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International Research Experiences for Students (IRES)

PROGRAM SOLICITATION

NSF 19-585

REPLACES DOCUMENT(S):

NSF 18-505



National Science Foundation

Office of International Science and Engineering

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

September 10, 2019

Second Tuesday in September, Annually Thereafter

Track - I: IRES Sites

September 17, 2019

Third Tuesday in September, Annually Thereafter

Track-II: Advanced Studies Institutes

September 24, 2019

Fourth Tuesday in September, Annually Thereafter

Track - III: New Concepts in International Graduate Experience

IMPORTANT INFORMATION AND REVISION NOTES

- The total maximum budget for an IRES Track II (Advanced Studies Institutes) proposal is now limited to \$400,000.; previously, there was no cap.
- Eligibility for Track III is changed. Single-institution proposals are no longer accepted from any entity; previously, such proposals were accepted from non-academic professional organizations.
- Added an option of (smaller-scale) Pilot Projects in Track III.

Any proposal submitted in response to this solicitation should be submitted in accordance with the revised *NSF Proposal & Award Policies & Procedures Guide* (PAPPG) ([NSF 19-1](#)), which is effective for proposals submitted, or due, on or after February 25, 2019.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

International Research Experiences for Students (IRES)

Synopsis of Program:

The International Research Experiences for Students (IRES) program supports international research and research-related activities for U.S. science and engineering students. The IRES program contributes to development of a diverse, globally-engaged workforce with world-class skills. IRES focuses on active research participation by undergraduate or graduate students in high quality international research, education and professional development experiences in NSF-funded research areas.

The overarching, long-term goal of the IRES program is to enhance U.S. leadership in research and education and to strengthen economic competitiveness through training the next generation of research leaders.

This solicitation features three mechanisms; proposers are required to select one of the following tracks to submit their proposal.

Track I focuses on the development of world-class research skills in international cohort experiences. Track II is dedicated to targeted, intensive learning and training opportunities that leverage international knowledge at the frontiers of research. Track III supports U.S. institutional collaborations to develop, implement and evaluate innovative models for high-impact, large-scale international research and professional development experiences for U.S. graduate students.

Student participants supported by IRES funds must be citizens, nationals, or permanent residents of the United States.

Students do not apply directly to NSF to participate in IRES activities. Students apply to NSF-funded investigators who receive IRES awards. To identify appropriate IRES projects, students should consult the directory of active [IRES awards](#).

All PIs, co-PIs and Senior Personnel on IRES proposals must be from U.S. based institutions.

1. **IRES - Track I: IRES Sites (IS)** projects engage a group of undergraduate and/or graduate students in active high-quality collaborative research at an international site with mentorship from researchers at a host lab. IRES Sites must be organized around a coherent intellectual theme that may involve a single discipline or multiple disciplines funded by NSF.
2. **IRES - Track II: Advanced Studies Institutes (ASI)** are intensive short courses with related activities that engage advanced graduate students in active learning and research at the frontiers of knowledge. ASIs typically range in length from ten to twenty-one days and must be held outside the United States. ASIs must have a compelling rationale for their international location and should involve distinguished active researchers in the target field from the U.S. and abroad. ASIs should enable students to develop skills and broaden professional networks, leveraging international participation and complementary resources (expertise, facilities, data, field site, etc.) for mutual benefit.
3. **IRES - Track III: New Concepts in International Graduate Experience (IGE)** The IGE IRES track invites teams of PIs to propose, implement, evaluate and disseminate innovative large-scale programs (models) for providing high-quality international research and research-related professional development experiences to U.S. graduate students. The PIs should explain how their innovative program (model) could potentially be adaptable beyond the immediate disciplinary fields involved in their proposal. The proposals should be designed from the viewpoint of graduate-level STEM research/training, and globally engaged STEM workforce development. The proposals should be grounded in relevant literature on graduate STEM research/training, education, and graduate level international experiences.

U.S. graduate students recruited from a broad, diverse applicant pool should travel to non-U.S. locations for periods of several weeks to a semester for immersive experiences under the mentorship of appropriate collaborators. The proposed international graduate research experience model may focus on research and research-related activities in any NSF-funded area(s). Proposals that utilize, leverage and expand existing global networks and infrastructure are strongly encouraged.

