

Research Experiences for Teachers (RET) in Engineering and Computer Science

Sites and Supplements

PROGRAM SOLICITATION

NSF 24-503

REPLACES DOCUMENT(S):

NSF 21-606



National Science Foundation

Directorate for Engineering

Engineering Education and Centers

Directorate for Computer and Information Science and Engineering

Division of Computer and Network Systems

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

January 29, 2024

October 09, 2024

Second Wednesday in October, Annually Thereafter

for RET Site Proposals

IMPORTANT INFORMATION AND REVISION NOTES

The teacher stipend amount for RET Sites and Supplements has been increased from a maximum of \$10,000 to \$15,000 including up to \$2,000 for the cost of materials, equipment, software, and other supplies for developing classroom instructions and experiments.

The required number of participants for RET Sites has been changed to 8-10 teachers.

NSF's Education & Training Application (ETAP) is described and encouraged as a means of managing teacher applications and collecting teacher demographic information.

Additional detail is included on RET teacher participant reporting requirements.

A description of a new partnership with the Department of Energy (DOE), which offers the possibility of DOE co-funding for relevant RET Site proposals, has been added to the "Other Opportunities" section.

Any proposal submitted in response to this solicitation should be submitted in accordance with the *NSF Proposal & Award Policies & Procedures Guide* (PAPPG) that is in effect for the relevant due date to which the proposal is being submitted. The NSF PAPPG is regularly revised and it is the responsibility of the proposer to ensure that the proposal meets the requirements specified in this solicitation and the applicable version of the PAPPG. Submitting a proposal prior to a specified deadline does not negate this requirement.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Research Experiences for Teachers (RET) in Engineering and Computer Science
Sites and Supplements

Synopsis of Program:

The Research Experiences for Teachers (RET) in Engineering and Computer Science program supports authentic summer research experiences for K-14 educators to foster long-term collaborations between universities, community colleges, school districts, and industry partners. With this solicitation, the Directorates for Engineering (ENG) and Computer and Information Science and Engineering (CISE) focus on a reciprocal exchange of expertise between K-14 educators and research faculty and (when applicable) industry mentors. K-14 educators will enhance their scientific disciplinary knowledge in engineering or computer science and translate their research experiences into classroom activities and curricula to broaden their students' awareness of and participation in computing and engineering pathways. At the same time, the hosting research faculty will deepen their understanding of classroom practices, current curricula, pedagogy, and K-14 educational environments.

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.

- Amelia S. Greer, ENG/EEC, telephone: (703) 292-2552, email: agreer@nsf.gov
- Patricia Simmons, ENG/EEC, telephone: (703) 292-5143, email: psimmons@nsf.gov
- Allyson Kennedy, CISE/CNS, telephone: (703) 292-8950, email: aykenned@nsf.gov

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

- 47.041 --- Engineering
- 47.070 --- Computer and Information Science and Engineering

Award Information

Anticipated Type of Award: Standard Grant or Continuing Grant

Estimated Number of Awards: 9

Anticipated Funding Amount: \$5,800,000

The total anticipated annual funding for both RET Sites and Supplements is approximately \$5,800,000 per year, subject to the availability of funds. It is anticipated that approximately 9 Site awards will be made per year. The maximum total request for a Site is \$600,000 for a duration of up to three years. Supplements are limited to a maximum of \$15,000 per teacher and/or community college faculty for a duration of one year, subject to the availability of funds.

Eligibility Information

Who May Submit Proposals:

Proposals may only be submitted by the following:

- RET Sites
 - 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. Minority-Serving Institutions, community colleges, and institutions with strong programs serving persons with disabilities, are encouraged to apply.

RET Supplements

- RET Supplement to an existing award: Active ENG or CISE awardees.
- RET Supplemental funding request submitted as part of a proposal to ENG or CISE for a new or renewal grant or cooperative agreement: Eligibility requirements of the specific funding opportunity apply.

