

Research Coordination Networks in Undergraduate Biology Education (RCN-UBE)

PROGRAM SOLICITATION

NSF 22-522

REPLACES DOCUMENT(S):

NSF 18-510



National Science Foundation
Directorate for Biological Sciences
Division of Biological Infrastructure
Directorate for Education and Human Resources
Division of Undergraduate Education

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

January 25, 2022

Fourth Tuesday in January, Annually Thereafter

IMPORTANT INFORMATION AND REVISION NOTES

Important information:

Innovating and migrating proposal preparation and submission capabilities from FastLane to Research.gov is part of the ongoing NSF information technology modernization efforts, as described in [Important Notice No. 147](#). In support of these efforts, proposals submitted in response to this program solicitation must be prepared and submitted via Research.gov or via Grants.gov and may not be prepared or submitted via FastLane.

Revision Notes:

The following revisions have been made to the solicitation:

An "Online Learning" and an "Evaluation and Assessment" **section should now be** included in all full and incubator proposals to address emerging priority areas for the program. For incubator proposals, these can be abbreviated.

An abbreviated "Management Plan" and "Coordination Plan" should now be included in all incubator proposals.

Any proposal submitted in response to this solicitation should be submitted in accordance with the revised *NSF Proposal & Award Policies & Procedures Guide* (PAPPG) ([NSF 22-1](#)), which is effective for proposals submitted, or due, on or after October 4, 2021.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Research Coordination Networks in Undergraduate Biology Education (RCN-UBE)

Synopsis of Program:

The goal of the RCN-UBE program is to link biological research discoveries with innovations in biology education to improve the learning environment in undergraduate biology classrooms. The program seeks to improve undergraduate education by leveraging the power of a collaborative network recognizing that new educational materials and pedagogies can simultaneously teach biological concepts while creating a supportive and engaging learning environment for all. The RCN-UBE program supports groups of investigators to communicate and coordinate their research, training, and education. The theme or focus of an RCN-UBE proposal can be on any topic likely to advance this goal, and activities across disciplinary, organizational, geographic, and

international boundaries are encouraged. Acknowledging that students' educational pathways vary, networks that include under-resourced institutions as full, equitable partners are highly desired. Understanding that people from diverse backgrounds bring different experiences and viewpoints, the RCN-UBE program is interested in proposals that include individuals from traditionally underrepresented in biological research and education as members of the steering committee. Lastly, the RCN-UBE program is also interested in developing, testing, and sharing best practices that can transform the online learning environment.

These efforts supported by RCN-UBE are responsive to the national movement to revolutionize undergraduate learning and teaching in the biological sciences as described in the 2009 "Vision and Change in Undergraduate Biology Education" report. Collectively, the RCN-UBE program has contributed to developing and disseminating educational research resources and modules, to forging new collaborations, and to sharing best practices and processes for scalability and sustainability of activities. These efforts have involved a large cadre of faculty, students, and other stakeholders.

In accord with other RCN awards, RCN-UBE awards provide opportunities to address interdisciplinary topics, to explore innovative ideas for implementing novel networking strategies, to explore collaborative technologies, and to develop community standards. RCN-UBE awards do not support existing networks or the activities of established collaborations.

Note: Because it addresses undergraduate biology education, the RCN-UBE program is offered in alignment with the NSF-wide undergraduate STEM education initiative, Improving Undergraduate STEM Education (IUSE). More information about IUSE can be found at the end of the Program Description section of this solicitation and the NSF IUSE solicitation ([NSF 21-579](#)). Depending on the scope and nature of the project, investigators should consider applying to IUSE or RCN-UBE.

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.

- Joel K. Abraham, BIO/DBI, telephone: (703) 292-4694, email: jkabraham@nsf.gov
- Amanda A. Simcox, telephone: (703) 292-8165, email: asimcox@nsf.gov
- Ellen M. Carpenter, EDU/DUE, telephone: (703) 292-5104, email: elcarpen@nsf.gov

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

- 47.074 --- Biological Sciences
- 47.076 --- Education and Human Resources

Award Information

Anticipated Type of Award: Standard Grant

Estimated Number of Awards: 8 to 12

Anticipated Funding Amount: \$6,500,000 to \$8,000,000 pending availability of appropriations.

