

# Catalyzing New International Collaborations (CNIC)

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## PROGRAM SOLICITATION

NSF 13-605

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### REPLACES DOCUMENT(S):

NSF 12-573

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National Science Foundation

Office of International and Integrative Activities

#### Full Proposal Target Date(s):

January 22, 2014

January 22, Annually Thereafter

April 22, 2014

April 22, Annually Thereafter

July 22, 2014

July 22, Annually Thereafter

October 22, 2014

October 22, Annually Thereafter

## IMPORTANT INFORMATION AND REVISION NOTES

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#### Revision Notes:

This publication updates and replaces [NSF 12-573](#), Catalyzing New International Collaborations (CNIC). NSF 12-573 did not accept proposals for workshops. The CNIC program will now accept proposals for workshops to initiate new international research collaborations under certain conditions. Some detailed procedural changes are also made at this revision, including the maximum award value and target dates for submission.

Applicants should consult the CNIC Program Director if they wish to submit a proposal later than the target date for consideration in the respective round. Applicants should submit proposals before a target date at least **eight** months prior to the expected date of the proposed activity.

## SUMMARY OF PROGRAM REQUIREMENTS

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### General Information

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#### Program Title:

Catalyzing New International Collaborations (CNIC)

#### Synopsis of Program:

The Catalyzing New International Collaborations program supports the participation of US-based researchers and students in activities intended to catalyze new international research collaborations.

#### 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.*

- Lara Campbell, Program Manager, 1155.41, telephone: (703)-292-7049, email: [OISE-CNIC@nsf.gov](mailto:OISE-CNIC@nsf.gov)
- Steven D. Burch, Program Specialist, 1155, telephone: (703) 292-7226, email: [OISE-CNIC@nsf.gov](mailto:OISE-CNIC@nsf.gov)

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

- 47.041 --- Engineering
- 47.049 --- Mathematical and Physical Sciences
- 47.050 --- Geosciences
- 47.070 --- Computer and Information Science and Engineering

- 47.074 --- Biological Sciences
- 47.075 --- Social Behavioral and Economic Sciences
- 47.076 --- Education and Human Resources
- 47.079 --- International and Integrative Activities (IIA)
- 47.081 --- Office of Experimental Program to Stimulate Competitive Research

## Award Information

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**Anticipated Type of Award:** Standard Grant

**Estimated Number of Awards:** 30 to 40 per year

**Anticipated Funding Amount:** \$2,000,000 per year, pending the quality of proposals and availability of funds

## Eligibility Information

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### Who May Submit Proposals:

The categories of proposers eligible to submit proposals to the National Science Foundation are identified in the Grant Proposal Guide, Chapter I, Section E.

### Who May Serve as PI:

There are no restrictions or limits.

### Limit on Number of Proposals per Organization:

There are no restrictions or limits.

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

There are no restrictions or limits.

## Proposal Preparation and Submission Instructions

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### 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](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](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):**
  - January 22, 2014
  - January 22, Annually Thereafter
  - April 22, 2014
  - April 22, Annually Thereafter
  - July 22, 2014
  - July 22, Annually Thereafter
  - October 22, 2014
  - October 22, Annually Thereafter

## Proposal Review Information Criteria

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**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

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**Award Conditions:** Standard NSF award conditions apply.

**Reporting Requirements:** Standard NSF reporting requirements apply.

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## I. INTRODUCTION

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The Catalyzing New International Collaboration (CNIC) program is designed to promote professional development of US Science, Technology, Engineering, and Mathematics (STEM) researchers and to advance their research through international engagement.

Support of international activities is an integral part of NSF's mission to sustain and strengthen the nation's science, technology, engineering, and mathematics (STEM) capabilities. NSF recognizes the importance of enabling US researchers and educators at every career level to advance their work through international collaboration and of helping to ensure that future generations of US scientists and engineers gain professional experience beyond the nation's borders early in their careers.

Awards from the International Science and Engineering Section of the Office of International and Integrative Activities (OIIA/ISE) contribute to NSF's mission by supporting research and education activities that present unique opportunities and offer potentially high benefits through collaboration with scientists, engineers, and STEM educators abroad. NSF will consider proposals from US institutions for collaborative work with any country that is not explicitly proscribed by the Department of State (see current information at <http://www.treasury.gov/resource-center/sanctions/Programs/Pages/Programs.aspx> and <http://www.state.gov/jct/list/c14151.htm>). Activities can be in any field of science and engineering research and education supported by NSF.