Who May Serve as PI:

The principal investigator of a RET in Engineering and Computer Science Site proposal must have a full-time, tenured or tenure-track faculty appointment within a College/Department of Engineering or Engineering Technology or a College/Department of Computer and/or Information Science broadly defined [including e.g., Human-Computer Interaction (HCI), Software Engineering,

Networking Science, Informatics] within the submitting US IHE. The PI must be a full-time Engineering and/or Computer Science faculty member whose primary job responsibilities are research and teaching and not a faculty member who is involved in an administrative capacity such as a dean or outreach coordinator.

Limit on Number of Proposals per Organization:

There are no restrictions or limits.

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

An individual may be listed as a PI or co-PI on no more than one RET site proposal per annual deadline.

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 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):
 - January 29, 2024
 - October 09, 2024
 - Second Wednesday in October, Annually Thereafterfor RET Site Proposals

Proposal Review Information Criteria

Merit Review Criteria:

National Science Board approved criteria. Additional merit review criteria 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.

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I. INTRODUCTION

The Research Experiences for Teachers (RET) program supports active participation in science, engineering, and education research by K-14 STEM educators. RET proposals are welcome in any of the research areas supported by the CISE and ENG directorates.

The RET program seeks to support authentic summer research experiences for K-14 STEM educators to foster long-term collaborations between universities, community colleges, school districts, and industry partners. With this solicitation, the National Science Foundation focuses on a reciprocal exchange of expertise between K-14 STEM educators and research faculty, and (when applicable) industry mentors. Through high-quality mentorship, K-14 STEM educators will enhance their scientific disciplinary knowledge in engineering or computer science and translate their research experiences into classroom activities and curricula. At the same time, the hosting research faculty will deepen their understanding of classroom practices, current curricula, pedagogy, and K-14 educational environments.

Participation of K-14 STEM educators in active research is an excellent way to reach broadly into the teacher talent pool of the U.S., facilitating the ability of educators to teach engineering and computer science concepts in a compelling way. Through an RET experience, educators can better encourage, stimulate, and guide their students to seek engineering and/or computer science careers, especially students historically underrepresented in these disciplines.

This solicitation features two mechanisms for support of K-14 educator research: RET Sites and RET Supplements.

II. PROGRAM DESCRIPTION

The RET program encourages the active participation of K-14 educators in ongoing engineering and/or computer science research activities through Site awards and Supplements. RET Sites and Supplements can include pre- and/or in-service K-12 teachers and/or community college faculty as participants.

A RET Site proposal must be submitted by a College, School, or Department of Engineering, Engineering Technology, or Computer and/or Information Science. NSF's Directorates for Engineering (ENG) and Computer and Information Science and Engineering (CISE) strongly encourage all grantees to make special efforts to identify talented K-14 educators for participation in this RET opportunity.

RET projects offer an opportunity to tap the nation's diverse teacher talent pool and broaden participation in engineering and computer science. Partnerships with inner city, rural, or other high-needs schools are especially encouraged. Proposals emphasizing broadening participation of the full spectrum of diverse talents that society has to offer are also encouraged. This includes participation of K-14 educators who are themselves underrepresented in engineering and computer science, or K-14 educators who serve underrepresented students in engineering and computer science.

RET Sites and Supplements should focus on a reciprocal exchange of expertise between K-14 STEM educators and research faculty and/or industry mentors. K-14 STEM educators will enhance their scientific disciplinary knowledge in engineering or computer science. At the same time, the hosting research faculty will deepen their understanding of classroom practices, current curricula, pedagogy, and K-14 educational environments.

RET Sites

RET Sites are based on independent proposals, submitted for an annual deadline date to provide authentic summer research experiences for K-14 STEM educators and foster long-term collaborations between universities, community colleges, school districts, and industry partners. As part of the long-term partnership arrangements, involvement of undergraduate/graduate students with the integration of the RET curricular materials into classroom activities in the follow up academic year is particularly encouraged.

RET Sites must involve 8-10 or more K-14 educators in an engineering and/or computer and/or information science research project for a duration of at least six weeks during the summer. RET Sites must have a well-defined research focus, with clearly articulated projects and activities, that enables a cohort experience for participants. Sites may be based in a single discipline or academic department or may offer interdisciplinary or multi-department research opportunities with a coherent intellectual theme. A proposal should reflect the unique combination of the proposing organization's interests and capabilities and those of any partnering organizations.

