

# International Research Experiences for Students (IRES)

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## PROGRAM SOLICITATION

NSF 12-551

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REPLACES DOCUMENT(S):

NSF 04-036

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National Science Foundation

Office of International Science and Engineering

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

August 21, 2012

Third Tuesday in August, Annually Thereafter

## IMPORTANT INFORMATION AND REVISION NOTES

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### Revision Summary

1. The number of IRES competitions and award cycles per year is reduced from two to one, but this change is not intended to reduce the size of the program.
2. Principal Investigator and/or other U.S. administrative support salary has been added as an allowable expense, within a maximum allowable limit of \$15,000 per year of the project.
3. This solicitation specifies that all projects must be of exactly three years' duration and send no fewer than three student cohorts abroad.
4. The maximum allowable budget per project is raised from \$150,000 to \$250,000 and the previous annual budget limit of \$50,000 is removed entirely. Removal of the annual budget cap provides more project flexibility, but projects are still required to send a student cohort abroad in each of the three years of the project.
5. Language has been added that student participants "must" be US Citizens or Permanent Residents.
6. Language has been changed and/or added to strengthen the emphasis on more thorough recruitment and preparation of student participants, engagement of foreign research mentorship, high-quality research experiences coupled with appropriate support of US students in the foreign location, and post-experience follow-up for students' career enhancement and networking purposes.
7. Explicit IRES program considerations to be used in the review and ranking of proposals have been added.
8. The Doctoral Dissertation Enhancement Program (DDEP) has been removed from this solicitation.
9. Research Experience for Teachers (RET) has been added.

### Important Reminders

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

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

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

**Postdoctoral Researcher Mentoring Plan:** As a reminder, each proposal that requests funding to support postdoctoral researchers must include, as a supplementary document, a description of the mentoring activities that will be provided for such individuals. Please be advised that if required, FastLane will not permit submission of a proposal that is missing a Postdoctoral Researcher Mentoring Plan. See [Chapter II.C.2.j](#) of the GPG for further information about the implementation of this requirement.

## SUMMARY OF PROGRAM REQUIREMENTS

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### General Information

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**Program Title:**

International Research Experiences for Students (IRES)

**Synopsis of Program:**

The International Research Experiences for Students (IRES) program supports development of globally-engaged U.S. science and engineering students capable of performing in an international research environment at the forefront of science and engineering. The IRES program supports active research participation by students enrolled as undergraduates or graduate students in any of the areas of research funded by the National Science Foundation. IRES projects involve students in meaningful ways in ongoing research programs or in research projects specifically designed for the IRES program.

**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.*

- Maija M. Kukla, Program Officer, telephone: 703-292-8710, email: [OISE-IRES@nsf.gov](mailto:OISE-IRES@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
- 47.078 --- Office of Polar Programs
- 47.079 --- Office of International Science and Engineering
- 47.080 --- Office of Cyberinfrastructure
- 47.081 --- Office of Experimental Program to Stimulate Competitive Research

## Award Information

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**Anticipated Type of Award:** Standard Grant or Continuing Grant

**Estimated Number of Awards:** 12 - Approximately 12 IRES awards will be made in FY 2013, pending quality of proposals and availability of funds.

**Anticipated Funding Amount:** \$2,250,000 - Approximately \$2,250,000 in FY 2013, pending availability of funds.

## Eligibility Information

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**Organization Limit:**

Proposals may only be submitted by the following:

- Universities and Colleges - Universities and two- and four-year colleges (including community colleges) accredited in, and having a campus located in the US, acting on behalf of their faculty members. Such organizations also are referred to as academic institutions.
- Non-profit, non-academic organizations: Independent museums, observatories, research labs, professional societies and similar organizations in the U.S. associated with educational or research activities.

**PI Limit:**

None Specified

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

None Specified

**Limit on Number of Proposals per PI:**

One per year per individual serving as either PI or co-PI (this includes international REU submissions).