This program offers support for the initial phase of international collaborations with clear expectations that the next phase will be submission by the US investigators of follow-on proposals to NSF core programs for continued funding of the research initiated with CNIC awards.

## II. PROGRAM DESCRIPTION

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### Scope and Focus

The CNIC program will support US researchers' participation in activities intended to catalyze **new** international collaborations designed to open up new scientific directions for the proposer. These include, but are not limited to: research planning visits, initial data gathering activities, proof-of-concept, single or multiple visits within a maximum 12-month time period to plan a new international research collaboration, or exploratory workshops designed to bring together US and non-US-based researchers representing several institutions and focused on a topic specified in the Project Description. Generally, CNIC-supported workshops will include between 10-25 individuals, of whom roughly half will be from the US, and are usually expected to take place abroad. However, in special circumstances, they may take place within the US if they include substantial international participation and are held for the purpose of establishing new international collaborations.

The community is invited to propose innovative mechanisms and strategies for catalyzing new international collaborations with the goal of reaching the stage that competitive follow-on full research proposals can be submitted to other specified and relevant NSF programs, for continuing support of the project. Such follow-on proposals may be submitted to **any** appropriate and active NSF core program. Other well-justified activities that fulfill the goal of the program will be considered. Creative use of technology in promoting international research collaboration is encouraged. Of particular interest are projects which represent new, previously unfunded scientific areas for the principal investigator, or areas in which preliminary data is needed for establishing a proof-of-concept of the collaborative work. CNIC is not intended to provide support for continuation of established collaborations or for complete or self-contained research projects. Proposers are encouraged to request support for bringing undergraduate or graduate students and early-career postdoctoral researchers on proposed visits abroad, but the proposer(s) **must** participate in the catalyzing activity abroad in person and on-site.

#### **PIs with Active NSF Awards**

PIs with active NSF awards related to the topic of their planned catalytic activity may alternatively be eligible to seek funding for the activity by requesting instead a Supplement to the existing award. The cognizant Program Officer for the existing award should be contacted to discuss this possibility.

#### **Additional Considerations:**

**Visas and Permits:** PIs are responsible for obtaining any required visas for foreign travel, and through the US research institution, for providing documentation in support of US visas for foreign collaborators, if applicable. PIs are also responsible for obtaining research permits and import/export documents, where necessary. PIs should review NSF's web page "Information for US Travelers", <http://www.nsf.gov/od/ia/ise/for-travelers-main.jsp>.

Plans to collect and transfer samples should be approved by the appropriate government authorities, if applicable. Arrangements for the use of traditional knowledge or the collection of samples from the lands of local peoples should be based upon full disclosure and informed consent of those peoples. Under best practices such arrangements develop as a partnership with early and ongoing full participation of community representatives in project design. Indigenous concepts of intellectual property should be respected. If, for instance, cooperating indigenous groups, on the basis of religious or other concerns, object to specific uses, widespread dissemination, or other treatments of the knowledge or resources they provide, these concerns should be respected. Any dissemination of samples or data that were collected in a foreign country, or dissemination of results based on samples or data collected in a foreign country, should be done with the full knowledge and consent of collaborators in that country, and under any agreements that exist with government agencies in that country.

**Management of Intellectual Property:** PIs are responsible for developing a clear understanding with the foreign partners about sharing of data, information, authorship on publications, and other outcomes resulting from the CNIC-supported research collaboration. This should be described in the Data Management plan. CNIC awardees are expected to follow NSF's policy on intellectual property.

### **III. AWARD INFORMATION**

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It is anticipated that approximately 30-40 awards will be made annually at a total investment of \$2 million, subject to the quality of proposals and availability of funds. Awards will be standard grants.

Award duration (**up to 12 months**) and budget (**up to \$75,000**) are expected to vary considerably depending on the scope of activities proposed.

### **IV. ELIGIBILITY INFORMATION**

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#### **Who May Submit Proposals:**

The categories of proposers eligible to submit proposals to the National Science Foundation are identified in the Grant Proposal Guide, Chapter I, Section E.

#### **Who May Serve as PI:**

There are no restrictions or limits.

#### **Limit on Number of Proposals per Organization:**

There are no restrictions or limits.

#### **Limit on Number of Proposals per PI or Co-PI:**

There are no restrictions or limits.

### **V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS**

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#### **A. Proposal Preparation Instructions**

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**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](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](mailto: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](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](mailto:nsfpubs@nsf.gov).