RET Sites must include high-quality mentoring strategies to ensure participants receive consistent and effective support during their research experience. Sites are encouraged to include Co-PIs or senior personnel who have expertise in education research and/or curriculum development and/or broadening participation. RET Sites are also encouraged to include partnerships with industry mentors, particularly those with a regional presence.

Projects should include academic-year activities to facilitate dissemination of classroom modules to other K-14 educators and a broader audience.

RET Supplements

An RET Supplement typically provides support for one or two K-14 STEM Educators to participate in research as part of a new or ongoing ENG or CISE-funded research project. However, centers or large research efforts may request support for a larger number of participants commensurate with the size and nature of the project.

As with RET Sites, high-quality mentoring is important in RET Supplements and investigators should give serious attention to developing participants' research skills, involving them in the culture of research in the discipline, and connecting their research experience with classroom activities and curricula. RET Supplement descriptions must also indicate what type of sustained follow-up will be provided during the academic year to help in translating the teacher's research experience and new understanding of engineering and/or computer science concepts into classroom practice. [CISE PIs can find more information in the most recent Dear Colleague Letter on REU and RET supplements.]

Other Opportunities

ENG and CISE strongly encourage the use of RET supplements to enable K-14 STEM educators to participate in Research Experiences for Undergraduates (REU) programs. See https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5517 for a list of current, active REU Sites.

The RET in Engineering and Computer Science program will allow PIs to involve participating K-14 educators in international research experiences in their proposals. PIs may contact NSF's Office of International Science and Engineering (OISE) staff, with expertise in the country or region of interest, for information about institutions and counterpart agencies. (Contacts for cognizant program managers(s) are available from the OISE webpage (<https://www.nsf.gov/od/oise/country-list.jsp>)).

NSF engages in a partnership with the Department of Energy (DOE) Office of Electricity (OE) to expand research opportunities in DOE mission-relevant areas through the ENG RET Sites program. Proposals that are selected for the DOE funding will involve DOE mission-relevant topics and may come from any of the NSF directorates or offices that handle ENG RET Site proposals. These topics include but are not limited to electric power sector research; clean energy technology research; risk science, decision science, social science, and data science using electric power sector data sets. A proposer to the NSF ENG RET Sites program does not need to take any additional steps to be considered for funding through DOE. Proposals that are considered for co-funding by DOE will be shared with DOE staff to assess alignment with DOE's research interests, and the unattributed reviews and panel summaries for those proposals will also be shared with DOE.

III. AWARD INFORMATION

Anticipated Type of Award: Continuing Grant or Standard Grant

Estimated Number of Awards: 9

Anticipated Funding Amount: \$5,800,000

The total anticipated annual funding for both RET Sites and Supplements is approximately \$5,800,000 per year, subject to the availability of funds.

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IV. ELIGIBILITY INFORMATION

Who May Submit Proposals:

Proposals may only be submitted by the following:

- RET Sites
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Limit on Number of Proposals per Organization:

There are no restrictions or limits.

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

An individual may be listed as a PI or co-PI on no more than one RET site proposal per annual deadline.

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 Research.gov or Grants.gov.

- 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) 292-8134 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) 292-8134 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 Research.gov. PAPPG Chapter II.E.3 provides additional information on collaborative proposals.

See PAPPG Chapter II.D.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.

PROPOSAL FOR A RET SITE

The following instructions supplement those found in the PAPPG or NSF Grants.gov Application Guide.

Proposal Set-Up.

Select "Prepare New Full Proposal" in Research.gov unless the proposal is requesting continued funding for a previously funded RET Site. In that case, select the "Prepare New Renewal Proposal" option. Please note that, if the proposal is a continuation but has a different PI, Research.gov will not allow this selection. The proposer should select "Prepare New Full Proposal" and the renewal information should be indicated in the Project Summary.

The NSF organizational unit to which proposals should be directed is either ENG/EEC or CISE/CNS. In the title of the project, start with the label "RET Site:".