## Proposal Preparation and Submission Instructions

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**A. Proposal Preparation Instructions**

- **Letters of Intent:** Not Applicable
- **Preliminary Proposal Submission:** Not Applicable
- **Full Proposals:**
  - Full Proposals submitted via FastLane: NSF Proposal and Award Policies and Procedures Guide, Part I: Grant Proposal Guide (GPG) Guidelines apply. The complete text of the GPG is available electronically on the NSF website at: [http://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=gpg](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?](http://www.nsf.gov/publications/pub_summ.jsp?)

## B. Budgetary Information

- **Cost Sharing Requirements:** Inclusion of voluntary committed cost sharing is prohibited.
- **Indirect Cost (F&A) Limitations:**  
Indirect costs are allowable, consistent with NSF's general policy. Student stipends, travel, and subsistence costs for this training experience are typically listed as participant support costs and as such are not subject to indirect costs. Off-campus indirect rates are applicable to activities at foreign sites.
- **Other Budgetary Limitations:** Other budgetary limitations apply. Please see the full text of this solicitation for further information.

## C. Due Dates

- **Full Proposal Deadline(s)** (due by 5 p.m. proposer's local time):  
August 21, 2012  
Third Tuesday in August, 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.

## TABLE OF CONTENTS

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### Summary of Program Requirements

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

## I. INTRODUCTION

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Many of the world's most pressing science and engineering challenges and opportunities are trans-national in nature, and moreover, leading scientific and engineering facilities, resources, and expertise are found around the globe. In order to remain at the forefront of science, technology, engineering, and mathematics (STEM), the United States (U.S.) needs to nurture a globally-engaged STEM workforce capable of performing in an international research environment. To help address this need, the International Research Experiences for Students (IRES) program provides support for U.S. students to conduct high-quality research abroad in collaboration with foreign investigators. Such experiences expose U.S. students to the international research community at a critical early stage in their careers.

The IRES program encourages projects in any field that NSF supports. Projects must involve U.S. students conducting research at foreign sites with appropriate foreign expert mentorship. Projects are organized and proposed by U.S. institutions and U.S.-based Principal Investigators, who arrange the specific research topics, foreign site placements, appropriate foreign research mentorship, and necessary local resources, and then recruit and prepare U.S. students to participate in these experiences. A key feature of IRES is that the primary research mentorship in-country must come from the researchers at the foreign host institution.

## II. PROGRAM DESCRIPTION

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Because IRES requires high-quality research within the discipline of an IRES project, an IRES project will often enable students to work within an established collaboration between a U.S.-based research group and a foreign collaborating research group (for example, an existing lab-to-lab arrangement). However, IRES projects may also be proposed by the U.S.-based PI(s) for new foreign collaborations.

In all cases, the IRES students will be recruited and prepared by the U.S. PI(s), then travel to the foreign site to conduct research under the direct supervision of the foreign research mentors.

IRES proposals must have a unifying research theme that enables a "cohort" experience for participating students. The IRES cohort concept requires that within each IRES project, each participating student must have an individual research project for which he/she is responsible, but these individual projects must also be coordinated to address a unifying research theme. To provide the best cohort experience, and to simplify logistical burdens, it is advised that all students supported by a given IRES project will go to the same foreign location at the same time, even though each student may have individual research project responsibility and individual foreign research mentorship. If students are to be hosted at more than one location, it is expected that there is a common scientific theme across locations, and the proposal should include a plan for all participants to be together at one of the foreign locations at least once during the stay.

IRES support is supplied for projects of three years' duration, and is expected to support three separate student cohorts during those three years. IRES projects should give as many students as feasible, within budgetary and project constraints, the opportunity for a meaningful research experience abroad. Projects which include fewer than four U.S. students per year, or whose annual duration of research conducted abroad is less than four weeks, should be justified by exceptional conditions or circumstances. Longer duration projects, and/or those involving more students, are generally preferable to shorter duration projects with fewer students. A typical IRES project supports 5 students per year for a summer-length research experience abroad, but the actual number of students, length of time abroad, and time of year spent abroad, may vary from IRES project to IRES project.

