must be included in the Supplementary Documentation section, together with their letters of commitment.

8. NSF Budget and Budget Justification. The stipend and fellowship allowance should be entered in **Participant Support Costs** *only* (Section F on the FastLane budget and Field E on the Grants.gov budget).
   - Enter the $62,000 per year stipend in F.1 (FastLane) or E.2 (Grants.gov)
   - Enter the $25,000 per year fellowship allowance in F.4 (FastLane) or E.5 (Grants.gov). If requesting an international allowance, add it to the fellowship allowance.
   - Enter (1) as the Total Number of Participants.
   - An annual budget page must be submitted for each 12-month period.
   - A budget justification of no more than two pages must list and justify estimated expenditures under the annual fellowship allowance and the international allowance (if requested).

   FastLane users: Since no person months and no salary are being requested for senior personnel, the PI (fellow) must be removed from section A of the budget. This is done by clicking "Add\Delete Senior Personnel", then "Check to remove" by the name, on the budget form. Additional information is available on the FastLane website at: https://www.fastlane.nsf.gov/fastlane.jsp;jsessionid=957fa123f59d4065f3de347559b2:Dqk3?t=0&idx=5 .

9. Current and Pending Support. Include current support for research and training. Under pending support, include this proposal, as well as pending and planned applications to other fellowship or research programs. The project submitted to this solicitation should not be concurrently under review by another postdoctoral program. This information is to be submitted only for the applicant; not for the sponsoring scientist(s).

10. Facilities, Equipment and Other Resources, as applicable. Insert text or upload a document that states: "See Letter(s) of Commitment from the prospective host organization(s)."

   The following must be submitted as Supplementary Documentation:

11. Abstract of the candidate's PhD thesis (limited to one page).
12. Data Management Plan, not to exceed two pages, that describes plans for data management and sharing of the products of research, or asserts the absence of the need for such plans. See OCE guidelines at http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf11060 .
13. Letter(s) of Commitment from the prospective host organization(s), signed by the department chair (or equivalent), certifying that adequate facilities and support will be provided for the fellow to accommodate the proposed activities. Should the candidate propose to hold the fellowship concurrently or sequentially at more than one organization during the two-year tenure, letters of commitment must be provided from all institutions.
14. A signed letter(s), not to exceed two pages each, from the proposed sponsoring scientist(s) certifying that the fellowship proposal has been read and approved, and including discussion of:
    - The role the proposed scientific mentor(s) will play in the professional development of the fellow; and
    - The opportunities for research, and for broadening participation and/or international collaboration at the host organization that will be of particular benefit to the fellow.
15. A Biographical Sketch(es), not to exceed two pages and conforming to the NSF Grant Proposal Guide, of the sponsoring scientist(s).
16. For individuals who have not completed the PhD at the time of proposal submission, a signed letter from the graduate advisor confirming the expectation that the candidate will receive the degree within 18 months of the full proposal target date.

Letters of recommendation will not be considered. Letters from the proposed host institution(s), sponsoring scientist(s) and, as needed, the candidate's current graduate advisor, should not reflect a letter of recommendation and should make *no subjective statements* regarding either the candidate or their proposed activities. Signed letters should be scanned into Portable Document Format (PDF) and uploaded as supplementary documentation.

B. Budgetary Information

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

Other Budgetary Limitations:

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

C. Due Dates

- **Full Proposal Target Date(s):**

  December 08, 2014

  Second Monday in December, Annually Thereafter

D. FastLane/Grants.gov Requirements

For Proposals Submitted Via FastLane:

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

For Proposals Submitted Via Grants.gov:

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

solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this solicitation.

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

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

VI. NSF PROPOSAL PROCESSING AND REVIEW PROCEDURES

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

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

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

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

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

A. Merit Review Principles and Criteria

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

1. Merit Review Principles

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

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

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

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

2. Merit Review Criteria

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

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

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

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

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

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

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

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

Additional Solicitation Specific Review Criteria

In addition to the above criteria, the following factors will be used in the evaluation process:

- Qualifications of the candidate and his/her potential for continued professional growth and leadership in the field;
- Suitability of the sponsoring scientist(s) and host organization(s);
- For Track 1 (Broadening Participation): The potential to enhance the broader participation of under-represented groups in ocean sciences in the United States;
- For Track 2 (International): The extent to which the project involves true intellectual collaboration with foreign scientists and would leverage expertise and specialized skills, facilities, and/or resources of the foreign research site.

B. Review and Selection Process

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

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

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

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

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

VII. AWARD ADMINISTRATION INFORMATION

A. Notification of the Award

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

B. Award Conditions

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

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

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

Special Award Conditions:

The fellowship award is made to the individual, not the institution and payments are made directly to the fellow. Awards cannot be extended without prior NSF approval. Pre-award costs are not permitted.

Candidates selected to receive fellowships will be contacted by NSF and asked to provide additional information, such as acceptance forms and starting certificates. Successful candidates who have not completed the PhD at the time of proposal submission must provide certification of the completion of all PhD degree requirements before receiving any fellowship funds.

Normally fellowships will be held at organizations specified in the proposal, but under certain circumstances and with suitable justification, fellows may transfer during the tenure of the fellowship to a new organization upon approval by NSF.

During the period of the fellowship, no additional appointment or fellowship may be held without prior permission of the cognizant NSF program officer. If an individual accepts a tenure-track (or equivalent) position between time of proposal submission and selection for a fellowship, they will typically be expected to withdraw the OCE-PRF proposal. OCE-PRF fellows who accept tenure-track (or equivalent) appointments after receiving the fellowship may be required to return unused funding to NSF.

Candidates are encouraged to discuss institutional policies on intellectual property rights with the sponsoring scientist(s) before submitting the proposal. Candidates should also discuss the policies of the sponsoring scientist(s) regarding which materials will remain with the host organization(s) and which can be released to the fellow at the conclusion of the fellowship.

Fellows are required to adhere to OCE data guidelines available on the NSF website at http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf11060. Final reports should include a statement describing how requirements have been met.

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.

Additional Reporting Requirements: Fellows must file starting and termination certificates in addition to annual and final technical reports.

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:

- Gayle Pugh, telephone: (703) 292-7589, email: gpugh@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.

The FY 2016 competition has been cancelled.

IX. OTHER INFORMATION

The NSF website provides the most comprehensive source of information on NSF Directorates (including contact information), programs and funding opportunities. Use of this website by potential proposers is strongly encouraged. In addition, "NSF Update" is an information-delivery system designed to keep potential proposers and other interested parties apprised of new NSF funding opportunities and publications, important changes in proposal and award policies and procedures, and upcoming NSF Grants Conferences. Subscribers are informed through e-mail or the user's Web browser each time new publications are issued that match their identified interests. "NSF Update" also is available on NSF's website at https://public.govdelivery.com/accounts/USNSF/subscriber/new?topic_id=USNSF_179.

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

ABOUT THE NATIONAL SCIENCE FOUNDATION

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

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

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

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

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

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

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

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

- **Location:**   4201 Wilson Blvd. Arlington, VA 22230

- **For General Information**   (703) 292-5111
  (NSF Information Center)**:**

- **TDD (for the hearing-impaired):**   (703) 292-5090

- **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 3145-0023. 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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