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 be listed as a PI or co-PI on no more than one full proposal. This restriction does not apply to incubator proposals.

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 25, 2022

Fourth Tuesday in January, Annually Thereafter

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:

Additional award conditions apply. Please see the full text of this solicitation for further information.

Reporting Requirements:

Standard NSF reporting requirements apply.

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I. INTRODUCTION

Discoveries in biological sciences shape and direct our understanding of the world. It is imperative that biological researchers consider how best to teach and inspire the next generation of biological researchers and to produce a biologically literate public. For key biological discoveries and methodologies, there is the need to design, develop, test, and implement educational activities that improve scientific literacy and motivate the next generation of biologists. Because of their impact on students, educators who develop new teaching approaches and tools are just as important to a student's life as the new biological discovery itself.

Recent pedagogical literature points to critical components that will help improve biology education, including: 1) the best work is accomplished when individuals work in collaborative and supportive communities; 2) diverse voices must be present as the foundation is being built; 3) students' educational pathways vary, they engage with materials in many different educational settings, and what works for one student may not work for another; 4) educational materials and pedagogies can simultaneously teach biological concepts while also increasing a student's confidence, sense of belonging, and the feeling that they are part of a community solving real-world problems; and 5) there is the potential for collaborations to produce new knowledge about undergraduate biology education in particular, and undergraduate STEM education more generally.

II. PROGRAM DESCRIPTION

The Research Coordination Networks for Biological Education (RCN-UBE) Program supports networks of investigators to link biological research discoveries with innovations in biology education to improve the learning environment in undergraduate biology classrooms. RCN-UBEs will support networks of investigators to communicate and coordinate their education efforts across disciplinary, organizational, institutional, geographical, and/or international boundaries. They will facilitate exchange of information and resources, integrate research and education activities for biologists/educators around topics of common interest, nurture a sense of community, and maximize cooperation and impact. The RCN-UBE program originated as a unique RCN track to "catalyze positive changes in biology undergraduate education" and is now supported by the collaborative efforts of the Directorate for Biological Sciences (BIO) and the Directorate for Education and Human Resources (EHR). It has been responsive to the national movement to revolutionize undergraduate learning and teaching in the biological sciences, which is described in the "Vision and Change in Undergraduate Biology Education" report. The RCN-UBE program seeks to leverage the power of a collaborative network to improve undergraduate biology in various areas. Proposed networking activities directed to the RCN-UBE program should focus on a theme to give coherence to the collaboration. The theme or focus of an RCN-UBE proposal can be on any topic likely to enhance undergraduate biology education.

RCN-UBE is designed to promote **new** collaborations among biologists and educators with diverse expertise and who share a common interest in a new or developing area of biology education, including the interface of biology with other disciplines. RCN-UBE awards do not support primary research and are not meant to support existing networks, nor are they meant to support the activities of established collaborations. By encouraging the formation of new interdisciplinary groups and networks, the RCN-UBE program will advance undergraduate biology education by linking research discoveries with pedagogical innovations.

The RCN-UBE program is particularly interested in increasing the participation of people from groups that are underrepresented in biological research and education such as women, underrepresented minorities, and persons with disabilities. Proposals submitted to the program are strongly encouraged to involve PIs, co-PIs, postdoctoral fellows, students, and other personnel who are members of these groups. Proposers are also strongly encouraged to consider involving veterans of the U.S. Armed Forces as part of NSF's broader effort to promote veteran involvement in science, technology, engineering, and mathematics (STEM) research and education.

Proposers should review the Introduction section of the PAPPG for a general description of research topics normally outside the scope of NSF funding such as biomedical research. Proposals to create a network that is primarily to enable research in excluded topics will not be eligible for support under this program and will be returned without review.

Collectively, the projects funded by RCN-UBE have enabled a large cadre of faculty, students, and other stakeholders to share ideas and processes

for scalability and sustainability of activities that improve undergraduate biology education.

