Partnerships for International Research and Education (PIRE)

PROGRAM SOLICITATION
NSF 09-505

REPLACES DOCUMENT(S):
NSF 06-589

National Science Foundation

Office of International Science and Engineering

Office of Cyberinfrastructure

Office of Polar Programs

Directorate for Biological Sciences

Directorate for Computer & Information Science & Engineering

Directorate for Engineering

Directorate for Education & Human Resources

Directorate for Geosciences

Directorate for Mathematical & Physical Sciences

Directorate for Social, Behavioral & Economic Sciences

Preliminary Proposal Due Date(s) *(required)* (due by 5 p.m. proposer's local time)*:*

February 26, 2009

Preliminary Proposal Deadline

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

August 04, 2009

BY INVITATION ONLY

REVISION NOTES

A revised version of the *NSF Proposal & Award Policies & Procedures Guide* (PAPPG), NSF 09-1, was issued on October 1, 2008 and is effective for proposals submitted on or after January 5, 2009. Please be advised that the guidelines contained in NSF 09-1 apply to proposals submitted in response to this funding opportunity. Proposers who opt to submit prior to January 5th, 2009, must also follow the guidelines contained in NSF 09-1.

One of the most significant changes to the PAPPG is implementation of the mentoring provisions of the America COMPETES Act. Each proposal that requests funding to support postdoctoral researchers must include, as a separate section within the 15-page project description, a description of the mentoring activities that will be provided for such individuals. Proposals that do not include a separate section on mentoring activities within the Project Description will be returned without review (see the PAPP Guide Part I: *Grant Proposal Guide* Chapter II.C.2.d for further information).

Revisions include:

- **Expanded eligibility to include all institutions that granted one (1) or more Ph.D. in a science or engineering field since January 1, 2006.**
- **Limit on number of preliminary and full proposals allowed per PI, co-PI and Senior Personnel reduced to one (1) from three (3).**
- **Removal of budgetary limit on proposals and changes in budget details.**
- **Redefinition of institutional impact to levels beyond an individual's research group.**
- **New language to encourage projects of different scope and nature.**
- **New language to allow both new and renewal proposals.**

Addition of explicit requirements for assessment.

- **Addition of explicit requirement for a data management plan.**

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Partnerships for International Research and Education (PIRE)

Synopsis of Program:

The Partnerships for International Research and Education (PIRE) program seeks to catalyze a higher level of international engagement in the U.S. science and engineering community by supporting innovative, international research and education collaborations. The program will enable U.S. scientists and engineers to establish collaborative relationships with international colleagues in order to advance new knowledge and discoveries at the frontiers of science and engineering and to promote the development of a diverse, globally-engaged U.S. scientific and engineering workforce. International partnerships are, and will be, increasingly indispensable in addressing many critical science and engineering problems. As science and engineering discoveries result more and more from international collaboration, U.S. researchers and educators must be able to operate effectively in teams comprised of partners from different nations and cultural backgrounds. The PIRE program will support bold, forward-looking research whose successful outcome results from all partners—U.S. and foreign—providing unique contributions to the research endeavor. It is also intended to facilitate greater student preparation for and participation in international research collaboration, and to contribute to the development of a diverse, globally-engaged U.S. science and engineering workforce. The program aims to support partnerships that will strengthen the capacity of institutions, multi-institutional consortia, and networks to engage in and benefit from international research and education collaborations.

Cognizant Program Officer(s):

- Elizabeth Lyons, Program Coordinator, 940N, telephone: (703) 292-7256, fax: (703) 292-9067, email: PIRE-info@nsf.gov
- Anne Emig, Program Manager, 935N, telephone: (703) 292-7241, fax: (703) 292-9067, email: PIRE-info@nsf.gov
- Shireen Yousef, Science Assistant, 940N, telephone: (703) 292-8429, fax: (703) 292-9067, email: PIRE-info@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

Award Information

Anticipated Type of Award: Standard Grant or Continuing Grant

Estimated Number of Awards: 5 to 20 in total for new and renewal projects.

Anticipated Funding Amount: $40,000,000 The total for all projects associated with this solicitation is up to $40,000,000 over Fiscal Years 2010-2014 from the Office of International Science and Engineering, pending availability of funds. Additional contributions will be sought from other NSF Directorates and Offices.

Eligibility Information

Organization Limit:

Proposals may only be submitted by the following:

- Universities that granted one (1) or more Ph. D. in a science or engineering field since January 1, 2006, accredited in, and having a campus located in the U.S. Data on science and engineering Ph. D. production is available from *The Survey of Earned Doctorates for 2006*. Institutions that are not on this list but that have granted one (1) or more Ph. D. in a science or engineering field since 2006 should contact PIRE Program staff regarding eligibility.

PI Limit:

None specified.

Limit on Number of Proposals per Organization:

- **Limit on Number of Preliminary Proposals:** Eligible institutions may submit three (3) preliminary proposals.
- RATIONALE: The PIRE program places a limit on the number of proposals that can be submitted by an institution in order to 1) facilitate the institutional review of possible preliminary proposals so that such proposals can strengthen international engagement beyond the level of a PI's research group, promote optimal use of institutional resources and capabilities, and align with long-term strategic international goals of the institution(s); 2) limit the burden of proposal preparation and review on the S&E community; and 3) preclude unrealistic expectations on the part of U.S. and foreign partners.
- Proposers are strongly encouraged to develop synergistic collaborations with a wide range of U.S. academic institutions, including four-year and two-year institutions, in order to take advantage of complementary strengths in international research and/or education and broaden the impact of the proposed PIRE program. They are also encouraged to develop synergistic linkages with other domestic and international partners that will enhance the PIRE project, including research laboratories, professional societies, corporations, institutions of informal learning (e.g., museums, zoos), etc.
- Proposals for new PIRE projects as well as proposals for the renewal of PIRE awards made in 2005 may be submitted. The limit on the number of proposals an institution may submit as lead institution applies to the combined total of new and renewal proposals.
- **Limit on Renewals:** If a substantial number of U.S. members of the proposed PIRE team, including the PI and co-PIs, have participated in a prior PIRE award, then this proposal will be considered a renewal. PIRE awards may be renewed only once.
- **Limit on Number of Full Proposals:** Subject to invitation.