IRES proposals are accepted from U.S.-based academic research institutions, professional societies, or consortia. However, primary research mentorship must be provided by foreign mentors. Nevertheless, the U.S. PI is responsible for recruiting and preparing U.S. student participants, ensuring the quality of the research experience and the appropriateness of the foreign research mentorship. It may be necessary for U.S. PIs to spend a short period of time with the U.S. students to help with the transition to the foreign site and mentors, but are not expected to remain on-site and actively engaged with the U.S. students throughout the period abroad.

Recruitment of the U.S. student participants may occur locally, or may involve wider regional or national recruitment plans. In all cases, the proposal must clearly describe the plan for recruiting candidates, including the plan for broadening participation among underrepresented groups, and for selecting and preparing the students who will participate. IRES support must be given to students who are U.S. citizens or permanent residents; the intent of the program is to broaden the international experience of US students, not to provide an additional international experience to non-U.S. students. Preparation of selected students to enable maximum benefit during the period spent abroad is particularly important, and should include both scientific preparation for the research project as well as more general, location-specific preparation for practical and cultural issues they will encounter.

Proposals should describe the research focus of the proposed activity; the intellectual collaboration with the foreign team; the plan for enhancement of students' professional networks and details on mentoring, professional development, and training that students will receive; recruitment and broadening participation plans; selection process; the pre-departure preparation of students; arrangements for housing, health insurance, and other logistics; plans for leveraging U.S. and foreign resources to strengthen the project; the plan to assess the impact of the IRES project; and strategies for disseminating project results.

A good source of general information for PIs planning to take students abroad, which proposers may find valuable, is an OISE workshop report entitled 'Looking Beyond the Borders: A Project Director's Handbook of Best Practices for International Research Experiences for Undergraduates', available at:

<http://www.nsf.gov/pubs/2006/nsf06204/index.html>

The IRES program does not support summer schools or coursework.

Whereas two-way exchanges of U.S. and non-U.S. students are strongly encouraged, the IRES program can only provide support for U.S. students. Typically, the IRES program does not provide support for the foreign- research mentors. However, in certain circumstances, especially involving developing countries, it may be necessary to provide mentor support in order to make the IRES project possible. In such cases, the proposal must clearly demonstrate such need, and also limit requested support to the minimum necessary to enable the project on behalf of the U.S. student participants. PIs considering such a proposal are strongly encouraged to consult with the IRES program officer prior to submission.

PIs are responsible for obtaining required visas for foreign travel. PIs are also responsible for obtaining research permits and import/export documents, where necessary.

### *Research Experiences for Teachers*

NSF encourages research experiences for K-12 teachers of science, technology, engineering, and mathematics and the coordination of these experiences with IRES projects. Most directorates support Research Experiences for Teachers (RET) as a formal activity and announce their specific interests (e.g. RET Sites, RET Supplements) either in solicitations, in "Dear Colleague" letters, or on directorate/division websites. Other NSF units have no formal announcement but respond to requests for RET support on a case-by-case basis. Teachers may also be included in an IRES project. Applicants who wish to include an RET in an IRES proposal should contact the IRES program officer for guidance.

### III. AWARD INFORMATION

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Estimated program budget, number of awards and average award size/duration are subject to the quality of proposals and availability of funds. It is expected that NSF will support approximately 12 awards in FY 2013.

### IV. ELIGIBILITY INFORMATION

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#### Organization Limit:

Proposals may only be submitted by the following:

- Universities and Colleges - Universities and two- and four-year colleges (including community colleges) accredited in, and having a campus located in the US, acting on behalf of their faculty members. Such organizations also are referred to as academic institutions.
- Non-profit, non-academic organizations: Independent museums, observatories, research labs, professional societies and similar organizations in the U.S. associated with educational or research activities.

#### PI Limit:

None Specified

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

None Specified

#### Limit on Number of Proposals per PI:

One per year per individual serving as either PI or co-PI (this includes international REU submissions).