Successful RCN-UBE proposals often include the following topics or activities:

- Implementing active- and inquiry-based learning.
- Incorporating authentic research experiences in introductory, mid-level, and capstone undergraduate courses.
- Service learning, community engagement, and internships.
- Integrating emerging sub-disciplines into the biology curriculum (e.g., computational biology, biotechnology, artificial intelligence and cross-scale approaches to biology, ecological forecasting).
- Integrating quantitative reasoning in biology curriculum.
- Providing professional development for biology faculty and graduate students.
- Improving assessment of student learning and/or biology programs.
- Improving the transition of students from two-year to four-year institutions.
- Broadening participation in undergraduate biology.
- Integrating teaching and research.
- Novel online learning approaches

RCN-UBE proposals may also include additional topics or activities, such as:

- Increasing biological literacy for non-majors.
- Mechanisms to provide under-resourced institutions access to essential biology resources such as library holdings and core research facilities.
- Training students to use new equipment and technology to monitor biological processes.
- Innovative use of biological field stations and existing museum and specimen collections.

RCN-UBE proposals can be up to five years in duration, with budgets up to \$500,000. To assist initial networking efforts of scientists and educators who are developing innovative proposals for the RCN-UBE program, the RCN-UBE accepts Incubator proposals for up to \$75,000 for one year.

The following information regarding the IUSE: EHR program may be helpful for investigators considering submitting proposals to this complementary program.

The National Science Foundation (NSF) plays a leadership role in developing and implementing efforts to enhance and improve STEM education in the United States. Through the NSF *Improving Undergraduate STEM Education* (IUSE) initiative, the agency continues to make a substantial commitment to the highest caliber undergraduate STEM education through a Foundation-wide framework of investments. The IUSE: EHR is a core NSF STEM education program that seeks to promote novel, creative, and transformative approaches to generating and using new knowledge about STEM teaching and learning to improve STEM education for undergraduate students. The program is open to applications from all institutions of higher education and associated organizations. NSF places high value on educating students to be leaders and innovators in emerging and rapidly changing STEM fields as well as educating a scientifically literate public. In pursuit of this goal, IUSE: EHR supports projects that seek to bring recent advances in STEM knowledge into undergraduate education, that adapt, improve, and incorporate evidence-based practices into STEM teaching and learning, and that lay the groundwork for institutional improvement in STEM education. In addition to innovative work at the frontier of STEM education, this program also encourages replication of research studies at different types of institutions and with different student bodies to produce deeper knowledge about the effectiveness and transferability of findings.

IUSE: EHR also seeks to support projects that have high potential for broader societal impacts, including improved diversity of students and instructors participating in STEM education, professional development for instructors to ensure adoption of new and effective pedagogical techniques that meet the changing needs of students, and projects that promote institutional partnerships for collaborative research and development. IUSE: EHR especially welcomes proposals that will pair well with the efforts of NSF INCLUDES (https://www.nsf.gov/news/special_reports/nsfincludes/index.jsp) to develop STEM talent from all sectors and groups in our society. For all the above objectives, the National Science Foundation invests primarily in evidence-based and knowledge-generating approaches to understand and improve STEM learning and learning environments, improve the diversity of STEM students and majors, and prepare STEM majors for the workforce. In addition to contributing to STEM education in the host institution(s), proposals should have the promise of adding more broadly to our understanding of effective teaching and learning practices. NSF-IUSE serves as the framework for all investments in research and development that are critical for **curricular** improvement in undergraduate STEM education, within formal and informal learning environments. The IUSE: EHR program features two tracks: (1) Engaged Student Learning and (2) Institutional and Community Transformation. For further information please see the IUSE solicitation [NSF 21-579](#).

RCN-UBE proposals, in accord with all RCN proposals, must conform to the following 7 guidance items:

1. Topic/focus of research coordination. For all tracks, research coordination network (RCN) proposals should identify a clear theme as the focus of its activities. RCN proposals should spell out the theoretical and/or methodological foundations of the network's proposed activities, and should specify what activities will be undertaken, what new groups of investigators will be brought together, what products will be generated by network activities, and how information about the network and opportunities to participate will be disseminated. The proposal should also outline the expected benefits of the network's activities in moving a field forward and the implications for the

broader community of researchers, educators and engineers.