Limit on Number of Proposals per PI:

An individual may participate as Senior Personnel (PI, co-PI, or other Senior Personnel - including on sub-awards or as a consultant) on at most one (1) preliminary proposal and one (1) full proposal.

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **Letters of Intent:** Not Applicable
- **Preliminary Proposals:** Submission of Preliminary Proposals is required. Please see the full text of this solicitation for further information.
- **Full Proposals:**
  - Full Proposals submitted via FastLane: NSF Proposal and Award Policies and Procedures Guide, Part I: Grant Proposal Guide (GPG) Guidelines apply. The complete text of the GPG is available electronically on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg.
  - Full Proposals submitted via Grants.gov: NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov Guidelines apply (Note: The NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at: http://www.nsf.gov/pubs/policydocs/grantsgovguide607.pdf)

B. Budgetary Information

- **Cost Sharing Requirements:** Cost Sharing is not required under this solicitation.
- **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

- **Preliminary Proposal Due Date(s) *(required)*** (due by 5 p.m. proposer's local time)*:*

  February 26, 2009

  Preliminary Proposal Deadline

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

  August 04, 2009

  BY INVITATION ONLY

Proposal Review Information Criteria

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

Award Administration Information

Award Conditions: Standard NSF award conditions apply.

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

TABLE OF CONTENTS

I. INTRODUCTION

Scientific and engineering discovery and learning are worldwide phenomena. Increasingly, centers of research excellence are emerging across the globe and new ideas and research are resulting from the intellectual interactions of people with diverse backgrounds. Consequently, U.S. scientists and engineers must be globally engaged and able to operate effectively in teams and networks comprised of partners from different nations and cultural backgrounds. International partnerships are, and will be, increasingly indispensable in addressing many critical science and engineering problems. Successful PIRE proposals will describe excellent science and engineering research projects integrated with innovative educational programs. They will address questions that cannot be addressed without synergistic interactions with international collaborators. They will have substantive intellectual contributions from international collaborators who bring unique capabilities to the research and education activity. They will undertake a research and education effort of a different nature and scope than typical NSF-funded projects, enabling U.S. researchers and their students to collaborate with the best scientists and engineers around the world in developed and developing countries. The PIRE program will thereby enable transformative breakthroughs on cutting-edge science and engineering issues, including shared global challenges. As such, proposals may involve one or more disciplines, U.S. institutions, foreign institutions, and countries. They will also facilitate greater student preparation for and participation in international research collaboration, and contribute to training a diverse, globally-engaged, U.S. science and engineering workforce.

PIRE awards enable long-term, collaborative research and education projects with international partners, including diverse networks and consortia that bring together the best expertise from within the United States and from abroad. PIRE is intended to catalyze change in U.S. institutions by strengthening the capacity for international engagement. Successful proposals will describe how the research and education partnerships leverage institutional strengths and commitments to enhance the capacity for international engagement at a level above that of an individual research group. In addition, successful proposals will explain how the complementary strengths of the units within collaborating institutions will be used to enable and sustain a long-term program. Proposals for new and renewal projects are invited.

II. PROGRAM DESCRIPTION

PIRE seeks to enable new modes of international research and education collaboration. The first two PIRE competitions supported a diverse set of thirty-two projects, descriptions of which can be found on the PIRE Homepage. In this competition, NSF again seeks proposals with creative ideas on how to achieve the PIRE Program objectives. NSF has both increased the range of eligible institutions and removed the budgetary limits in an effort to stimulate a diversity of PIRE proposals. We seek proposals in all areas of NSF-supported science, engineering and education research. Proposals may vary across a range of factors, including the scope and nature of the project, number of collaborators, diversity of individuals and institutions, degree of interdisciplinarity, collaboration model, and scale of proposed budget. There is no specified budget limit for any award; rather, proposals should describe the plan for achieving all of the PIRE programmatic objectives and request the budget necessary to do so. Proposals for new and renewal projects are invited.

Awardees from the 2005 PIRE competition may compete for a renewal award in the current competition. PIRE awards may be renewed only once. Renewal proposals compete in the same pool as new proposals. Renewal proposals must explicitly demonstrate the significant achievements of the previous PIRE award and the added value of the proposed renewal effort beyond that of the original PIRE award.

All NSF Directorates and Offices will contribute to the review and implementation of this solicitation. In addition, funding contributions will be sought from these units for specific projects over and above OISE's $40 million in FY10-FY14 funding.

Projects must further all program objectives detailed below.

A. **Program Objectives:**

- **Enhancing research excellence via international partnership and collaboration**

  PIRE projects will advance research frontiers because of the significant and specific contributions (e.g., expertise, facilities, sites, data, different approaches/methods, educational opportunities, etc.) to the collaboration from international partners. PIRE supports projects that can only be accomplished with the intellectual contributions of international partners and where the synergy from such collaborations adds value beyond that of domestic collaborations. PIRE partnerships will contribute to creating hubs of international collaboration that draw upon the best researchers or research groups in the world and make use of the diverse capabilities of all participating institutions to bring demonstrable benefits to the U.S. research and education community. PIRE will support partnerships that are considered highly meritorious by one or more NSF Directorates or Offices; such partnerships can be in any science and engineering field in which research is supported by NSF, as well as in the field of research on science, technology, engineering and mathematics (STEM) education.