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, telephone: (703) 292-4940, email: mkukla@nsf.gov
- Fahmida N. Chowdhury, telephone: (703) 292-4672, email: fchowdhu@nsf.gov

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

- 47.079 --- Office of International Science and Engineering

Award Information

Anticipated Type of Award:

Standard Grant or Continuing Grant

Estimated Number of Awards:

30 to 35

Track- I: IRES Sites. Approximately 20-25 awards will be made in FY 2020, pending quality of proposals and availability of funds.

Track- II: Advanced Studies Institutes. Approximately 5-7 awards will be made in FY 2020 pending quality of proposals and availability of funds.

Track- III: New Concepts in International Graduate Experience. Approximately 3-5 awards will be made in FY 2020, pending quality of proposals and availability of funds.

Anticipated Funding Amount:

\$13,000,000

Approximately \$13,000,000 in FY 2020, pending availability of funds.

Track- I: IRES Sites. Up to \$300,000 per award. For exceptionally creative proposals, awards up to \$400,000 will be considered.

Track- II: Advanced Studies Institutes. Typically, an average ASI budget is \$150,000 for each institute. Proposals involving a series of institutes are permitted when well-justified. The overall total budget for Track II proposals should not exceed \$400,000.

Track- III: New Concepts in International Graduate Experience. Up to \$1,000,000 per award. Smaller budgets (\$400,000 - \$600,000) appropriate for highly innovative models that may serve as pilots.

Eligibility Information

Who May Submit Proposals:

Proposals may only be submitted by the following:

- Institutions of Higher Education (IHEs) - Two- and four-year IHEs (including community colleges) accredited in, and having a campus located in the US, acting on behalf of their faculty members. Special Instructions for International Branch Campuses of US IHEs: If the proposal includes funding to be provided to an international branch campus of a US institution of higher education (including through use of subawards and consultant arrangements), the proposer must explain the benefit(s) to the project of performance at the international branch campus, and justify why the project activities cannot be performed at the US campus.
- Non-profit, non-academic organizations: Independent museums, observatories, research labs, professional societies and similar organizations in the U.S. associated with educational or research activities.

Who May Serve as PI:

There are no restrictions or limits.

Limit on Number of Proposals per Organization:

There are no restrictions or limits.

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

An individual may serve as Lead Principal Investigator (PI) or Co-PI on only one proposal submitted to the IRES program per annual competition.

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **Letters of Intent:** Not required
- **Preliminary Proposal Submission:** Not required
- **Full Proposals:**
 - Full Proposals submitted via FastLane: *NSF Proposal and Award Policies and Procedures Guide (PAPPG)* guidelines apply. The complete text of the PAPPG is available electronically on the NSF website at: https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pappg.
 - Full Proposals submitted via Research.gov: *NSF Proposal and Award Policies and Procedures Guide (PAPPG)* guidelines apply. The complete text of the PAPPG is available electronically on the NSF website at: https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pappg.
 - 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: https://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide).

B. Budgetary Information

- **Cost Sharing Requirements:**

Inclusion of voluntary committed cost sharing is prohibited.
- **Indirect Cost (F&A) Limitations:**

Not Applicable
- **Other Budgetary Limitations:**

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

C. Due Dates

- **Full Proposal Deadline(s)** (due by 5 p.m. submitter's local time):
 - September 10, 2019
 - Second Tuesday in September, Annually Thereafter
 - Track - I: IRES Sites
 - September 17, 2019
 - Third Tuesday in September, Annually Thereafter
 - Track-II: Advanced Studies Institutes
 - September 24, 2019
 - Fourth Tuesday in September, Annually Thereafter

Proposal Review Information Criteria

Merit Review Criteria:

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

Award Administration Information

Award Conditions:

Standard NSF award conditions apply.

Reporting Requirements:

Standard NSF reporting requirements apply.

TABLE OF CONTENTS

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/Research.gov/Grants.gov](https://www.fastlane.gov/Research.gov/Grants.gov) Requirements**
- VI. **NSF Proposal Processing and Review Procedures**
 - A. **Merit Review Principles and 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

Science and engineering research increasingly requires international teams to solve the most complex challenges. Accordingly, leading scientific and engineering facilities, resources, and expertise are distributed around the globe. To remain at the forefront of science, technology, engineering, and mathematics (STEM), the United States must train and nurture a cadre of globally-engaged STEM students who will thrive in the rapidly changing international landscape. To advance this objective and enhance U.S. leadership in research, the International Research Experiences for Students program provides three mechanisms to support U.S. students to conduct excellent research and engage in high-quality research-related activities abroad in collaboration with foreign investigators.