2. Principal investigator (PI). Although research coordination networks are expected to involve investigators from multiple sites, a single organization must serve as the submitting organization for each proposal. Of the two types of collaborative proposal formats described in the *Proposal & Award Policies & Procedures Guide (PAPPG)*, this solicitation allows only a single proposal submission with subawards administered by that lead organization. The PI is the designated contact person for the project and is expected to provide leadership in fully coordinating and integrating the activities of the network. Strong, central leadership and clear lines of responsibility are essential for successful networking.
3. Steering committee. Members of the steering committee will be network participants that assume key roles in the leadership and/or management of the project. The steering committee should be representative of the communities of participants that will be brought together through the RCN. It must include all Co-PIs, if any are listed on the cover page of the proposal, and any other senior personnel, including any foreign collaborators involved as leaders or otherwise considered senior personnel. **Therefore, the steering committee constitutes all the senior personnel for the RCN proposal.** The name and home organization of each steering committee member should be listed in the project summary. As these individuals are all senior personnel, their Biographical Sketches and Current and Pending Support statements must be included in the appropriate sections of the proposal.
4. Network participants. The size of a network is expected to vary depending on the theme and the needs of the proposed activity. The network may be regional, national, or international. It is expected that a proposed network will involve investigators at diverse organizations. The inclusion of new researchers, post-docs, graduate students, and undergraduates is encouraged. Specific efforts to increase participation of underrepresented groups (women, underrepresented minorities, and persons with disabilities) must be included. In the proposal, an initial network of likely participants should be identified. However, there should be clearly developed mechanisms to maintain openness, ensure access, and actively promote participation by interested parties outside of the initial participants in the proposed network.
5. Coordination/management mechanism. The proposal should include a clearly defined management plan. The plan should include a description of the specific roles and responsibilities of the PI and the steering committee. Mechanisms for allocating funds, such as support for the work of a steering committee, should be clearly articulated. The plan should include provisions for flexibility to allow the structure of the participant group to change over time as membership and the network's foci evolve. Mechanisms for assessing progress and the effectiveness of the networking activities should be part of the management plan.
6. Information and material sharing. The goals of this program are to promote effective communication and to enhance opportunities for collaboration. Proposers are expected to develop and present a clearly delineated understanding of individual member's rights to ideas, information, data and materials produced as a result of the award that is consistent with the goals of the program. Infrastructure plans to support the communication and collaboration should be described. When the proposed activity involves generation of community resources such as databases or unique materials, a plan for their timely release and the mechanism of sharing beyond the membership of the RCN must be described in the Data Management Plan, a required Supplementary Document. In addition, a plan for long-term maintenance of such resources must be described without assuming continued support from NSF.
7. International participation. NSF encourages international collaboration, and we anticipate that many RCN projects will include participants, including steering committee members, from outside the US. International collaborations should clearly strengthen the proposed project activities. As NSF funding predominantly supports participation by US participants, network participants from institutions outside the US are encouraged to seek support from their respective funding organizations, notably participants from developed countries. NSF funds may not be used to support the expenses of the international scientists and students at their home organization. For RCN projects that involve international partners, NSF funds may be used for the following:
 - Travel expenses for US scientists and students participating in exchange visits integral to the RCN project
 - RCN-related expenses for international partners to participate in networking activities while in the US.

In addition to the RCN-specific guidance above, RCN-UBE proposals should also address how the network will:

- evaluate and assess the network, its activities, and its products;
- engage its partners, grow, evolve and be sustained;
- identify metrics and contribute to infrastructure beyond traditional products (such as papers); and
- develop and maintain a website for dissemination of RCN activities.

III. AWARD INFORMATION

Estimated Number of Awards: 8 to 12; varies across disciplinary research programs and RCN tracks.