- **Promoting educational excellence via international collaboration and development of a diverse U.S. science and engineering workforce that is prepared to engage with the global community.**

  PIRE projects will advance strong science and engineering education programs in which there is tight integration of research and education activities that take advantage of the international partnership. In line with NSF's commitment to training a diverse, competitive, and globally-engaged U.S. workforce, projects are expected to develop a cadre of scientists and engineers from diverse backgrounds that will play a leadership role in forging international collaborations now and in the future. The globalization of research and career opportunities makes it important for U.S. scientists and engineers to gain an international perspective early in their careers. Therefore, a significant part of the PIRE partnership must involve undergraduate students, graduate students and/or early-career researchers who are U.S. citizens or permanent residents working on research-related activities at foreign sites such as academic or industrial laboratories or other suitable settings.

- **Developing international partnerships that enlist resources and commitments within and across institutions to strengthen the capacity for U.S. international engagement at levels beyond an individual's research group, for example, at the level of department, school/faculty, institution, and/or inter-institutional network/consortia.**

  PIRE projects should influence how institutions or sets of institutions enable U.S. researchers and students to interact and succeed in the rapidly changing landscape of international research and education. PIRE projects will involve participation of both foreign researchers/institutions and a diverse suite of U.S. actors. The U.S. actors may include, for example, students and faculty, administrators, foreign language departments, international program offices, and others. They may represent different academic institutions, including four-year and two-year colleges, as well as non-governmental organizations, professional associations, industry, institutions of informal learning (e.g., museums, zoos), information technology centers, etc. Projects should incorporate the transformative use and development of cyberinfrastructure and organizational/human networking to create and sustain an environment that enables U.S. participants to engage internationally whether they travel abroad or not. Successful projects will combine diverse entities and activities into a coherent whole that enables implementation of the project's research and education goals and, moreover, serves as a catalyst for change within one or more U.S. institutions to enhance capacity to engage successfully in international research and education collaborations.

B. **Principal Investigator**

The Principal Investigator (PI) shall be the director of the PIRE project, and is expected to be an essential participant in its research and related educational activities. The PI will have overall responsibility for administration of the award, management of the project, and for interactions with the NSF. Only U.S. participants should be listed as PI, co-PIs, and other Senior Personnel.

C. **Two-Stage or Three-Stage Review Process**

This PIRE competition involves multiple stages of review. All proposers must submit a preliminary proposal; these will be reviewed by a panel of experts and then a limited number of proposers will be invited to submit full proposals. The full proposals will receive both *ad-hoc* and panel review. Full proposals that are under consideration for funding may also undergo a third stage of review via a site visit as needed.

1. **Additional Considerations**

   Visas and Permits: PIs are responsible for obtaining any required visas for foreign travel, and through the U.S. research institution, for providing documentation in support of U.S. visas for foreign counterpart investigators. PIs are also responsible for obtaining research permits and import/export documents, where necessary. PIs should review NSF's web page "Information for U.S. Travelers", http://www.nsf.gov/od/oise/for-travelers-main.jsp ; among other things, this page includes information regarding the collection of genetic resources outside of the United States.

III. AWARD INFORMATION

The total budget for all projects associated with this solicitation is up to $40,000,000 over the Fiscal Years 2010-2014 from the Office of International Science and Engineering, pending availability of funds. Additional contributions will be sought from other NSF Directorates and Offices. In response to this solicitation, NSF will accept proposals with budget sizes commensurate with the nature and scope of the project. Awards will be standard or continuing grants. Under this solicitation, proposals may be submitted for

support for up to five years, to start in Fiscal Year 2010.

IV. ELIGIBILITY INFORMATION

Organization Limit:

Proposals may only be submitted by the following:

- Universities that granted one (1) or more Ph. D. in a science or engineering field since January 1, 2006, accredited in, and having a campus located in the U.S. Data on science and engineering Ph. D. production is available from *The Survey of Earned Doctorates for 2006*. Institutions that are not on this list but that have granted one (1) or more Ph. D. in a science or engineering field since 2006 should contact PIRE Program staff regarding eligibility.

PI Limit:

None specified.

Limit on Number of Proposals per Organization:

- **Limit on Number of Preliminary Proposals:** Eligible institutions may submit three (3) preliminary proposals.
- RATIONALE: The PIRE program places a limit on the number of proposals that can be submitted by an institution in order to 1) facilitate the institutional review of possible preliminary proposals so that such proposals can strengthen international engagement beyond the level of a PI's research group, promote optimal use of institutional resources and capabilities, and align with long-term strategic international goals of the institution(s); 2) limit the burden of proposal preparation and review on the S&E community; and 3) preclude unrealistic expectations on the part of U.S. and foreign partners.
- Proposers are strongly encouraged to develop synergistic collaborations with a wide range of U.S. academic institutions, including four-year and two-year institutions, in order to take advantage of complementary strengths in international research and/or education and broaden the impact of the proposed PIRE program. They are also encouraged to develop synergistic linkages with other domestic and international partners that will enhance the PIRE project, including research laboratories, professional societies, corporations, institutions of informal learning (e.g., museums, zoos), etc.
- Proposals for new PIRE projects as well as proposals for the renewal of PIRE awards made in 2005 may be submitted. The limit on the number of proposals an institution may submit as lead institution applies to the combined total of new and renewal proposals.
- **Limit on Renewals:** If a substantial number of U.S. members of the proposed PIRE team, including the PI and co-PIs, have participated in a prior PIRE award, then this proposal will be considered a renewal. PIRE awards may be renewed only once.
- **Limit on Number of Full Proposals:** Subject to invitation.

Limit on Number of Proposals per PI:

An individual may participate as Senior Personnel (PI, co-PI, or other Senior Personnel - including on sub-awards or as a consultant) on at most one (1) preliminary proposal and one (1) full proposal.

Additional Eligibility Info:

A single proposal (preliminary and, if invited, full) should be submitted for each project (with subawards to other U.S. institutions possible). PIRE does not accept collaborative proposals for a single project that are submitted as separate submissions from multiple organizations.