IRES projects contribute to the development of a globally competitive and diverse scientific workforce for increased U.S. economic competitiveness. IRES experiences expose U.S. students to the international research community at a critical stage in their careers and serve to establish international networks to bolster their professional development. IRES supports activities designed in partnerships with researchers outside the U.S. and conducted at international sites, leveraging U.S. and international resources for mutual benefit.

The IRES program accepts projects in any disciplinary field that NSF supports. Topics in multi-disciplinary and convergent areas of research, training and professional development are encouraged. The IRES program strengthens the pipeline from undergraduate to graduate and beyond. In addition, K-12 teachers may take part in IRES Track-I projects through the NSF Research Experience for Teachers (RET) program. IRES projects in all three tracks are organized and proposed by U.S. institutions and U.S.-based Principal Investigators who choose the topics and foreign site placements; appropriate foreign mentorship and necessary resources; and recruit and prepare U.S. students to participate in the experiences.

II. PROGRAM DESCRIPTION

A. General

IRES projects in all tracks may involve collaboration within an already-established partnership between a U.S.-based research group and a foreign research group (e.g., an existing lab-to-lab arrangement, U.S. and foreign professional societies, etc.). Alternatively, IRES projects may propose to initiate new international collaborations, interactions, or create new international research teams/networks.

Although two-way exchanges of U.S. and foreign students are strongly encouraged, the IRES program typically provides support only for the U.S. students. The IRES program does not provide salary support for the foreign research mentors, although it supports research and related expenses for the U.S. team while in an international location.

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

In all cases, the IRES students/participants will be recruited and trained by the U.S. PI(s). Students/participants will travel to the foreign site to conduct research, participate in training and professional development activities or other tasks (as appropriate for the specific track of the project) under the direct supervision of the foreign research mentor(s) (Track I), or joint mentorship of US and international lecturers/researchers/scholars (Tracks II and III). It is expected that each year, a different group of students will participate in the IRES program.

Track I and Track III IRES awards will be for three years, while Track II can be three years or shorter.

Awardees will be required to participate in program-level evaluation by NSF. NSF, an NSF contractor, or a grantee on behalf of NSF, may periodically conduct program evaluations or special projects that necessitate access to project level staff and data. This activity may occur at any time during the grant period and could occur after the grant has ended. Project-level participation includes responding to inquiries, interviews and other methods of common data collection and/or aggregation across individual grants.

B. Track - I: *IRES Sites (IS)*

IRES Site proposals must have a unifying research theme that enables a cohort experience for participating undergraduate and/or graduate students to collaborate with international partners. The cohort concept requires that within an IRES project, each participating student must have an individual research project for which he/she is responsible. Individual student projects must be coordinated to address the unifying research theme. To provide the best cohort experience and to simplify logistical burdens, it is suggested that all students supported by a given IRES project travel to the foreign location(s) at the same time. However well-justified alternative approaches will be considered. If students are to be hosted at more than one location, it is expected that their projects will address a common scientific theme across locations. The proposal should include a plan for all participants to be reunited at one foreign location at least once during the overseas trip.

IRES Sites support projects of three-year duration. Projects should support separate student cohorts each year. IRES Sites projects should give as many students as feasible, within budgetary and project constraints, the opportunity for a meaningful research experience abroad. Projects that 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.

Substantial research mentorship must be provided by foreign mentors. 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. U.S. PIs are not required to remain on-site with the U.S. students throughout the period abroad but are encouraged to use remote means to co-mentor.

Recruitment of the U.S. student participants may occur locally, or may involve wider regional or national recruitment plans, as appropriate for the specific Track and the specific project. In all cases, the proposal must clearly describe the plan for recruiting candidates, including how the project will broaden participation from underrepresented groups. The plan should also address the process 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 U.S. students. Preparation of the students to enable maximum benefit during the period spent abroad is particularly important, and should be both scientific and location-specific, including practical and cultural information. The IRES program does not support coursework or development of instructional materials for teaching.

Proposals should describe the research focus of the proposed activity; the intellectual collaboration with and mutual benefit for the foreign team; the plan for enhancement of student training and professional development; details of the mentoring plan; recruitment and broadening participation plans; selection process; the pre-departure preparation of students and follow up activities; 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.