Anticipated Funding Amount: \$6,500,000 to \$8,000,000, pending availability of appropriations. Past RCN-UBE awards can be found on the RCN program page at: https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=11691.

Estimated program budget, number of awards and average award size/duration are subject to the availability of funds.

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 be listed as a PI or co-PI on no more than one full proposal. This restriction does not apply to incubator proposals.

Additional Eligibility Info:

Although the research coordination networks are expected to be multi-organizational, a single organization must serve as the lead and all other organizations as subawardees. Organizations ineligible to submit to this program solicitation may not receive subawards. If they are part of the proposed network, their participation is expected to be supported by non-NSF sources.

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.

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.

Proposers interested in submitting RCN-UBE proposals are strongly encouraged to contact the appropriate NSF program prior to proposal submission for guidance and to determine project suitability for a network approach.

Cover Sheet:

An informative title for the proposed project, that begins with "RCN-UBE:", or "RCN-UBE Incubator:" as appropriate, must be provided.

For proposals with an international dimension, the country or countries involved should be reported on the cover sheet.

Entries on the Cover Sheet **are limited to the principal investigator and a maximum of 4 co-principal investigators**. Additional senior

personnel on the steering committee should be listed in the Overview section of the Project Summary page. These other senior personnel should also be entered as Senior Investigators; this allows their Biographical Sketches and Current and Pending Support statements to be included in the FastLane proposal.

Project Summary (1 page):

May not be more than one page in length, and must include the following sections labeled as they are here:

- **Overview** that includes a description of the proposed RCN-UBE theme, activities and objectives, and a **listing of each of the steering committee members** along with their home organizations.
- **Intellectual Merit** of the proposed RCN-UBE project, indicating how it will advance biology education and the integration of education and research.
- **Broader Impacts** of the proposed work, including mechanisms for actively promoting participation by all interested parties.

Project Description (Full proposals maximum length 15 pages, Incubator proposals maximum length 8 pages):

All RCN-UBE proposals must describe the objectives, rationale, specific networking activities, network management, coordination, participant diversity and other special features stated in Section II above and as described below within the project description. All major organizational collaborations should be described and justified in terms of how each serves the needs or enhances the goals of the network. Note: Incubator proposals should have abbreviated Management, Coordination, and Evaluation plans.

The following exceptions and additional items should be noted:

- If a section is not applicable, please include the section and then state 'not applicable'.
- "Results from Prior Support" need not be included unless the proposed activity is clearly a logical extension of an activity supported by NSF, in which case describe (up to 5 pages to be counted within the 15-page limit) the prior activity and how it relates to the proposed activity.

The remaining sections below must be included in the project description.

Increasing Diversity. A research coordination network benefits from the voices and experiences of investigators from underrepresented groups (women, underrepresented minorities, and persons with disabilities), early-career investigators, and investigators from different types of organizations. The proposal should include: (1) how the plans for increasing diversity are integrated within the proposed project plan; (2) a well-designed plan to increase participation of members of under-represented groups that is specific to the proposed project; (3) a plan to involve investigators at a variety of institution types; and (4) if applicable, a plan to include different faculty employment streams (e. g. adjunct faculty members, faculty on 2 or 3-year contracts), post-docs, and students.

Management plan. Mechanisms for allocating funds, such as support for the work of the steering committee, should be clearly articulated. The PI should include formal mechanisms to ensure fair and equitable allocation of group resources. The procedures used for the selection of initial network participants, the plans for maintaining an appropriate degree of openness and for continually encouraging the involvement of additional interested parties should be clearly delineated. The plan should include provisions for flexibility to allow the structure of the participant group to change over time as membership and the network's foci evolve. There may be an advisory committee. If one is included, the members, roles and responsibilities of the advisory committee should be clearly articulated. Means for self-evaluation of progress toward the network goals should be presented as an important part of the management plan.

Coordination Plan: PIs are **strongly encouraged** to communicate and interact with other established networks. If the proposed network will interface with an established network or group, or if there is a similar activity being planned or ongoing, the plans for coordination and cooperation among the relevant networks must be described in detail. Incubator proposals must also determine whether there are similar existing activities to what they are proposing. PIs are encouraged to do a search of funded NSF RCN-UBE projects to help identify other networks to connect with. For more information on funded NSF RCN-UBE projects, see <https://www.nsf.gov/awardsearch/simpleSearchResult?queryText=RCN-UBE>.