Senior Personnel. A single individual should be designated as the Principal Investigator (PI); this individual will be responsible for overseeing all aspects of the award. Up to three additional people may be designated as Co-PIs if developing and operating the RET Site would involve such shared responsibility. Other anticipated research supervisors or mentors should be designated as Other Senior Personnel.

Project Summary. The Project Summary consists of an overview, a statement on the intellectual merit of the proposed activity, and a statement on the broader impacts of the proposed activity.

The "Overview" section of the Project Summary must include the following list of "Project Elements":

PROJECT ELEMENTS:

- o New RET Site, or Renewal of previously funded RET Site (provide previous NSF Award Number; see Note below)
- o Site submitted for ENG or CISE consideration
- o Project title (as shown on Cover Sheet): "RET Site: ..."
- o Principal Investigator
- o Submitting organization
- o Location(s) (universities, national labs, field stations, etc.) at which the proposed research will occur
- o Main field(s) and sub-field(s) of the research
- o School districts and other institutions involved in the project
- o Grade levels taught by intended participants (e.g., K-5, 8-12, high school, 2-year college, pre-service)
- o No. of RET participants per year
- o No. of weeks per year that the K-14 educators will participate
- o International or REU component, if applicable
- o URL for RET Site, if renewal

In the remainder of the Project Summary, briefly describe the project's objectives, activities, educators to be recruited, and intended impact. Provide separate statements on the intellectual merit and broader impacts of the proposed activity, as required by the PAPPG.

**Note:* For renewals with a new PI, the relevant "Project Element" in the Project Summary (above) should indicate that the proposal is a "renewal," and the outcomes of the previous Site should be described in the "Results from Prior NSF Support" section of the Project Description.

In addition, at the end of the Overview Box, please provide a list of keywords or phrases following the text "Keywords:" that identify the areas of technical expertise and education-related activities that are involved in the proposed project(s).

Project Description. Address items "a" through "l" below as subsections in the Project Description narrative. The Project Description must not exceed 15 pages and must contain a separate section labeled "Broader Impacts" within the narrative.

- a. *Overview.* Provide a brief description of the goals and objectives of the proposed RET Site, targeted educator participants, intellectual research focus, broader impact of the proposed activity, organizational structure, timetable, and institutional commitment to the RET activity.
- b. *Nature of Participant Research Activities.* A RET Site must have a **well-defined research focus** related to engineering and/or computer

science which helps unify the site and build a cohort experience. Proposals must provide detailed descriptions of example research projects that connect to the site research focus. Each project described must have a section labeled "Participant Component" that highlights the participant's contribution to the project. Participant contributions must be a part of authentic research with clear research objectives and questions. There should be minimal expectations for involvement or study by the participants on the research topic prior to the beginning of the on-site experience. Sites **cannot involve registration in courses either online or on-site**.

- c. *Site logistics*. Proposals should have a timeline of participant activities during the duration of the summer experience and the academic year follow-up. In cases where limited availability of specialized facilities, such as clean rooms, electron microscopes, etc., make it possible to offer an extraordinary experience in less than the minimum six-week duration, a shorter research component may be proposed with appropriate justification.
- d. *RET Site Team Experience and Training*. Proposals must describe the experience of the principal investigator and the research mentors (including faculty, graduate students, industry mentors and/or master teachers). This should include information on the record of faculty/mentors in publishing research results and providing professional development opportunities for K-14 educators. It must clearly discuss any prior engagement with the PI and participating faculty with K-14 educators and demonstrate their capacity to lead an entire site of RET participants. It should also describe the institution and any related involvement by industry in the RET project.

Proposals must include plans that will ensure sufficient RET participant-faculty interaction and communication. The RET participants must work closely in teams with university faculty and their students, and industry mentors, when applicable. Mentor training for graduate students and faculty mentors must be included to ensure participants receive consistent and effective support during their research experience. Sites should be inclusive to all RET participants, and PIs should indicate any diversity and inclusion training they have taken or intend to undertake in preparation for hosting a Site. Sites are also expected to adhere to NSF's Policy on Sexual Harassment, Other Forms of Harassment, or Sexual Assault (See section e. for more details).