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

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

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

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

The requirements below regarding responding to this solicitation **are additional to** the proposal preparation guidelines contained in the NSF Grant Proposal Guide (GPG) at [http://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=gpg](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg), and **both should be used in preparing all proposals responding to this solicitation.** The NSF Grants.gov Application Guide at [http://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=grantsgovguide](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide) should also be consulted by Grants.gov users.

**Prior to formal submission in response to this solicitation, it is required** that a potential proposer make contact with the cognizant OIIA/ISE Country/Regional Program Officer. The OIIA/ISE Country/Regional Program Officers are listed at <http://www.nsf.gov/od/ia/ise/country-list.jsp>. The Country/Regional Program Officer may discuss technical, budgetary, eligibility, and unique country or regional issues, and to which NSF program the follow-on proposal(s) is(are) to be submitted. A potential proposer may also, as a courtesy, inform the disciplinary Program Officer(s) for the NSF program(s) to which the follow-on proposal(s) would be submitted of the intent to submit a CNIC proposal.

**A copy of all the related correspondence with the ISE Country/Regional Program Officer and any other NSF Program Officer(s) must be included in the CNIC proposal (see paragraph j below).**

**It should be noted that encouragement of submission from NSF does not in any way guarantee or imply funding of the CNIC proposal or any subsequent proposals submitted to disciplinary programs to continue research initiated by support from CNIC.**

The following are **required** in all formal **CNIC proposals**.

**a. Cover Sheet.** Highlight this solicitation number in the 'Program Announcement/Solicitation' block and select 'Catalyzing New International Collaborations' as the Program in the Unit Selection List. [Grants.gov users: The program solicitation number will be pre-populated by Grants.gov on the NSF Grant Application Cover Page. Grants.gov users should refer to Section VI.1.2 of the NSF Grants.gov Application Guide for instructions on how to designate the NSF Unit of Consideration.] The proposal title should start with "US-(country) planning visit..." OR "US-(country) workshop...". Do **not** include the foreign collaborator(s) on the Cover Sheet as Co-PIs. Under 'Remainder of the Cover Sheet' - 'Other Information', check the box for 'International Cooperative Activities Country Name' or 'International Activities', then **select the non-US countries** involved in the **international intellectual collaboration**. Any countries involved **only** in fieldwork should **not** be selected. 'United States' should **not** be listed here. [Grants.gov users: see Section V.4.6 of the NSF Grants.gov Application Guide to list the countries involved in activities outside the US.]

**b. Project Summary** (one page maximum). The overview section should **include the names and institutional affiliations** of the foreign collaborators, and note their roles in the proposed activities. The overview section should also clearly **identify the active NSF program(s)** to which the follow-on proposal(s) is(are) expected to be submitted.

**c. Table of Contents** (see GPG).

**d. Project Description.** This must not exceed **eight** pages in total. This section should describe how the activity will promote and develop new collaborative research with foreign partner(s). The Project Description for all proposals submitted in response to this solicitation must include:

- Research and education objectives of the proposed project or workshop, research activities, detailed schedule of activities, roles of all key individuals involved, and expected contributions from the foreign partners. For workshops, provide a draft agenda listing topics and proposed speakers.
- Brief description of the history of the international collaboration or workshop and why it should now be considered as "new."
- Description of how the proposed project or workshop will open new scientific directions for those involved.
- Justification for selecting the proposed workshop or planning visit site and collaborators. For planning visits, explain what unique expertise, facilities, and/or other resources available to US researchers at the foreign site justify the collaboration.
- Description of the involvement of US students and/or early career researchers, if applicable.
- Strategies and plans for continuing the collaboration, and projected outcomes and follow-up plans.

- Broader Impacts, in a separate section as specified by the GPG.
- Results from Prior NSF Support, as specified by the GPG.

**e. References Cited.**

**f. Biographical Sketch(es)** of the US-based PI and co-PIs, in the specified NSF format given in the GPG ([http://nsf.gov/publications/pub\\_summ.jsp?ods\\_key=gpg](http://nsf.gov/publications/pub_summ.jsp?ods_key=gpg), Chapter II.C.2.f).

**g. Budget.** Funding levels will typically range from \$10,000 to \$75,000 (maximum including indirect costs), depending on the type and scope of activities proposed. The Budget Justification should explain and justify the details of all cost items. Eligible expenses include international travel including lodging and subsistence, limited research supplies for use abroad, bench-fees abroad, and limited in-country travel expenses abroad. Participation of students and early-career postdoctoral researchers is encouraged; however, the proposer(s) **must** participate in the catalyzing activity abroad in person and on-site. **Equipment costs are not allowed** under CNIC.