Research Experiences for Teachers (RET)

NSF encourages research experiences for K-12 teachers of science, technology, engineering, and mathematics and the coordination of these experiences with IRES projects. Teachers may be included in IRES Site projects. Applicants who wish to include an RET in an IRES proposal should contact the cognizant IRES program officer for guidance.

C. Track - II: *Advanced Studies Institutes (ASI)*

Track II invites proposals for a single advanced studies institute or for a series of ASIs over several years. ASI themes/topics must address a meaningful spectrum within a broad area or subfield of a chosen discipline, or a suitably defined multi-disciplinary theme. PIs proposing a series of ASIs should enumerate the entire set of topics they wish to address during the life of the grant. Proposals with bold vision and in emergent fields are encouraged.

Advanced Studies Institutes focus on advanced graduate students. Faculty and research scientists serve as lecturers and mentors. PIs are encouraged to include students from the host country or from other countries. Foreign students are expected to obtain their own source of support and should not exceed 50% of the total number of student participants. PIs are encouraged to explore ways of leveraging support from relevant institutions in the host country. ASI projects will typically be 2-3 years in duration. Different groups of students should be recruited for each ASI. All ASI proposals must include a syllabus, a rationale for the

choice of topics, and a justification for the geographic location (or set of locations throughout the project duration). ASI proposals will be accepted in all NSF-supported fields, including interdisciplinary or convergent topics.

The PI is responsible for:

- preparation of the scientific and/or engineering program,
- selection of lecturers/researchers and student participants with an emphasis on broadening participation,
- administration of the ASI,
- publication of lectures and proceedings from the activity through various media, and dissemination including the development of a website for the ASI.

The PI should be assisted by an Organizing Committee. Brief professional background summaries and descriptions of the role to be played by each member of the Organizing Committee are required for the proposal. Proposals that are of an applied nature, and especially where relevance to industry is claimed, should include a noted industrial scientist or engineer on the Organizing Committee.

The choice of ASI lecturers and graduate student participants is the responsibility of the PI assisted by the Organizing Committee. The procedure for such choices must be clearly outlined in the proposal. The selection procedures should serve to recruit a highly qualified and diverse group of lecturers and participants.

ASI lecturers should be chosen on the basis of their scientific, engineering, and training qualifications. Lecturers should be contacted before submission of the proposal. An indication of their commitment (Letters of Support) must be included in the proposal.

Proposers must develop a publicly available web page of sufficient duration to provide up-to-date information on the ASI. The website should include details on the activity including recruitment procedures, meeting topics, related activities, lecture notes, and links to publications, seminars, and collaborative research. Plans for dissemination of results of the meeting, including lecture notes and web-related instructional materials, must be part of the proposal.

D. Track - III: New Concepts in International Graduate Experience

To fully participate and engage in today's global science and engineering enterprise, U.S. graduate students need international exposure and experience to develop skills and build professional networks in international collaborative environments. With that motivation, the IRES IGE track seeks novel, high-impact, large-scale approaches and innovative models for providing international research and research-related professional development experiences to U.S. graduate students in NSF-supported disciplines, multidisciplinary fields, as well as convergent and emergent topics.

These innovative "models" refer to international aspects of graduate research and training/education and should be considered as prototypes for potential adaptation and implementation beyond the immediate scope of the current proposal. Proposals must be grounded in relevant literature involving graduate research and graduate-level international experiences.

Proposals should present models/mechanisms that provide graduate students with new, transferable skills that transcend their disciplinary training, and build their professional networks. Graduate students recruited from a broad, diverse, multi-university or nationwide applicant pool should travel to non-US locations for periods of several weeks to a full semester for immersive experiences in research, education, training and professional development under the mentorship of appropriate partners and collaborators. Successful IGE proposals will be grounded in literature, informed by evidence-based models for global engagement in research and professional development, and present bold, long-term visions for internationalizing graduate experiences; moreover, they will propose feasible approaches and pathways for implementing their vision as well as evaluating and disseminating the success of their projects to the broader STEM community. The references below are provided as a few examples of recent literature on this topic; there is an increasing body of literature that PIs should consult before developing their proposals.