- e. *NSF Policy on Sexual Harassment, Other Forms of Harassment, or Sexual Assault*. NSF does not tolerate sexual harassment, or any kind of harassment, where NSF-funded activities take place. Proposers are required to have a policy or code of conduct that addresses sexual harassment, other forms of harassment, and sexual assault. Proposers should provide an orientation for all participants in the RET Site (K-14 educator participants, university faculty, postdocs, graduate students, other research mentors, etc.) to cover expectations of behavior to ensure a safe and respectful environment for all participants, and to review the organization's policy or code of conduct addressing sexual harassment, other forms of harassment, and sexual assault, including reporting and complaint procedures. For additional information, see the NSF policies at <https://new.nsf.gov/stopping-harassment>.
- f. *Participant Recruitment and Selection*. Since a major goal of the RET Site program is to build a sustainable bond between school districts/community colleges and a college or university in the surrounding community, proposals should provide a recruitment plan with as much specificity as possible. The types and/or names of schools, school districts, or 2-year colleges from which participants will be recruited and the rationale for this selection should be identified. RET Site participants must be currently teaching a STEM subject or interested in strengthening computer science and/or engineering at their institution. It is encouraged, but not required, that at least two participants be recruited for the site from the same K-12 school/community college to strengthen support for teachers and the likelihood of impact when returning to their home institutions. Specific efforts to recruit participants from the full spectrum of diverse talent in engineering and computer science should be described. Sites that plan to include a mixture of teachers at different grade levels or a combination of pre- and in-service teachers, need to carefully discuss how the group will be managed to be appropriate and relevant to all, and to allow for all the participants to be fully engaged. Participants should be able to commute to a given site easily each day and not need funds for housing and meals. However, in-residence sites with a strong justification that the Site will maintain regional impact and for which residency is necessary to reach teachers, particularly teachers in under-served communities, will be considered. Virtual/hybrid sites will also be considered.
- g. *Development of Curricular Modules*. During the summer of the RET Site, participants must develop modules and curricular materials to bring their research back into the classroom. This activity is an integral part of the summer Site activities and should be woven into the timeline. The modules should be directly related to the research and the intellectual focus of the RET Site. At the same time, the modules must be firmly connected to the K-12 and/or community college curricula that the educators follow as well as state and/or national teaching standards. Proposals should also describe any educational experts (e.g., curriculum specialists, education researchers, master teachers) who will support this process. RET Sites must disseminate curricular modules or other classroom activities developed through the site. It is encouraged for participants to submit to the *Teach Engineering* digital library (<http://teachengineering.org/>) or other repositories that reach a national audience. They may also be posted to the individual RET web site or portal to ensure free access to educators.
- h. *Participant Professional Development*. Proposals must describe plans for participant professional development relevant to the responsible and ethical conduct of research, laboratory methods and safety procedures as appropriate to the proposal. Professional development plans could also include opportunities that deepen participants' knowledge about current research areas, career paths, and/or related industry opportunities. RET participants should have multiple opportunities to present their research plans, progress, and results to audiences of other RET participants, university faculty and students, and any industry mentors who might be involved.
- i. *Academic Year Follow-up Plan*. The proposal must provide a plan for realistic and sustained academic-year follow-up with RET Site participants to support translation of their research experience into classroom practice. Research faculty and/or graduate students should visit the classrooms of their K-14 educator participants. Plans must be included for academic-year conferences or other outreach activities such that the RET participants can disseminate their curricular materials and modules as well as details of their RET participation to a broader audience of teachers/community college faculty in their own communities.
- j. *Project Evaluation and Reporting*. Proposals should provide a detailed plan for formative and summative evaluation of the RET Site aimed at

determining the impact of the experience on participants' content knowledge, confidence, self-efficacy, etc. An external evaluator and a brief description of their qualifications must be identified (normally budgeted between \$3,000 and \$5,000 per year). The PI, Co-PI, and main project personnel cannot be the evaluator. Additionally, it is encouraged to incorporate a structured means of identifying longer-term impacts of the RET site experience on participant careers and practice, as well as the impact on the relationship between the Site institution and partner school districts.