Evaluation and Assessment Plans. An appropriate evaluation plan should be included for all projects, along with project personnel dedicated to the evaluation of project activities. The metrics used to measure success toward the goals of the project (both Intellectual Merit and Broader Impacts) should be identified and the process for their collection and evaluation provided. The assessment plan should detail the ways in which the network activities and products will be assessed. For all full proposals, evaluation and assessment plans must be conducted by an external evaluator who is unaffiliated with the network. For incubator proposals, evaluation activities may be conducted by an evaluator internal to any of the steering committee members' institutions. For both cases, a brief description of the qualifications of the evaluator is required. Note that none of the members of the steering committee can serve as the evaluator.

Sustainability. For all full proposals, the PI must provide details on how the project will be sustained beyond the life of the award. The PI should include strategies to advance the expansion and sustainability of the network such as pursuing funding sources within and beyond NSF.

Broader Impacts. In accordance with the guidance in the PAPPG, all proposals must have a separate section labeled "Broader Impacts". Networks

that adopt best practices to increase the participation of underrepresented groups in biological sciences are encouraged. Activities that promote broadening impacts, such as targeted professional development and/or the creation, use and aggregation of appropriate materials may also be proposed.

Other submission instructions:

Budget. Provide yearly budgets for the duration of the proposed project. When subawards are involved, yearly budgets are required for each subaward. Research.gov or Grants.gov will generate cumulative budgets for the lead and subaward organizations. A budget justification of no more than five pages for the lead organization and for each subaward organization is required. **Organizations ineligible to submit to this program solicitation may not receive subawards.** If they are part of the proposed network, their participation is expected to be supported by non-NSF sources. Allowable costs for international collaboration are described in Section V. Program Description.

Funds may be requested to promote collaborative activities, such as sharing of unique facilities, establishment of a public web site and learning community, network retreats, support of workshops uniquely tied to the network activities, etc. Any well-justified activity that fulfills the goals of the Program will be considered. Innovative ideas for implementing novel networking strategies to promote collaborations and enable new directions or advancement of a field are especially encouraged. Funds from this program may not support independent, individual research projects of the participants; **nor are they to be used as a mechanism for a mini-grant awarding program.** RCN-UBE proposals should provide resources for the full involvement of steering committee members from under-resourced institution(s). To adequately support these individuals, funds should be allocated to ensure their equitable participation in the network (i.e., the purchase of instructional materials for their home institution, access to library facilities and other services).

Note that funds requested to support activities of the network participants, such as participant travel, materials and supplies for the network projects, and network retreats should be listed as "participant support" in the proposed budget and managed by the submitting organization. Programmatic norms show that approximately half of previous awards were devoted to participant costs. Please refer to the PAPPG for guidance regarding proposed international travel.

ADDITIONAL REQUIRED INFORMATION SUPPLEMENTARY DOCUMENTS

1. Data Management Plan: As specified in the NSF Proposal and Award Policies and Procedures Guide (PAPPG), all proposals must include a maximum 2-page Data Management Plan as a Supplementary Document. Although collection of new data is not supported in RCN projects, this plan should describe issues related to information exchange, intellectual property rights, credit, and attribution (such as authorship expectations) for all outcomes, derived products, databases, software, model output, and materials sharing. For example, if the proposed activity is expected to result in community resources (such as databases or collections of biological materials), the Data Management Plan should present a clear plan for sharing of these resources not only among the network participants but with the scientific community at large. The Data Management Plan should also address plans for determining authorship or proper attribution of credit for peer-reviewed or other publications, Internet resources, etc. that may be expected to result from the activity. General RCN proposals submitted to appropriate core programs should also ensure that they fulfill any program-specific guidelines for the Data Management Plan if applicable.