1. A recent NSF-sponsored workshop entitled "Best Practices in International Research Experiences for Graduate Students" examined various aspects of international experiences for STEM graduate students; the report is available at <http://nsfworkshop.wp.tulane.edu/wp-content/uploads/sites/378/2019/04/NSF-2019-Workshop-on-International-Research-Experiences-Final-Report.pdf>. IGE PIs should consult this report while developing their proposals.
2. A report released by the Council of Graduate Schools (CGS) provides a set of recommendations for professional development of STEM graduate students (http://cgsnet.org/ckfinder/userfiles/files/CGS_ProfDev_STEMGrads16_web.pdf).
3. The report from a workshop entitled "Investigating the International Experiences in STEM Graduate Education and Beyond", http://cgsnet.org/ckfinder/userfiles/files/WO_1_A%20FIN-Assessing-Intl-Ed-Report-3-2012.pdf.
4. Mapping Internationalization on U.S. Campuses: 2017 Edition <http://www.acenet.edu/news-room/Documents/Mapping-Internationalization-2017.pdf>.

Each Track III (New Concepts in International Graduate Experience) proposal will provide international research and research-related professional development experiences to a significant number of graduate students. Proposals should present the proposed new concept and implementation mechanism, including rationale and expected professional development impact on the graduate students; description of proposed international activities, along with plans for recruitment, selection, preparation, mentoring, post-trip follow up and evaluation. Proposals should also include a description of the administrative and management structure for the program. An essential and crucial factor in successful IGE programs is the role of the graduate students' thesis advisors and research mentors at their home institutions. PIs of IGE proposals should explicitly describe in the proposal how these advisors/mentors will be engaged in the project. The student experiences may include any of a wide variety of international collaborative activities, but must go beyond solely data collection, fieldwork or conference attendance; these programs should include active engagement with researchers at the international location. Collaboration with professional societies and non-academic organizations will strengthen IGE proposals.

The main features of the IGE program are:

- Student experiences may focus on research and research-related activities in any NSF-supported area, including multidisciplinary, convergent, and emergent fields.
- The proposed activities may involve one or more international locations.
- Each year a new set of graduate students should be supported, with special attention given to broadening participation of underrepresented minorities and those without prior international research experience.
- These projects should serve as new models for providing international experiences to U.S. STEM graduate students.

IRES at a glance

Track	Typical Activity Duration/Award Duration	Budget	Envisioned Activity

I: IRES Sites	6-10 weeks per year; award for 3 years	Up to \$300,000; up to \$400,000 in exceptional circumstances	Cohort-based research projects at a foreign lab
II: Advanced Studies Institutes	1-3 weeks per event; award for up to 3 years	As needed and appropriate. Average is \$150,000 per ASI. For multi-event proposals, maximum \$400,000 total	Intensive, thematic, focused research frontiers exploration; multidisciplinary and emergent fields encouraged
III: New Concepts in International Graduate Experience	Activity duration can be variable; award for 3 years	Up to \$1,000,000. Smaller (\$400,000 - \$600,000) for pilots	Individual or group projects, or a combination; research, training, professional development

III. AWARD INFORMATION

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 35-40 awards in FY 2020. This includes support by all mechanisms described in this IRES solicitation.

IV. ELIGIBILITY INFORMATION

Who May Submit Proposals:

Proposals may only be submitted by the following:

- Institutions of Higher Education (IHEs) - Two- and four-year IHEs (including community colleges) accredited in, and having a campus located in the US, acting on behalf of their faculty members. Special Instructions for International Branch Campuses of US IHEs: If the proposal includes funding to be provided to an international branch campus of a US institution of higher education (including through use of subawards and consultant arrangements), the proposer must explain the benefit(s) to the project of performance at the international branch campus, and justify why the project activities cannot be performed at the US campus.
- Non-profit, non-academic organizations: Independent museums, observatories, research labs, professional societies and similar organizations in the U.S. associated with educational or research activities.

Who May Serve as PI:

There are no restrictions or limits.

Limit on Number of Proposals per Organization:

There are no restrictions or limits.

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

An individual may serve as Lead Principal Investigator (PI) or Co-PI on only one proposal submitted to the IRES program per annual competition.

Additional Eligibility Info:

Track III only:

Track III will only accept multi-institutional collaborative proposals (see PAPPG https://www.nsf.gov/pubs/policydocs/pappg19_1/pappg_2.jsp#ID3). If there are more than two institutions involved, some participants may be sub-awardees, but at least two major participants must submit as Lead and non-Lead of a multi-institutional collaborative. Participation (as Lead or non-Lead) of professional scientific/engineering societies, associations and similar organizations that are directly associated with STEM education and/or research activities is strongly encouraged. Proposals from single institutions/organizations will not be accepted and will be returned without review.