- k. *Dissemination.* Proposals must include a strategy for reaching a broad audience with the findings of the project including, where appropriate, researchers in other fields, practitioners, policy makers, and public audiences. Dissemination plans should include strategies to share research projects, curriculum, and best practices about RET Sites. RET participants should also be encouraged to participate in future scientific meetings related to their research to share their projects and strengthen their disciplinary knowledge.
- l. *RET Site Renewal proposals: Results from Prior NSF Support.* If the proposal is requesting renewal of an existing RET Site or if the department or center (or similar organizational subunit) that will host the proposed Site has hosted another RET Site during the past five years, proposals must describe the earlier RET project(s) and outcomes(s) in sufficient detail to permit reviewers to reach an informed conclusion regarding the value of the results achieved. Valuable information typically includes results from the project evaluation, summary information on recruiting efforts and number of applicants, demographic composition of participants and their home institutions, follow-up and dissemination activities, lessons learned, modifications and changes to the proposed Site, and a list of publications or reports (if to be submitted for publication) resulting from the original NSF award.

In addition to the required documents outlined in the PAPPG, proposals must also include the following:

Biographical Sketches. The basic guidelines as outlined in the PAPPG for biographical material apply; however, senior personnel are encouraged to include appointments, synergistic activities, or products relevant to a successful RET Site. Senior personnel are the principal investigator; the co-principal investigator if one has been designated; the external evaluator; and other faculty/professionals who are anticipated to serve as research mentors. The number of biographical sketches is limited to 12.

Letters of Collaboration. Signed letters of collaboration from participating schools, school districts, 2-year colleges, and/or other partnering organizations are required and must document collaborative arrangements of significance to the proposal. The letters must come from someone in a leadership position in the school districts and/or community colleges involved, normally from someone in the main administrative office.

Letters of endorsement from individual teachers/community college faculty are not permitted.

REQUEST FOR A RET SUPPLEMENT

The disciplinary research programs within the ENG and CISE directorates support RET activities that are requested either (1) as a component of a new (or renewed) research proposal or (2) as a post-award supplement to an existing grant or cooperative agreement. Guidance for use of either mechanism is given below.

For either mechanism, the description of the RET activity should discuss the following: (1) the form and nature of the prospective participant's involvement in the principal investigator's ongoing or proposed research; (2) what type of sustained follow-up will be provided to translate the participant's research experience into classroom practice; (3) the nature of the mentoring that the participant(s) will receive; (4) the experience of the principal investigator (or other possible research mentors) in involving K-12 teachers and/or community college faculty in research; (5) any previous RET Supplemental support and the outcomes from that support; (6) the process and criteria for selection of participants; and (7) a brief biographical sketch of the participant, if available.

The duration of the RET Supplement will be one year and the project may be carried out during summer months, the academic year, or both. The total cost of the supplement is limited to \$15,000 per participant. The budget includes participant stipend and up to \$2,000 for the cost of materials, equipment, software and other supplies for developing classroom instructions and experiments. These costs must be listed as Participant Support costs in the NSF proposal budget. The participant may not be charged an application fee.

Normally, funds may be available for one to two participants, but exceptions will be considered. Participation of educators who are members of underrepresented groups, or who serve populations of students from underrepresented groups, is strongly encouraged. Center or large research efforts may request support for a number of participants commensurate with the size and nature of the project. For guidance concerning RET Supplement requests, please consult with the cognizant ENG or CISE program director of the particular research program of the proposal or award.

A RET Supplemental funding request to an existing award must be submitted via Research.gov in accordance with the guidelines found in the PAPPG. The following instructions supplement those found in the PAPPG. After logging into Research.gov, choose "Supplemental Funding Requests" (under "Awards & Reporting") and then "Prepare New Supplement." Next, select the award to be supplemented. In the form entitled "Summary of Proposed Work," state that this is a request for an RET Supplement. In the form entitled "Justification for Supplemental Funding," include the information described above in the fourth paragraph under the subheading "B. REQUEST FOR RET SUPPLEMENT"; limit your response to three pages. If an RET teacher has been pre-selected, you may upload a Biographical Sketch for the teacher (up to two pages, in any format) in the Other Supplementary Documents section. Prepare a budget, including a justification of the funds requested for teacher support and their proposed use. All teacher costs should be entered as Participant Support Costs (Line F) in the proposal budget. (Indirect costs [F&A] are not allowed on Participant Support Costs.)