### 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).

The information below supplements the standard Grant Proposal Guide (GPG) and NSF Grants.gov Application Guide proposal preparation guidelines. Please use this information while preparing a proposal under the IRES program:

1. **Proposal Cover Sheet.** Fastlane Users: Select the IRES solicitation number from the pull down list and select "International Research Experiences for Students" 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; refer to Section VI.1.2. of the NSF Grants.gov Application Guide for specific instructions on how to designate the NSF Unit of Consideration. Give a proposal title beginning with "IRES:" followed by a descriptive title of the proposed activities. Check the box for "International Cooperative Activities Country Name" that appears under Other Information when the "remainder of cover sheet" is clicked, then select the countries involved.
2. **Project Summary (one page maximum).** Clearly indicate the number of undergraduate and/or graduate participants per year AND number of weeks per year that the students will participate. Include the names and institutional affiliations of key foreign collaborators, and note their roles in the proposed activities. Summarize the research topic and highlight the collaborative aspects of the activity. **Intellectual merit** and anticipated **broader impacts must** be addressed in separate paragraphs.
3. **Project Description and Results from Prior NSF Support.** Project descriptions should address intellectual merits and broader impacts, and in addition, provide details concerning the specific IRES elements listed below:
  - **Overview.** Provide a brief description of the research focus of the proposed activity, including specific examples of research projects that individual students will conduct during their time abroad.

- **Nature of Student Activities.** Proposals should address the intellectual collaboration with the foreign team. Provide detailed descriptions of examples of research projects that students will pursue.
- **The Research Environment.** Describe the unique expertise, facilities, data, and/or other resources that will be available to participating IRES students. Describe why the particular host(s) is desirable for this project from a scientific standpoint, and in addition, why the particular site and facilities are suitable for hosting and mentoring U.S. students.
- **Student Recruitment and Selection.** The overall quality of the student recruitment and selection processes and criteria will be an important element in the evaluation of the proposal. The recruitment plan should be described with as much specificity as possible including a detailed description of the efforts that will be made to attract members of under-represented groups. IRES student participants must be U.S. citizens or permanent residents.
- **Logistics.** The proposal should describe plans for pre-departure preparation of U.S. student participants, arrangements for housing, health insurance and other logistics.
- **Leveraging Resources.** Discuss plans for leveraging U.S. or foreign resources to strengthen the project, such as, taking advantage of campus IT facilities, academic centers, language instruction, international programming, or cultural activities.
- **Professional Development.** Describe plans for enhancing the professional development of student participants, including any plans for follow-on interactions such as student-faculty, student-mentor, and student-student cooperation.
- **Project Evaluation and Reporting.** Discuss plans to a) measure qualitatively and quantitatively the IRES project in terms of student research experiences and the professional development of student participants, b) for disseminating results of the research within the appropriate scientific disciplinary community, c) to publicize the IRES project student experiences in ways that will share the experiential benefits across a wider body of U.S. students and encourage other students to engage internationally.

#### 4. Supplementary Documentation:

- Biographical sketches for principal foreign collaborators. Sketches must be in English and must adhere to the format given in the Grant Proposal Guide (Chapter II.C.2.f, [http://nsf.gov/publications/pub\\_summ.jsp?ods\\_key=pgg](http://nsf.gov/publications/pub_summ.jsp?ods_key=pgg)).
- Letters of commitment from foreign researchers who will serve as the mentor(s) for the IRES students.

## B. Budgetary Information

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

#### Indirect Cost (F&A) Limitations:

Indirect costs are allowable, consistent with NSF's general policy. Student stipends, travel, and subsistence costs for this training experience are typically listed as participant support costs and as such are not subject to indirect costs. Off-campus indirect rates are applicable to activities at foreign sites.

#### Other Budgetary Limitations:

IRES projects have duration of three years, and a maximum total budget of \$250,000.

In most instances, the majority of IRES funding is expected to be in direct participant support costs (student stipends, travel, and living expenses at the foreign-research site). Other allowable budget items include: modest expenses for materials, supplies, publication costs, etc., in support of U.S. student research; support for short-term visits of the U.S.-based PI to establish and manage the project; up to \$15,000 in salary support for the U.S. PI and/or other U.S. administrative staff directly involved with student support, per year; and reasonable costs in support of project assessment.