2. Postdoctoral Researcher Mentoring Plan: Each proposal that requests funding to support postdoctoral researchers must include, as a supplementary document, a description of the mentoring activities that will be provided for such individuals. Please be advised that if required, NSF systems will not permit submission of a proposal that is missing a Postdoctoral Researcher Mentoring Plan. See Chapter II of the PAPPG for further information about the implementation of this requirement. The Postdoctoral Researcher Mentoring Plan is considered an integral part of the project and therefore subject to reviewer, panel, and program evaluation. Successful proposers will be expected to address this issue in annual and final project reports.

3. Letters of Collaboration: This section could include any letters of collaboration or commitment from individuals or organizations that are integral parts of the proposed project, such as the involvement of collaborator organizations that are not supported by subawards or documentation of permission to access materials, data, or other associated project activities. Letters should focus solely on affirming that the individual or organization is willing to collaborate on the project as specified in the project description of the proposal. No additional text, especially elaboration of the nature of activities to be undertaken by the collaborator and endorsements of the potential value or significance of the project for the collaborator, may be included. A template that must be used for the preparation of letters of collaboration is provided below.

Letters of collaboration **should not be provided for members of the steering committee** nor are they required for any organization that will be a **sub awardee** in the proposal budget.

Letters of collaboration are not required for potential participants in the RCN-UBE although such individuals might be mentioned in the project description. RCN-UBE participants are not necessarily collaborators in the overall RCN project; their level of involvement in the RCN is likely to change through time, and an up-front commitment is neither necessary nor helpful to the review process.

Each letter of collaboration must be signed by the designated collaborator. Requests to collaborators for letters of collaboration should be made by the PI well in advance of the proposal submission deadline because they must be included at the time of the

proposal submission. Letters deviating from this template are not accepted and may be grounds for returning the proposal without review.

The recommended format for letters of collaboration is as follows:

"If the proposal submitted by Dr. [insert the full name of the Principal Investigator] entitled [insert the proposal title] is selected for funding by NSF, it is my intent to collaborate and/or commit resources as detailed in the Project Description or the Facilities, Equipment and Other Resources section of the proposal."

B. Budgetary Information

Cost Sharing:

Inclusion of voluntary committed cost sharing is prohibited.

Other Budgetary Limitations:

Funds from this program may not support independent, individual research projects of the participants; nor are they to be used as a mechanism for a mini-grant awarding program.

Full RCN-UBE proposals can be for up to 5 years in duration and budgets should not exceed \$500,000. RCN-UBE Incubator proposals can be for up to \$75,000 for one year.

C. Due Dates

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

January 25, 2022

Fourth Tuesday in January, Annually Thereafter

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 1-800-673-6188 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 the NSF FastLane system for further processing.

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 *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, protects, 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 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

RCN-UBE proposals will be evaluated for their creativity, innovation, and potential to advance and transform biology education, including emerging areas at the interface of other disciplines.

RCN proposals must establish the infrastructure to create new networks of scientists, educators, and other stakeholders who have not previously worked together. RCN-UBEs cannot use resources to fund primary research or to sustain existing networks.

For all proposals involving international collaborations, reviewers will consider: mutual benefits, true intellectual collaboration with the foreign partner(s), benefits to be realized from the expertise and specialized skills, facilities, sites and/or resources of the international counterpart, and active engagement of U.S. students and early-career researchers in the RCN-UBE activities.

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) 292-8134 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

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.

Special Award Conditions:

RCN awardees must develop and maintain a website for dissemination of RCN activities and information, including opportunities for participation.

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:

- Joel K. Abraham, BIO/DBI, telephone: (703) 292-4694, email: jkabraha@nsf.gov
- Amanda A. Simcox, telephone: (703) 292-8165, email: asimcox@nsf.gov
- Ellen M. Carpenter, EDU/DUE, telephone: (703) 292-5104, email: elcarpen@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 (FASED) 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** (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 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 [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



National Science Foundation, 2415 Eisenhower Avenue, Alexandria, Virginia 22314, USA
Tel: (703) 292-5111, FIRS: (800) 877-8339 | TDD: (703) 292-5090 or (800) 281-8749

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