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

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

- 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 Proposal & Award Policies & Procedures Guide* (PAPPG). The complete text of the PAPPG is available electronically on the NSF website at: https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pappg. Paper copies of the PAPPG may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from nsfpubs@nsf.gov. Proposers are reminded to identify this program solicitation number in the program solicitation block on the NSF Cover Sheet For Proposal to the National Science Foundation. Compliance with this requirement is critical to determining the relevant proposal processing guidelines. Failure to submit this information may delay

processing.

- Full Proposals submitted via Research.gov: Proposals submitted in response to this program solicitation should be prepared and submitted in accordance with the general guidelines contained in the *NSF Proposal and Award Policies and Procedures Guide* (PAPPG). The complete text of the PAPPG is available electronically on the NSF website at: https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pappg. Paper copies of the PAPPG may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from nsfpubs@nsf.gov. The Prepare New Proposal setup will prompt you for the program solicitation number.
- 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: (https://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.

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

Collaborative Proposals. All collaborative proposals submitted as separate submissions from multiple organizations must be submitted via the NSF FastLane system. PAPPG Chapter II.D.3 provides additional information on collaborative proposals.

See PAPPG Chapter II.C.2 for guidance on the required sections of a full research proposal submitted to NSF. Please note that the proposal preparation instructions provided in this program solicitation may deviate from the PAPPG instructions.

The information below supplements the standard PAPPG 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.** Give a proposal title beginning with "IRES:" and the track number (for instance, "IRES Track I:...") followed by a descriptive title of the proposed activities. For collaborative proposals arranged as separate submissions from multiple organizations, the project title must begin with the words "Collaborative Research:" followed by the applicable solicitation specific prefix noted previously. 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).** In the overview, the PI must clearly present the foreign countries involved, the number of undergraduate and/or graduate student participants per year and for the total duration of the project, and the number of days or weeks per year that the students will participate in IRES activities. Include the names and institutional affiliations of key of U.S. and foreign collaborators and briefly note their roles in the proposed activities. Summarize the research topic(s) and highlight the collaborative aspects of the activity.
3. **Project Description and Results from Prior NSF Support. Project descriptions must include separately labeled sections on Intellectual Merit and Broader Impacts (see PAPPG), and in addition, the following IRES elements appropriate to the chosen track:**
 - o **Overview.** Present the overall project goals and expected achievements. For Track I (IRES Sites), provide a brief description of the overarching theme and research focus of the proposed activity, including specific science challenges to be addressed, rationale for conducting the project internationally, and examples of research projects that individual students will conduct during their time abroad. For Track II, describe the theme/topic(s) of the ASI and the motivation behind choosing the topic(s) and the location. Track III proposals should present the novelty of the proposed International Graduate Experience model.
 - o **Nature of Activities.** Proposals should address the intellectual/professional collaboration with the foreign team and/or lecturers/mentors, as appropriate for the specific track. For IRES Sites, provide detailed descriptions of sample research projects students will pursue. For Track II, present the activities of the institute being proposed. Track III proposals should use this section to summarize the combination of international research, training and professional development activities students are expected to undertake. Also for Track III proposals, PIs are required to put a separate subsection entitled "Novelty of the proposed model and its potential broader applicability/adaptability". In this subsection, present the novelty of your model and explain how your model is different from other well-known methods of providing international experiences to STEM graduate students. Describe how this new concept might be applicable or adaptable to other fields beyond the immediate scope of the current project.
 - o **The Research Environment.** Describe the unique expertise, facilities, data, and/or other resources that will be available to IRES students, as appropriate for the specific track. Describe why the particular collaborator(s) and foreign site(s) is/are desirable for the proposed project from a scientific and/or professional development standpoint, as well as why the particular site is suitable for hosting and mentoring U.S. students.
 - o **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 students from groups underrepresented in science and engineering. IRES student participants must be U.S. citizens, nationals or permanent residents.
 - o **Logistics.** The proposal should describe plans for pre-departure preparation and post-trip follow-up of U.S. student participants, arrangements for housing, health insurance and other logistics.
 - o **Leveraging Resources.** Discuss plans for leveraging U.S. or foreign resources to strengthen the project, such as, taking advantage of existing facilities, IT infrastructure, academic centers, field sites, language instruction, international programming, or cultural activities.
 - o **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.
 - o **Project Evaluation, Dissemination and Reporting.** Discuss plans to a) measure qualitatively and quantitatively the IRES project in terms of project goals and achievements as well as student research and professional development experiences, b) track impacts over time, c) disseminate results of the research within the appropriate scientific disciplinary community, and d) publicize the IRES project student experiences in ways that will share the benefits across a wider body of U.S. STEM students and encourage other students to engage internationally. **In addition, for Track III** present your plans for disseminating your model to other communities (beyond your immediate disciplinary scope) involved in graduate STEM research and training.
4. **Supplementary Documentation:**
 - o Biographical sketches for principal foreign collaborators are required. Sketches must be in English and must adhere to the format given in the [PAPPG](#) (Chapter II.C.2.f)
 - o Letters of Collaboration from foreign researchers/collaborators who will serve as the mentor(s) for the IRES students or participate in the project in some other manner, for example, ASI lecturers or IGE collaborators. These letters must clearly and concisely state 1) what infrastructure, resources, expertise etc. will be available to IRES participants at the international site, 2) what particular roles the foreign mentors, lecturers, or collaborators will play in the IRES project, and 3) how foreign collaborators and/or their organizations will benefit from participation in the IRES project. This solicitation requires these descriptive letters of collaboration in lieu of the standard PAPPG language.