Student stipends should be provided for all participants, and should be comparable to similar NSF-sponsored research opportunities such as EAPSI and REU (approximately \$500 per student per week). The stipend should be provided in addition to actual travel and living expenses. The intention of this requirement is to eliminate economic need as a barrier to student participation.

In most cases, foreign mentors may not be supported by funds from the IRES program. However, when foreign mentors are from a developing country, some support may be provided for the foreign participation. Applicants should discuss specifics with the IRES program officer before submitting a proposal, and any requests for such funding must clearly establish that such funding is necessary in order for the project to proceed, and that all such funding is for activities in direct support of the US-based student participants. Any support provided to foreign mentors or their labs must be identified on Line G6 "Other" on the Proposal Budget form. Subawards are not permitted. IRES funds may not be used to support foreign student participation.

For living expenses abroad, applicants are encouraged to work with 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 (MI&E) exceed the [authorized U.S. Government per diem rates](#), calculated at the daily rate for the first 30 days of a single project visit, and 50 percent of that rate for all time after that. Various approaches to cost-effective, reciprocal arrangements can be considered. All travel must comply with current travel guidelines (please see Article 14 of the Agency Specific Requirements to the Research Terms and Conditions [http://www.nsf.gov/pubs/policydocs/rtc/nsf\\_212.pdf](http://www.nsf.gov/pubs/policydocs/rtc/nsf_212.pdf)).

Some disciplinary REU (Research Experiences for Undergraduates) programs hold a PI meeting. IRES PIs should plan on attending an REU PI meeting organized by their NSF disciplinary program, if applicable. The meetings are held in the U.S. and the budget should include the appropriate travel costs.

## C. Due Dates

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

August 21, 2012

Third Tuesday in August, Annually Thereafter



## D. FastLane/Grants.gov Requirements

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- **For Proposals Submitted Via FastLane:**

Detailed technical instructions regarding the technical aspects of preparation and submission via FastLane are available at: <https://www.fastlane.nsf.gov/a1/newstan.htm>. For FastLane user support, call the FastLane Help Desk at 1-800-673-6188 or e-mail [fastlane@nsf.gov](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.

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

- **For Proposals Submitted Via Grants.gov:**

Before using Grants.gov for the first time, each organization must register to create an institutional profile. Once registered, the applicant's organization can then apply for any federal grant on the Grants.gov website. Comprehensive information about using Grants.gov is available on the Grants.gov Applicant Resources webpage: [http://www07.grants.gov/applicants/app\\_help\\_reso.jsp](http://www07.grants.gov/applicants/app_help_reso.jsp). In addition, the NSF Grants.gov Application Guide provides additional technical guidance regarding preparation of proposals via Grants.gov. For Grants.gov user support, contact the Grants.gov Contact Center at 1-800-518-4726 or by email: [support@grants.gov](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.

## VI. NSF PROPOSAL PROCESSING AND REVIEW PROCEDURES

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Proposals received by NSF are assigned to the appropriate NSF program where they will be reviewed if they meet NSF proposal preparation requirements. 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 who are experts in the particular fields represented by the proposal. These reviewers are selected by Program Officers charged with the 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.

### A. NSF Merit Review Criteria

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All NSF proposals are evaluated through use of the two National Science Board (NSB)-approved merit review criteria: intellectual merit and the broader impacts of the proposed effort. In some instances, however, NSF will employ additional criteria as required to highlight the specific objectives of certain programs and activities.

The two NSB-approved merit review criteria are listed below. The criteria include considerations that help define them. These considerations are suggestions and not all will apply to any given proposal. While proposers must address both merit review criteria, reviewers will be asked to address only those considerations that are relevant to the proposal being considered and for which the reviewer is qualified to make judgments.

**What is the intellectual merit of the proposed activity?**

How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields? How well qualified is the proposer (individual or team) to conduct the project? (If appropriate, the reviewer will comment on the quality of the prior work.) To what extent does the proposed activity suggest and explore creative, original, or potentially transformative concepts? How well conceived and organized is the proposed activity? Is there sufficient access to resources?