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

Preliminary Proposals *(required):* Preliminary proposals are required and must be submitted via the NSF FastLane system, even if full proposals will be submitted via Grants.gov.

Preliminary proposals must be submitted via FastLane. Proposals should be prepared in accordance with the general guidelines contained in the NSF Grant Proposal Guide (GPG), with exception of deviations given in the specific PIRE instructions below. The complete text of the GPG is available electronically on the NSF Website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from pubs@nsf.gov.

PRELIMINARY PROPOSAL CONTENT

Preliminary proposals must contain the items listed below and adhere to the specified page limitations. Proposals that do not include the items below or that do not adhere to the page limitations will be returned without review. **Do not include letters of commitment from the submitting institution or collaborating institutions in the**

preliminary proposal.

Cover Sheet: Select the PIRE program solicitation number shown at the beginning of this solicitation from the pull down menu, and then select PIRE preliminary proposal for the program unit from the ensuing screen. If the proposal is a renewal application, the appropriate box should be checked and the original proposal number indicated. An informative title (i.e., indicating disciplinary focus and country/region of focus) for the proposed PIRE project that begins with "PIRE:", must be provided. Check the box indicated for preliminary proposal. Only U.S. participants should be listed as PI or co-PIs. **The international activities box should be checked and the countries involved selected.** For proposals that involve human subjects, IRB review and approval is not required at the time of preliminary proposal submission. For proposals that involve the use of vertebrate animals, IACUC review and approval is not required at the time of preliminary proposal submission.

A. **Project Summary**: (1-page limit). The project summary must consist of 5 parts. (1) At the top of this page include the title of the PIRE project, the name of the PI, and the lead institution. Also list other key participating institutions/organizations, including key personnel and their institutions from both within and outside the U.S. (2) Describe the unique research and educational opportunities provided by the international partnership and how the international engagement is synergistic and adds value to these endeavors. (3) Describe the intellectual merit of the proposed project. (4) Describe the broader impacts of the proposed project. (5) At the end of the project summary list the NSF Directorate(s) and/or Office(s) that would be most likely to participate in review and co-funding of the proposal, in order of relevance.

B. **Table of Contents:** The Table of Contents is generated by FastLane and cannot be edited.

C. **Project Description:**

1. **List of Participants** (1-page limit). Include departmental and institution/organization affiliation of the PI, co-PIs, and other Senior Personnel. Recall that an individual based at a U.S. institution may participate on at most one proposal as PI, co-PI, or other Senior Personnel (including on subawards and as a consultant). This list should also include the names and institutional affiliations of key domestic and international collaborators, all of whom should have made at least notional commitment to participating in the project.
2. **Narrative Describing International Collaborative Partnership for Integrated Research and Education** (4-page limit). Referring to the Program Objectives (Section IIA.), describe the project, including its key research and education goals and features. Provide sufficient detail to enable peer review of how the international research partnership will advance the frontiers of science or engineering, how the international education component will help train a diverse, globally engaged U.S. workforce, as well as the feasibility of the research and education programs.
3. **Narrative Describing Impact of Project Within and Beyond PI's Research Group.** (1-page limit) Describe the current landscape for conducting international research and education collaboration within the project's discipline(s) and institutions, noting opportunities as well as barriers to full engagement of faculty, students and institutions. Describe how the PIRE project will impact that landscape both within and beyond the PI's research group (e.g., at the level of department, faculty/school, institution, and/or multi-institutional consortium or network).
4. **For Renewal Proposals Only:** The above two narratives must explicitly address the significant achievements of the prior PIRE award and the added value of the proposed effort beyond that of the previous award.
5. **Preliminary Budget** (2-page limit). In a table or spreadsheet, give expected cumulative costs for (1) Senior Personnel, (2) Postdoctoral scholars and students, (3) Equipment, (4) Travel, (5) Participant support costs, (6) Other, and (7) the total of those costs. Do not include fringe benefits or indirect costs. Justify the appropriateness of the preliminary budget in terms of the scope and complexity of the proposed activities. (Do not enter this information into the FastLane budget module. Invited full proposals will include the standard NSF budget submission.)

D. **References Cited** (3-page limit). Cite references relevant to both the research and educational plans.

E. **Biographical Sketches:** A maximum of 20 biographical sketches, including domestic and international participants, may be submitted. Additional individuals may be included in the List of Participants, Section C.1. Prepare the standard 2-page biographical sketches in accordance with the GPG, **including for foreign collaborators**. For each biographical sketch, include a list of recent collaborators and students. In choosing what else to include, emphasize information that will be helpful for understanding the strengths, qualifications, and specific contribution that the individual brings to the PIRE project.

F. **Current and Pending Support:** Current and pending support for the PI, co-PIs and Senior Personnel must be included.

G. **Budget**: For administrative purposes, enter $2 in the Requested Amount box on the FastLane cover sheet (this entry allows correct FastLane processing). Do not enter any other budget figures in FastLane.

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

- Full proposals submitted via FastLane: Proposals submitted in response to this program solicitation should be prepared and submitted in accordance with the general guidelines contained in the NSF Grant Proposal Guide (GPG). The complete text of the GPG is available electronically on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from pubs@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/bfa/dias/policy/docs/grantsgovguide.pdf). 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 pubs@nsf.gov.

FULL PROPOSAL CONTENT

Only those proposers invited to submit full proposals may do so.

Each PIRE team invited to submit a full proposal will be asked to have a representative (e.g., PI, co-PI, or Senior Personnel) participate in a web-based discussion prior to full proposal submission. Major aspects of proposal development and preparation will be covered. Topics will include Frequently Asked Questions (FAQs), research focus, educational plan, institutional impacts, plans for broadening participation, plans for evaluation, and budget. The letter of full proposal invitation sent to the PI will include the date for the web-based discussion.