B. Budgetary Information

Cost Sharing:

Inclusion of voluntary committed cost sharing is prohibited.

Other Budgetary Limitations:

IRES budgets support the U.S. portion of international collaborations. Reasonable honoraria for non-U.S. ASI lecturers are allowed. Foreign collaborators cannot be assigned as PIs, co-PIs or Senior Personnel. Subawards to foreign institutions or international branch campuses of U. S. institutes of higher education are not allowed. IRES budgets are expected to mostly support students and their research-related expenses.

IRES projects have duration of two-four years, and a maximum total budget as designated for each track:

Track I: Up to \$300,000, with awards up to \$400,000 considered in exceptional circumstances

Track II: As appropriate. Average budget is \$150,000 per institute. Proposals for a series of institutes are permitted when well-justified, total budget not to exceed \$400,000

Track III: Up to \$1,000,000 for large-scale projects. Smaller (\$400,000 to \$600,000) for pilot projects.

C. Due Dates

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

September 10, 2019

Second Tuesday in September, Annually Thereafter

Track - I: IRES Sites

September 17, 2019

Third Tuesday in September, Annually Thereafter

Track-II: Advanced Studies Institutes

September 24, 2019

Fourth Tuesday in September, Annually Thereafter

Track - III: New Concepts in International Graduate Experience

D. FastLane/Research.gov/Grants.gov Requirements

For Proposals Submitted Via FastLane or Research.gov:

To prepare and submit a proposal via FastLane, see detailed technical instructions available at: <https://www.fastlane.nsf.gov/a1/newstan.htm>. To prepare and submit a proposal via Research.gov, see detailed technical instructions available at: https://www.research.gov/research-portal/appmanager/base/desktop?_nfpb=true&_pageLabel=research_node_display&_nodePath=/researchGov/Service/Desktop/ProposalPreparationandSubmission.html. For FastLane or Research.gov user support, call the FastLane and Research.gov Help Desk at 1-800-673-6188 or e-mail fastlane@nsf.gov or rgov@nsf.gov. The FastLane and Research.gov Help Desk answers general technical questions related to the use of the FastLane and Research.gov systems. Specific questions related to this program solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this funding opportunity.

For Proposals Submitted Via Grants.gov:

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

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

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

VI. NSF PROPOSAL PROCESSING AND REVIEW PROCEDURES

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

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

Proposers should also be aware of core strategies that are essential to the fulfillment of NSF's mission, as articulated in *Building the Future: Investing in Discovery and Innovation - NSF Strategic Plan for Fiscal Years (FY) 2018 – 2022*. These strategies are integrated in the program planning and implementation process, of which proposal review is one part. NSF's mission is particularly well-implemented through the integration of research and education and broadening participation in NSF programs, projects, and activities.

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

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

A. Merit Review Principles and Criteria

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

1. Merit Review Principles

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

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

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

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

2. Merit Review Criteria

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

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

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

- **Intellectual Merit:** The Intellectual Merit criterion encompasses the potential to advance knowledge; and

Broader Impacts: The Broader Impacts criterion encompasses the potential to benefit society and contribute to the achievement of specific, desired societal outcomes.

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

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

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

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

Additional Solicitation Specific Review Criteria

Additional Solicitation Specific Review Criteria for all IRES proposals.