**What are the broader impacts of the proposed activity?**

How well does the activity advance discovery and understanding while promoting teaching, training, and learning? How well does the proposed activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)? To what extent will it enhance the infrastructure for research and education, such as facilities, instrumentation, networks, and partnerships? Will the results be disseminated broadly to enhance scientific and technological understanding? What may be the benefits of the proposed activity to society?

Examples illustrating activities likely to demonstrate broader impacts are available electronically on the NSF website at: <http://www.nsf.gov/pubs/gpg/broaderimpacts.pdf>.

Mentoring activities provided to postdoctoral researchers supported on the project, as described in a one-page supplementary document, will be evaluated under the Broader Impacts criterion.

#### 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. Appropriateness of the student recruitment and selection plans, including those for involving students from underrepresented groups and from academic institutions with limited research opportunities.
2. Quality of plans for student preparation, including both academic/research and cultural/practical preparation specific to the

- topic of the research and the site of the international placement.
3. The appropriateness of the host research mentors and host institution or location arrangements, from both a disciplinary and logistical standpoint, including the opportunity for US students to benefit from the expertise, facilities, etc., of the foreign host.
  4. The suitability of the research mentoring plan and project for the academic level of the intended student participants, the length of the program, the facilities available, etc.
  5. Plans to enhance the project's effectiveness and impact on students' careers and/or their disciplines after the overseas experience is completed, to disseminate research results and experiences within the discipline and among other students.

NSF staff also will give careful consideration to the following in making funding decisions:

#### ***Integration of Research and Education***

One of the principal strategies in support of NSF's goals is to foster integration of research and education through the programs, projects, and activities it supports at academic and research institutions. These institutions provide abundant opportunities where individuals may concurrently assume responsibilities as researchers, educators, and students and where all can engage in joint efforts that infuse education with the excitement of discovery and enrich research through the diversity of learning perspectives.

#### ***Integrating Diversity into NSF Programs, Projects, and Activities***

Broadening opportunities and enabling the participation of all citizens -- women and men, underrepresented minorities, and persons with disabilities -- 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.

## **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.

Reviewers will be asked to formulate a recommendation to either support or decline each proposal. The Program Officer assigned to manage the proposal's review will consider the advice of reviewers and will formulate a recommendation.

After scientific, technical and programmatic review and consideration of appropriate factors, the NSF Program Officer recommends to the cognizant Division Director whether the proposal should be declined or recommended for award. NSF is striving to be able to tell applicants whether their proposals have been declined or recommended for funding within six months. The time interval begins on the deadline or target date, or receipt date, whichever is later. The interval ends when the Division Director accepts the Program Officer's recommendation.

A summary rating and accompanying narrative will be completed and submitted by each reviewer. In all cases, reviews are treated as confidential documents. Verbatim copies of reviews, excluding the names of the reviewers, are sent to the Principal Investigator/Project Director by the Program Officer. In addition, the proposer will receive an explanation of the decision to award or decline funding.

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

## **VII. AWARD ADMINISTRATION INFORMATION**

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

\*These documents may be accessed electronically on NSF's Website at [http://www.nsf.gov/awards/managing/award\\_conditions.jsp?org=NSF](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 before the end of the current budget period. (Some programs or awards require more frequent project reports). Within 90 days after 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 that PI. 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 FastLane, for preparation and submission of annual and final project reports. Such reports provide information on activities and findings, project participants (individual and organizational), publications, and other specific products and contributions. PIs will not be required to re-enter information previously provided, either with a proposal or in earlier updates using the electronic system. Submission of the report via FastLane constitutes certification by the PI that the contents of the report are accurate and complete. The project outcomes report 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.

## 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:

- Maija M. Kukla, Program Officer, telephone: 703-292-8710, email: [OISE-IREs@nsf.gov](mailto:OISE-IREs@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).

## 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, National Science Foundation Update is a free e-mail subscription service 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 Regional Grants Conferences. Subscribers are informed through e-mail when new publications are issued that match their identified interests. Users can subscribe to this service by clicking the "Get NSF Updates by Email" link on the [NSF web site](#).

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

## ABOUT THE NATIONAL SCIENCE FOUNDATION

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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  
Division of Administrative Services  
National Science Foundation  
Arlington, VA 22230

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