Full proposals must contain the items listed below. No additional information may be provided by links to web pages. Proposals that exceed the specified page limitations shall be returned without review. PIRE does not accept collaborative proposals for a single project submitted as separate submissions from multiple organizations.

Cover Sheet:

- **FastLane Users:** Select the PIRE program solicitation number shown at the beginning of this solicitation from the pull-down menu, and then select PIRE Full Proposal for the program unit from the ensuing screen. If the proposal is a renewal application, the appropriate box should be checked and the original proposal number indicated on the cover sheet. An informative title for the proposed PIRE project that begins with "PIRE:" must be provided. Enter the related preliminary proposal number in the appropriate box. **The international cooperative activities box should be checked and the countries involved selected**. You may list a starting date as early as November 1, 2009 and as late as September 30, 2010.
- **Grants.gov Users:** The PIRE program solicitation number will be pre-populated by Grants.gov on the NSF Grant Application Cover Page. On the SF 424 (R&R) (Cover Page), enter the related preliminary proposal number in Field 4 and an informative title that begins with "PIRE:" in Field 11. You may list a starting date as early as November 1, 2009 and as late as September 30, 2010 in Field 13. On the R&R Other Project Information form, check "Yes" in Field 5.a. and list the countries involved in Field 5.b.
- **Human Subjects:** If the project involves human subjects, the Institutional Review Board (IRB) of the submitting organization must certify that the proposed project is in compliance with the Federal Government's "Common Rule" for the protection of human subjects. If IRB approval has been obtained and the date of approval is listed on the cover sheet, no other certification is required. If IRB approval is still pending, submit certification of IRB approval in electronic form as soon as approval is obtained to the cognizant program officer. (The name of this program officer will be listed in the Proposal Status module of FastLane.) Delays in obtaining IRB certification may result in NSF being unable to make an award. For more information regarding the protection of human subjects, consult http://www.nsf.gov/bfa/dias/policy/hsfaqs.jsp.
- **Use of vertebrate animals**: If the project involves the use of vertebrate animals, the project must be approved by the submitting organization's Institutional Animal Care and Use Committee (IACUC) before an award can be made. For more detail, see NSF's *Proposal and Award Policy and Procedures Guide*, http://www.nsf.gov/pubs/policydocs/pappguide/nsf09_1/nsf091.pdf ; Chapter 2 Section D.6.). If IACUC approval has been obtained and the date of approval is listed on the cover sheet, no other certification is required. If IACUC approval is still pending, submit certification of IACUC approval in electronic form as soon as approval is obtained to the cognizant program officer. (The name of this program officer will be listed in the Proposal Status module of FastLane.) Delays in obtaining IACUC certification may result in NSF being unable to make an award.

A. **Project Summary.** (1-page limit): The project summary must consist of 5 parts. (1) At the top of this page include the title of the PIRE project, the name of the PI, and the lead institution. Also list other key participating institutions/organizations, including key personnel and their institutions from both within and outside the U.S. (2) Describe the unique research and educational opportunities afforded by the international partnership and how the international engagement is synergistic and adds value to these endeavors. (3) Describe the intellectual merit of the proposed project. (4) Describe the broader impacts for the proposed project. (5) At the end of the project summary list the NSF Directorate(s) and/or Office(s) that would be most likely to participate in review and co-funding of the proposal, in order of relevance.

B. **Table of Contents:** The Table of Contents is system generated and cannot be edited.

C. **Project Description:** The project description is limited to a combined total length of 20 pages, inclusive of tables, figures, other graphical data, and Results of Prior Support. Keeping in mind the Program Objectives (section IIA.), describe items 1 through 7, as well as any other creative ways of achieving those objectives. Moreover, in addition to describing the various pieces of a PIRE project, articulate how the separate elements fit together, enhance each other, and form a cohesive whole.

1. **List of Participants:**

    - Include departmental and institution/organization affiliation of the PI, co-PIs, and other Senior Personnel. Recall that an individual based at a U.S. institution may participate on at most one proposal as PI, co-PI, or other Senior Personnel. This list should include the names and institutional affiliations of key domestic and international collaborators, all of whom should have made at least notional commitment to participating in the project.

2. **Plan for International Collaborative Partnership for Integrated Research and Education:**

    - The intellectual collaboration between the U.S. and international partners and how the international collaboration is synergetic and advances the research and education goals; the specific and unique contributions (e.g., expertise, facilities, sites, data, approaches/methods, educational opportunities, etc.) of the international partners.
    - The key research elements of the project including the research focus, hypotheses to be tested, methodologies, and proposed timetable in sufficient detail to allow disciplinary peer review of the merit of the proposed research; why this research represents an important advance that is achievable only through international collaboration.
    - The main educational elements of the project and how they will be integrated with the PIRE research activities; the nature and timing of the international research and education training to be provided to U.S. students and early-career researchers, creative plans for the provision of effective mentoring in both U.S. and international institutions, as well as for the students' scientific and cultural preparation for conducting research abroad and the career development and enrichment to be provided.
    - If the project requests funding to support any **postdoctoral researcher(s)**, it must include, **as a separate section within the 20-page project description**, a description of the mentoring activities that will be provided for such individuals. Examples of such activities are provided in NSF's *Proposal and Award Policies and Procedures Guide*, Chapter II.C.d (http://www.nsf.gov/pubs/policydocs/pappguide/nsf09_1/nsf091.pdf). The mentoring plan will be evaluated during the merit review process, under the Broader Impacts criterion. **Proposals that**

do not include a separate section on mentoring activities within the Project Description will be returned without review.