An award decision will be based on internal review by the cognizant ENG or CISE program director and availability of funds in a particular program.

A request for a RET Supplement submitted as part of a proposal for a new or renewal award is embedded in the proposal as follows. The description of the RET activity, as specified above and limited to three pages, is included as supplementary documentation. The budget for the RET Supplement is included in the yearly project budget. All participant costs must be listed as Participant Support costs in the NSF proposal budget. The budget justification for the proposal must contain a separate explanation of the RET Supplement request, with the proposed participant costs itemized and justified, and a total given for all proposed costs. All funding in a RET Supplement must be to fund participant support.

B. Budgetary Information

Cost Sharing:

Inclusion of voluntary committed cost sharing is prohibited.

Other Budgetary Limitations:

The focus of RET Sites and Supplements is the participant experience, and the budget must reflect this principle. The total budget amount for an RET Site may not exceed \$600,000 for up to three years, for up to \$200,000 per year. The total cost per participant is limited to \$15,000 per year, which includes funds for participant stipend and up to \$2,000 for the cost of materials, equipment, software, and other supplies for developing classroom instructions and experiments. In-residency proposals may submit a request for increased per teacher budget to account for housing expenses based on local housing costs but may not exceed a total maximum budget of \$200,000 per year. The salary for the external evaluator should be between \$3,000 and \$5,000 per year.

The total cost of an RET Supplement is limited to \$15,000 per participant per year.

Funds awarded to participants for stipends, fees, lodging, travel and other miscellaneous expenses must be listed as Participant Support Costs in the NSF proposal budget.

Projects are required to attend annual PI Meetings and should include associated travel costs in the NSF proposal budget.

C. Due Dates

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

January 29, 2024

October 09, 2024

Second Wednesday in October, Annually Thereafter

for RET Site Proposals

D. Research.gov/Grants.gov Requirements

For Proposals Submitted Via Research.gov:

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 Research.gov user support, call the Research.gov Help Desk at 1-800-381-1532 or e-mail rgov@nsf.gov. The Research.gov Help Desk answers general technical questions related to the use of the Research.gov system. Specific questions related to this program solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this funding opportunity.

For Proposals Submitted Via Grants.gov:

Before using Grants.gov for the first time, each organization must register to create an institutional profile. Once registered, the applicant's organization can then apply for any federal grant on the Grants.gov website. Comprehensive information about using Grants.gov is available on the Grants.gov Applicant Resources webpage: <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 Research.gov for further processing.

The NSF [Grants.gov Proposal Processing in Research.gov informational page](#) provides submission guidance to applicants and links to helpful resources including the NSF [Grants.gov Application Guide](#), [Grants.gov Proposal Processing in Research.gov how-to guide](#), and [Grants.gov Submitted Proposals Frequently Asked Questions](#). Grants.gov proposals must pass all NSF pre-check and post-check validations in order to be accepted by Research.gov at NSF.

When submitting via Grants.gov, NSF strongly recommends applicants initiate proposal submission at least five business days in advance of a deadline to allow adequate time to address NSF compliance errors and resubmissions by 5:00 p.m. submitting organization's local time on the deadline. Please note that some errors cannot be corrected in Grants.gov. Once a proposal passes pre-checks but fails any post-check, an applicant can only correct and submit the in-progress proposal in Research.gov.

Proposers that submitted via 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 [Leading the World in Discovery and Innovation, STEM Talent Development and the Delivery of Benefits from Research - NSF Strategic Plan for Fiscal Years \(FY\) 2022 - 2026](#). 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.D.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.D.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 other underrepresented groups 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

RET Site proposals and Supplemental funding requests will be reviewed based on the two basic NSF review criteria in the context of the RET program. In addition, emphasis will be placed on the following considerations:

- 1) Appropriateness and value of the research experience for participants, particularly the nature of the educators' involvement and contributions to the research project(s).
- 2) Quality of the research environment, including the facilities, the preparedness of the research mentor(s) to guide educators in research, and the professional development opportunities for participants.
- 3) Appropriateness of the participant recruitment and selection plans, including those for involving participants from underrepresented groups or who serve students from underrepresented groups in engineering and computer science.
- 4) Quality of strategy to support the development of curricular modules and/or activities that can be appropriately aligned with participants' classrooms and state/national standards.
- 5) Quality of plans for academic year follow-up activities.
- 6) Appropriateness and cost-effectiveness of the budget, effectiveness of the plans for managing the project and evaluating the outcomes, and commitment of participating schools, school districts, and/or 2-year colleges and/or other partnering organizations.
- 7) For renewals of previously funded RET Sites: effectiveness of the previous Site.

B. Review and Selection Process

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

RET Site proposals will be reviewed by panel and ad hoc review with external reviewers selected by the ENG and CISE directorates.

RET Supplement proposals will be reviewed internally and managed by the cognizant Program Directors for any award being supplemented.

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 proposers whether their proposals have been declined or recommended for funding within six months. Large or particularly complex proposals or proposals from new recipients 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 or the Division of Acquisition and Cooperative Support 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 an NSF Grants and Agreements Officer. 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) 292-8134 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.

Administrative and National Policy Requirements

Build America, Buy America

As expressed in Executive Order 14005, [Ensuring the Future is Made in All of America by All of America's Workers](#) (86 FR 7475), it is the policy of the executive branch to use terms and conditions of Federal financial assistance awards to maximize, consistent with law, the use of goods, products, and materials produced in, and services offered in, the United States.

Consistent with the requirements of the Build America, Buy America Act (Pub. L. 117-58, Division G, Title IX, Subtitle A, November 15, 2021), no funding made available through this funding opportunity may be obligated for an award unless all iron, steel, manufactured products, and construction materials used in the project are produced in the United States. For additional information, visit NSF's [Build America, Buy America](#) webpage.

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.

The [NSF Education & Training Application](#) (ETAP) is a customizable common application system that connects individuals (such as students and teachers) with NSF-funded education and training opportunities and collects high-quality data from both applicants and participants in NSF-funded opportunities. It was initially developed to serve the REU Sites program but now serves multiple programs, and its use is growing. All investigators with RET Site awards or RET Supplement awards are welcome to use ETAP, which offers benefits to the PIs, the teacher participants, and NSF. Some NSF units require their RET Sites to use ETAP to manage teacher applications and collect teacher demographic information. When use of ETAP is required, it will be indicated in the award notice for the RET Site.

PIs are required to provide the names and other basic information about RET participants as part of annual and final project reports. In particular, in the report, each RET teacher who is supported with NSF RET funds must be identified as a "RET Participant," and the PI must provide the teacher's home institution and grade levels taught. The RET teachers (like all participants listed in project reports) will receive an automated request from Research.gov to self-report their demographic information. PIs of RET Sites may also be required to provide additional information that enables NSF to track teachers beyond the period of their participation in the Site. For PIs who use NSF's ETAP to receive RET applications, that system collects, and provides reports on, the demographic information and other characteristics of both applicants and participants, and it will support efforts in longitudinal tracking.

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:

- Amelia S. Greer, ENG/EEC, telephone: (703) 292-2552, email: agreer@nsf.gov
- Patricia Simmons, ENG/EEC, telephone: (703) 292-5143, email: psimmons@nsf.gov
- Allyson Kennedy, CISE/CNS, telephone: (703) 292-8950, email: aykenned@nsf.gov

For questions related to the use of NSF systems contact:

- NSF Help Desk: 1-800-381-1532
- 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.F.7 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** (703) 292-5111
(NSF Information Center):
- **TDD (for the hearing-impaired):** (703) 292-5090
- **To Order Publications or Forms:**
Send an e-mail to: nsfpubs@nsf.gov
or telephone: (703) 292-8134
- **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 proposers 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 proposers 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 [System of Record Notices](#), NSF-50, "Principal Investigator/Proposal File and Associated Records," and NSF-51, "Reviewer/Proposal File and Associated Records." 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
Policy Office, Division of Institution and Award Support
Office of Budget, Finance, and Award Management
National Science Foundation
Alexandria, VA 22314

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