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. The appropriateness of the selection of lecturers/researchers/mentors and host institution or location arrangements, including the opportunity for US students to benefit from the expertise, facilities, etc., of the foreign location.
3. Plans to enhance the project's effectiveness and impact on student professional development after the overseas experience is completed and to disseminate results.
4. Quality of the proposed evaluation plans.

Additional Solicitation Specific Review Criteria for Track - I: IRES Sites.

1. 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, as well as plans for post-trip follow up.
2. 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.

Additional Solicitation Specific Review Criteria for Track - II: Advanced Studies Institutes

1. Quality of the proposed ASI curriculum design.
2. Appropriateness of the selection of lecturers/researchers, foreign location and international engagement in relation to the proposed ASI topic area.

Additional Solicitation Specific Review Criteria for Track - III: New Concepts in International Graduate Experience.

1. Novelty of the proposed new concept/model compared to existing and well-known ways of providing international experiences to STEM graduate students.
2. Adaptability of the proposed new concept/model to broader STEM communities beyond the immediate scope of the current proposal.

B. Review and Selection Process

Proposals submitted in response to this program solicitation will be reviewed by

Ad hoc Review and/or Panel Review.

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

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

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

signed by the NSF Grants and Agreements Officer does so at their own risk.

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

VII. AWARD ADMINISTRATION INFORMATION

A. Notification of the Award

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

B. Award Conditions

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

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

More comprehensive information on NSF Award Conditions and other important information on the administration of NSF awards is contained in the NSF *Proposal & Award Policies & Procedures Guide* (PAPPG) Chapter VII, available electronically on the NSF Website at https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pappg.

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 no later than 90 days prior to the end of the current budget period. (Some programs or awards require submission of more frequent project reports). No later than 120 days following expiration of a grant, the PI also is required to submit a final project report, and a project outcomes report for the general public.

Failure to provide the required annual or final project reports, or the project outcomes report, will delay NSF review and processing of any future funding increments as well as any pending proposals for all identified PIs and co-PIs on a given award. PIs should examine the formats of the required reports in advance to assure availability of required data.

PIs are required to use NSF's electronic project-reporting system, available through Research.gov, for preparation and submission of annual and final project reports. Such reports provide information on accomplishments, project participants (individual and organizational), publications, and other specific products and impacts of the project. Submission of the report via Research.gov constitutes certification by the PI that the contents of the report are accurate and complete. The project outcomes report also must be prepared and submitted using Research.gov. This report serves as a brief summary, prepared specifically for the public, of the nature and outcomes of the project. This report will be posted on the NSF website exactly as it is submitted by the PI.

More comprehensive information on NSF Reporting Requirements and other important information on the administration of NSF awards is contained in the NSF *Proposal & Award Policies & Procedures Guide* (PAPPG) Chapter VII, available electronically on the NSF Website at https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pappg.

VIII. AGENCY CONTACTS

Please note that the program contact information is current at the time of publishing. See program website for any updates to the points of contact.

General inquiries regarding this program should be made to:

- Maija M. Kukla, telephone: (703) 292-4940, email: mkukla@nsf.gov
- Fahmida N. Chowdhury, telephone: (703) 292-4672, email: fchowdhu@nsf.gov

For questions related to the use of FastLane or Research.gov, contact:

- FastLane and Research.gov Help Desk: 1-800-673-6188

FastLane Help Desk e-mail: fastlane@nsf.gov.

Research.gov Help Desk e-mail: rgov@nsf.gov

For questions relating to Grants.gov contact:

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

IX. OTHER INFORMATION

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

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

ABOUT THE NATIONAL SCIENCE FOUNDATION

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

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

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

Facilitation Awards for Scientists and Engineers with Disabilities (FASSED) provide funding for special assistance or equipment to enable persons with disabilities to work on NSF-supported projects. See the *NSF Proposal & Award Policies & Procedures Guide* Chapter II.E.6 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 <https://www.nsf.gov/>

- **Location:** 2415 Eisenhower Avenue, Alexandria, VA 22314
- **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
 - or telephone: (703) 292-7827
- **To Locate NSF Employees:** (703) 292-5111

PRIVACY ACT AND PUBLIC BURDEN STATEMENTS

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

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

Suzanne H. Plimpton
Reports Clearance Officer
Office of the General Counsel
National Science Foundation
Alexandria, VA 22314

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