3. **Institutional Engagement and Impact beyond PI's Research Group:**

   - Procedures and plans for leveraging the PIRE project to have a positive long-term impact on the capacity for international research and education collaborations at the level of, for example, department, faculty/school, institution, and/or multi-institutional consortium or network.
   - Roles and commitments of participating institutions (both domestic and foreign) in facilitating and furthering project plans and goals, and in creating a supportive framework for international collaborative research and education activities on a long-term, sustainable basis. Must include strategies for continuation of the partnership beyond PIRE support.
   - Resources, e.g., language and cultural training programs, curricular assets, and experience of the U.S. institution(s) in international activities, that could contribute to the success and impact of the proposed PIRE project.
   - Use of advanced information and communication technology, cyberinfrastructure and/or new media (e.g. virtual worlds, social networking sites) for collaboration and coordination of teams in ways that advance the research and learning partnership, strengthen the human networking, transcend national boundaries, and overcome the constraints of distance.

4. **International Coordination and Logistics:**

   - Procedures and arrangements for recruiting, selecting, preparing, and sending participants to international sites, including logistical (lodging, transportation, health care, safety, etc.) arrangements, language and cultural issues, and administrative requirements.

5. **Management:**

   - Division of responsibilities among U.S. and international partners, and the integration of the project constituents into a coherent network in pursuit of project goals.
   - Management framework for communication, coordination, and administrative support; plans can include provision for an external advisory body.
   - Overall timetable for research and education activities.
   - Strategies and specific provisions, beyond the norm, for engaging significant participation of underrepresented U.S. groups and institutions, and researchers and students at all levels. As part of a recruitment strategy, PIs are encouraged to establish linkages with NSF-sponsored programs to enhance diversity (e.g., AGEP, LSAMP, HBCU-UP, TCUP, CREST, ADVANCE, all described at http://www.nsf.gov/div/index.jsp?div=HRD), especially at their own institutions, and should describe such linkages in the proposal.
   - A plan for recruiting U.S. citizens and permanent residents. **Note that student and postdoctoral researchers who are U.S. citizens or permanent residents should receive highest priority for financial support by the PIRE grant.**

6. **Assessment:**

   - An assessment plan integral to the development and management of the project. Describe assessment techniques, tools, and metrics that will be used. Address the impact of the project's international dimensions on research and education, on strengthening U.S. institutions as vital hubs for international collaboration and training, and on the career development of individual students and researchers. In addition, it is highly desirable to have a structured means of tracking participating students beyond graduation, with the aim of gauging the magnitude and type of effect that the PIRE experience has had on students' career paths.

7. **Results from Prior NSF Support** (**5-page limit**):

   - The PI, co-PIs, and Senior Personnel on the project who has received NSF funding in the past five years must provide information on the prior award(s). Individuals who have received more than one prior award (excluding amendments) must report on the award most closely related to the proposal. The information required is described in the GPG or Grants.gov Application Guide. Reviewers will be asked to comment on the quality of the prior work described in this section of the proposal. Please note that the proposal may devote up to five pages to describe the results, within the maximum 20 pages of Project Description. Results may be summarized in fewer than five pages, which would leave the remainder of the 20 pages for the Project Description.

     For Renewal Proposals Only: The Project Description narrative must explicitly describe the significant achievements of the prior PIRE award and the added value of the proposed effort beyond that of the previous award. The description must include information on the number of students and early career researchers impacted by the PIRE award, including data on citizenship and participation of underrepresented groups (women, African Americans, Hispanic Americans, Native Americans and persons with disabilities).

D. **References Cited:** Cite references relevant to both the research and educational plans.

E. **Biographical Sketches:** A maximum of 20 biographical sketches may be included; an appropriate mix of U.S. and international investigators is recommended. Additional individuals may be included in the List of Participants, Section (D).1. Prepare the standard 2-page biographical sketches in accordance with the GPG, **including for foreign collaborators**. For each biographical sketch, include a list of recent collaborators and students. In choosing what else to include, emphasize information that will be helpful for understanding the strengths, qualifications, and specific impact the individual brings to the PIRE project.

F. **Current and Pending Support:** Current and pending support for the PI, co-PIs, and Senior Personnel must be included.

G. **Budget and Allowable Costs:** For each year of support requested, provide a budget that is appropriate for the scope and complexity of the project. Budgets do not need to be equal for all years of the project. The system will automatically sum across years to fill in the cumulative multiyear budget for the proposal.

Allowable Costs: It is the expectation that a significant portion of a PIRE award's direct costs will fund undergraduate students, graduate students, and/or early career researchers who are U.S. citizens or permanent

residents to conduct collaborative research-related activities at foreign sites. Allowable costs include:

- **Salaries, wages, and fringe benefits for senior project personnel:** Up to two months per year for the PI and up to one month per year for other senior project personnel, within the limits established by the NSF's most recent *Proposal and Award Policies and Procedures Guide* (http://www.nsf.gov/pubs/policydocs/pappguide/nsf09_1/nsf091.pdf).
- **Salaries, wages, and fringe benefits for postdoctoral scholars, other professionals, graduate students, secretarial-clerical, or administrative staff who will perform dedicated work on the PIRE project.**
- **Equipment:** PIRE is not intended to support the purchase, operation or maintenance of moderate to large equipment. Only limited equipment costs can be included.
- **Travel:** Research-related travel support (i.e., airfare, lodging, meals, and incidental expenses). For living expenses abroad, applicants are encouraged to work with international counterparts to develop realistic budget requests. For example, access to university guest housing or similar facilities should be explored. It is expected that cost-effective arrangements will be made for individuals residing at the international site for extended periods and for projects involving on-going exchanges of short-term visitors. 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.
- **Travel to Washington, D.C. area:** The cost of travel for one PI/co-PI and one student for one trip per year to the Washington, D.C. area to participate in a grantees' meeting, as well as the cost of travel for the PI and one co-PI or Senior Personnel to travel to the Washington, DC area for the mid-project Reverse Site Visit, should be included.
- **Participant Support Costs:** Stipends, travel, subsistence and other costs of participation for undergraduate students receiving international research and education training in PIRE should be included under Participant Support Costs. The stipends for such undergraduate students should be budgeted at rates comparable to those in the Research Experiences for Undergraduates (REU) program (http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5517&from=fund, currently $450 per week) in addition to any travel and subsistence costs incurred while conducting research abroad. Travel, subsistence and other costs of participation in PIRE project meetings and workshops for faculty, researchers and students from non-grantee institutions (who are not included in subawards) should also be included under Participant Support Costs.
- **Expenses related to project assessment:** Examples may include consultant fees for internal or external evaluators, costs of preparing pre- and post-travel questionnaires for project participants, and costs associated with tracking participating students beyond graduation.
- **Other Direct Costs:** "Other" may include, for example, research and education communication linkages between institutions, language training, non-travel costs associated with coordination meetings, and preparation/orientation of students for living abroad.
- **Indirect Costs: Indirect cost rates should follow established institutional policy and negotiated indirect cost rates with respect to the definition of off-campus indirect rates.** The on-campus and off-campus indirect cost calculations must be shown and explained in the budget justification.
- **Note: It is not necessary for budgets to be equally distributed across all years of the project.**
- **Note: NSF awards are normally limited to support of the U.S. portion of the collaboration.** Although reciprocal visits by international researchers and students to the U.S. institutions are encouraged, NSF will not usually pay for the expenses of foreign scientists or students undertaking such visits. However, for projects involving exchanges of researchers and/or students, reciprocal arrangements for provision of housing and subsistence are encouraged, with adherence to the overall principle that each side supports equivalent costs. In PIRE projects where collaborators are scientists and engineers from a developing country or from a country whose currency is not convertible, limited funds may be requested to support their participation in the project; proposers should consult with the OISE program officer(s) responsible for the country(ies) in question (http://www.nsf.gov/od/oise/country-list.jsp .)

For multi-institutional projects, the lead institution should submit the one proposal; other participating U.S. institutions can be included under subawards. Budgets should be provided for the overall project as well as individually for the lead institution and for each participating institution/organization that would receive a subaward.

Budget Justification (5-page limit): Provide a justification for the requested funds in each budget category. Provide detailed information on costs of research stays abroad, including expected number and duration of visits, airfare, subsistence expenses, and other costs. Include a breakdown showing the amount of budget that will support what number of senior researchers, early-career researchers (within six years of the Ph.D.), graduate students, and undergraduate students. With respect to indirect cost rates, provide information on the calculation of indirect costs and the base to which the on-campus and off-campus rates apply. Provide details of anticipated resource commitments of other organizations expected to participate in the PIRE project, such as government, industry, non-U.S. institutions, or private foundations. Appropriate commitments from participating organizations must be included in their letters of commitment (see Supplementary Documentation below).

H. **Facilities, Equipment and Other Resources** (2-page limit): Provide a description of facilities and major instruments that are available in both the U.S. and abroad, in sufficient detail to allow assessment of the adequacy of organizational resources available to perform the effort proposed.

I. **Supplementary Documentation** (Full proposals only)**:**

- **Required:** (1-page limit) A conceptual data management plan that describes how the project fits within NSF's data management policies and the policies of any partners. NSF's policies are described in NSF's *Proposal and Award Policies and Procedures Guide* under the heading "Dissemination and Sharing of Research Results" (http://www.nsf.gov/pubs/policydocs/pappguide/nsf09_1/nsf091.pdf ; Section IV.D.4); several Directorates, Offices and Divisions have additional data management policies that can be found on their websites. The conceptual plan will be considered during the full proposal review process. Because PIRE projects are expected to meet the data policy standards in their relevant disciplinary programs, OISE will defer to the data management policy of the appropriate NSF unit, when such a policy exists, during the full proposal review process.
- **Required:** A letter of commitment from a senior administrator of the submitting institution describing how PIRE resources will be leveraged to have a long-term positive impact on the environment and capacity for successful engagement in international research and education collaboration. No cost-sharing funds are required for PIRE proposals. Letters of commitment from key U.S. and international partners are also required. Letters should provide substantive details regarding the partner's participation in the research and education activities of the proposed project. Letters from international partners should describe the

potential benefits of the project to their side of the partnership and the related support available through their funding mechanisms. At least one of these letters must come from a high-ranking official at each of the major participating institutions. **Up to 20 letters in total may be included.**

Additional Full Proposal Preparation Instructions: Note that any changes in the research team described in the preliminary proposal or any deviations from the scope of the original proposal, must be approved by NSF prior to full proposal submission.

B. Budgetary Information

Cost Sharing: Cost sharing is not required under this solicitation.

Other Budgetary Limitations:

NSF funding can support the participation of PIs, co-PIs, other Senior Personnel, postdoctoral associates, students and support staff affiliated with the U.S. institution(s), when specifically justified in terms of the international collaboration. In almost all cases, international partners should obtain their own funding for participation. As noted above, there may be exceptions for cases where an international collaborator is from a developing country or a country whose currency is not convertible. In rare cases where the project would include a subaward to an international institution, the PI must document that:

- the subaward enables the project to be carried out more effectively than if the funds were administered directly by the U.S. grantee institution; and
- the possibility of indigenous support for the project has been thoroughly explored and found inadequate.

By law, U.S. flag carriers must be used if service provided by such a carrier is available (see Chapter V1.G.1 of the Award and Administration Guide at
http://www.nsf.gov/publications/pub_summ.jsp?ods_key=aag081&org=NSF)

C. Due Dates

- **Preliminary Proposal Due Date(s)** ***(required)*** (due by 5 p.m. proposer's local time)***:***

  February 26, 2009

  Preliminary Proposal Deadline

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

  August 04, 2009

  BY INVITATION ONLY

D. FastLane / Grants.gov Requirements

- **For Proposals Submitted Via FastLane:**

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

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

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

  Before using Grants.gov for the first time, each organization must register to create an institutional profile. Once registered, the applicant's organization can then apply for any federal grant on the Grants.gov website. The Grants.gov's Grant Community User Guide is a comprehensive reference document that provides technical information about Grants.gov. Proposers can download the User Guide as a Microsoft Word document or as a PDF document. The Grants.gov User Guide is available at:
  http://www.grants.gov/CustomerSupport. In addition, the NSF Grants.gov Application Guide provides additional technical guidance regarding preparation of proposals via Grants.gov. For Grants.gov user support, contact the Grants.gov Contact Center at 1-800-518-4726 or by email: support@grants.gov. The Grants.gov Contact Center answers general technical questions related to the use of Grants.gov. Specific questions related to this program solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this solicitation.