For both planning visits and workshops, **only US-based researchers, support staff and students may be supported by travel and/or salary/stipend**. Salaries/stipends of researchers/staff/students may be included only for the time that is spent outside of the US working on the project. **All students** supported by travel and/or stipend must additionally be **either US citizens or legal US permanent residents**.

For living expenses abroad, proposers are encouraged to work with their foreign counterparts to develop realistic budget requests. For example, access to university guest housing or similar facilities should be explored. In no case should the amount for lodging and meals and incidental expenses (M&IE) exceed the **authorized US Government per diem rates**, calculated at the daily rate for the first 30 days of a single project visit, and 50% of that rate for all time after that. Various approaches to cost-effective, reciprocal arrangements can be considered. By law, US flag carriers must be used in accordance with the Fly America Act (see Chapter VI.G.1b of the NSF Award and Administration Guide at [http://nsf.gov/publications/pub\\_summ.jsp?ods\\_key=aag](http://nsf.gov/publications/pub_summ.jsp?ods_key=aag)).

**h. Current and Pending Support**, as specified by the GPG.

**i. Facilities, Equipment and Other Resources**, as specified by the GPG.

**j. Special Information and Supplementary Documentation.** The Supplementary Documentation does not contribute to the page limit for the Project Description. The following are **required** in every CNIC proposal:

- Postdoctoral Researcher Mentoring Plan, as specified by the GPG, if any Postdoctoral Researchers will receive travel and/or salary support under the CNIC proposal.
- Data Management Plan, as specified by the GPG.
- Biographical sketch(es) for all principal foreign collaborator(s). (In the case of workshops, include biosketch(es) for all principal foreign attendees known at the time of submission.) All biosketch(es) must adhere to the format given in the GPG ([http://nsf.gov/publications/pub\\_summ.jsp?ods\\_key=gpg](http://nsf.gov/publications/pub_summ.jsp?ods_key=gpg), Chapter II.C.2.f).
- Letter(s) agreeing to the collaboration from all principal foreign collaborator(s) and/or institution(s) (for workshops, as far as is known at the time of submission).
- List of relevant facilities and/or major equipment available at the destination venue(s), as far as is known at the time of submission.
- Complete copy of all prior communication regarding this proposal (e.g., copy of e-mails) with the ISE Country/Regional Program Officer and any other NSF Program Officer(s).
- Any other appropriate information specified by the GPG.

**Failure to comply with any of the above listed requirements may result in the proposal not being accepted or being returned without review.**

## B. Budgetary Information

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

**Other Budgetary Limitations:**

NSF generally considers proposals for collaborative international projects if support is requested only for the US portion of the collaborative effort. In most cases, foreign collaborators should obtain their own funding for participation in the collaborative project. US researchers should expect to assist their foreign counterparts to pursue their own support. NSF program officers may use their discretion to provide limited funding of the foreign portion of the collaboration when it is essential to the success of the project and when there is **no possible mechanism** for support of such participation from the foreign side. If applicable, potential proposers **must** discuss this with the ISE Country/Regional Program Officer **before** submitting a proposal, and a copy of this correspondence **must** be included in the CNIC proposal (see paragraph j above); otherwise, the proposal may be returned without review.

## C. Due Dates

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

- January 22, 2014
- January 22, Annually Thereafter
- April 22, 2014
- April 22, Annually Thereafter
- July 22, 2014
- July 22, Annually Thereafter
- October 22, 2014
- October 22, Annually Thereafter



Applicants should consult the CNIC Program Director if they wish to submit a proposal later than the target date for consideration in the respective round. Applicants should submit proposals before a target date at least **eight** months prior to the expected start date of the proposed activity.

## D. FastLane/Grants.gov Requirements

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### 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](mailto: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](mailto: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

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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/](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

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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 general NSF review criteria described above, the following criteria will be used in evaluating proposals submitted in response to this solicitation:

1. Mutual benefits among partners; true intellectual collaboration with the foreign partner(s); benefits to be realized from the expertise and specialized skills, facilities, sites, and/or resources of the international collaborator(s); and
2. The extent to which the proposed collaboration opens a new scientific direction for which the applicant(s) is(are) not yet funded; the extent to which the proposed activities are likely to lead to potentially transformative contributions to research and education not possible without this catalytic step; and the extent to which the proposed collaboration contributes to the professional development of the applicant(s).