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

VI. NSF PROPOSAL PROCESSING AND REVIEW PROCEDURES

Proposals received by NSF are assigned to the appropriate NSF program 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

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 judgements.

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.

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.

Additional Review Criteria:

In addition to the general NSF review criteria described above, the following criteria will be used by reviewers and NSF staff in evaluating preliminary and full proposals submitted in response to this solicitation:

1. Extent to which the international partnership is essential to the completion of the research, is synergistic, and enhances the U.S. research and education effort;
2. Effectiveness at providing strong international research opportunities that include significant professional enrichment for a diverse set of U.S. students and junior researchers;
3. Effectiveness of plans for leveraging the PIRE project to have a positive long-term impact on the environment for international research and education collaborations at a level beyond the research group of the PI;
4. (Full proposals only) Appropriateness of the plan for international coordination and logistics and overall project management, including data management;
5. (Full proposals only) Appropriateness and effectiveness of assessment plan.

B. Review and Selection Process

Proposals submitted in response to this program solicitation will be reviewed by Ad hoc Review and/or Panel Review, or Site Visit 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. In the case of preliminary proposals, the Program Officer will recommend whether a PI is invited to submit a full proposal. Full proposals that are under consideration for funding may also have an additional review via a site visit as needed. The cognizant Program officer for the full proposal will recommend funding or a declination based on *ad hoc,* panel, and where appropriate, site visit reviews.

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

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

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

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

VII. AWARD ADMINISTRATION INFORMATION

A. Notification of the Award

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

B. Award Conditions

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

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

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

C. Reporting Requirements

For all multi-year grants (including both standard and continuing grants), the Principal Investigator must submit an annual project report to the cognizant Program Officer at least 90 days 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.

Failure to provide the required annual or final project reports 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.

In addition to the standard Annual Report forms, PIRE PIs must also provide in the Annual Report information (country(ies) traveled to, duration of stay, research activity undertaken) for all participants, noting their career stage. As part of the reporting requirement, each PIRE will also be required to collect information on management and performance indicators and supply this information to an NSF evaluation technical assistance contractor. Part of this reporting will take the form of a database that will be owned by the institution and eventually made available to the evaluation contractor. This database will capture specific information to demonstrate progress towards achieving the goals of the program. Such reporting requirements will be included in the PIRE awards letters.

VIII. AGENCY CONTACTS

General inquiries regarding this program should be made to:

- Elizabeth Lyons, Program Coordinator, 940N, telephone: (703) 292-7256, fax: (703) 292-9067, email: PIRE-info@nsf.gov
- Anne Emig, Program Manager, 935N, telephone: (703) 292-7241, fax: (703) 292-9067, email: PIRE-info@nsf.gov
- Shireen Yousef, Science Assistant, 940N, telephone: (703) 292-8429, fax: (703) 292-9067, email: PIRE-info@nsf.gov

For questions related to the use of FastLane, contact:

- FastLane Help Desk, telephone: 1-800-673-6188; e-mail: fastlane@nsf.gov.

For questions relating to Grants.gov contact

- Grants.gov Contact Center: If the Authorized Organizational Representatives (AOR) has not received a confirmation message from Grants.gov within 48 hours of submission of application, please contact via telephone: 1-800-518-4726; e-mail: support@grants.gov.

For specific Project Development inquiries: The OISE geographic region/country program manager regarding project development. Contacts are available from the OISE Staff by Country page.

IX. OTHER INFORMATION

The NSF Website provides the most comprehensive source of information on NSF Directorates (including contact information), programs and funding opportunities. Use of this Website by potential proposers is strongly encouraged. In addition, MyNSF (formerly the Custom News Service) 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 Regional 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. MyNSF also is available on NSF's Website at http://www.nsf.gov/mynsf/.

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

More information about the PIRE Program is available on the PIRE Homepage.

Other programs managed by the Office of International Science and Engineering include:

- Developing Global Scientists and Engineers (International Research Experiences for Students (IRES) and Doctoral Dissertation Enhancement Projects (DDEP))
- International Research Fellowship Program (IRFP)
- Pan-American Advanced Studies Institutes Program (PASI)
- East Asia Pacific Summer Institutes for U.S. Graduate Students (EAPSI)
- International Research and Education: Planning Visits and Workshops

Other useful links for PIs submitting proposals to this solicitation include:

"Looking Beyond the Borders: A Project Director's Handbook of Best Practices for International Research Experiences for Undergraduates"

NSF's User-Friendly Handbook for Mixed Method Evaluations

RESOURCES FOR RECRUITING A DIVERSE SET OF PARTICIPANTS: To learn more about federal funding of Minority-Serving Institutions that might be potential partners, see Science Diversity Portal. For additional information on NSF programs aimed at broadening participation in science and engineering fields, see the homepage of NSF's Division of Human Resource Development (HRD).

ABOUT THE NATIONAL SCIENCE FOUNDATION

The National Science Foundation (NSF) is an independent Federal agency created by the National Science Foundation Act of 1950,

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

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

NSF receives approximately 40,000 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 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: pubs@nsf.gov

  or telephone: (703) 292-7827
- **To Locate NSF Employees:** (703) 292-5111

PRIVACY ACT AND PUBLIC BURDEN STATEMENTS

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