## B. Review and Selection Process

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

Workshop proposals requesting up to \$50,000 will generally be reviewed internally by experts within NSF; planning visit proposals



will generally be reviewed externally by experts outside NSF. Workshop proposals requesting more than \$50,000 may be reviewed internally or externally.

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

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### A. Notification of the Award

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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

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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](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](mailto: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](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=aag).

### C. Reporting Requirements

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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](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=aag).

## VIII. AGENCY CONTACTS

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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:

- Lara Campbell, Program Manager, 1155.41, telephone: (703)-292-7049, email: [OISE-CNIC@nsf.gov](mailto:OISE-CNIC@nsf.gov)
- Steven D. Burch, Program Specialist, 1155, telephone: (703) 292-7226, email: [OISE-CNIC@nsf.gov](mailto:OISE-CNIC@nsf.gov)

For questions related to the use of FastLane, contact:

- FastLane Help Desk, telephone: 1-800-673-6188; e-mail: [fastlane@nsf.gov](mailto: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](mailto:support@grants.gov).

CNIC awards support short international planning visits by US-based researchers or small workshops that are expected to result in submission of follow-on full research proposal(s) to NSF. In addition to the formal solicitation, [Frequently Asked Questions \(FAQs\)](#) about the CNIC program are available. Potential proposers should review both these [FAQs](#) and the [solicitation](#) before contacting program staff. **Prior to formal submission in response to this solicitation, it is required** that potential proposers make contact with the cognizant IIA/ISE Country/Regional Program Officer. The IIA/ISE Country/Regional Program Officers are listed at <http://www.nsf.gov/od/ia/ise/country-list.jsp>. Note that CNIC does **not** provide support for, or to participate in, international conferences or congresses. Such support should be requested in proposal(s) to an NSF Directorate (see NSF [Grant Proposal Guide](#) sections II.D.8 & II.D.9).

## IX. OTHER INFORMATION

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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](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>.

### Related Programs:

Investigators may also wish to view the Programs and Funding Opportunities section of the OIIA/ISE home page <http://www.nsf.gov/od/ia/ise/index.jsp> to view the lists of OIIA/ISE Managed Opportunities and other NSF Opportunities that Highlight International Collaboration.

## ABOUT THE NATIONAL SCIENCE FOUNDATION

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

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

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

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

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

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

The National Science Foundation promotes and advances scientific progress in the United States by competitively awarding

grants and cooperative agreements for research and education in the sciences, mathematics, and engineering.

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

- **Location:** 4201 Wilson Blvd. Arlington, VA 22230
- **For General Information**  
(NSF Information Center): (703) 292-5111
- **TDD (for the hearing-impaired):** (703) 292-5090
- **To Order Publications or Forms:**  
Send an e-mail to: [nsfpubs@nsf.gov](mailto:nsfpubs@nsf.gov)  
or telephone: (703) 292-7827
- **To Locate NSF Employees:** (703) 292-5111

## PRIVACY ACT AND PUBLIC BURDEN STATEMENTS

The information requested on proposal forms and project reports is solicited under the authority of the National Science Foundation Act of 1950, as amended. The information on proposal forms will be used in connection with the selection of qualified proposals; and project reports submitted by awardees will be used for program evaluation and reporting within the Executive Branch and to Congress. The information requested may be disclosed to qualified reviewers and staff assistants as part of the proposal review process; to proposer institutions/grantees to provide or obtain data regarding the proposal review process, award decisions, or the administration of awards; to government contractors, experts, volunteers and researchers and educators as necessary to complete assigned work; to other government agencies or other entities needing information regarding applicants or nominees as part of a joint application review process, or in order to coordinate programs or policy; and to another Federal agency, court, or party in a court or Federal administrative proceeding if the government is a party. Information about Principal Investigators may be added to the Reviewer file and used to select potential candidates to serve as peer reviewers or advisory committee members. See Systems of Records, [NSF-50](#), "Principal Investigator/Proposal File and Associated Records," 69 Federal Register 26410 (May 12, 2004), and [NSF-51](#), "Reviewer/Proposal File and Associated Records," 69 Federal Register 26410 (May 12, 2004). Submission of the information is voluntary. Failure to provide full and complete information, however, may reduce the possibility of receiving an award.

An agency may not conduct or sponsor, and a person is not required to respond to, an information collection unless it displays a valid Office of Management and Budget (OMB) control number. The OMB control number for this collection is 3145-0058. Public reporting burden for this collection of information is estimated to average 120 hours per response, including the time for reviewing instructions. Send comments regarding the burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to:

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

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