

# NSF 24-603: Biomedical Research Initiative for Next-Gen BioTechnologies - SynBio Control (BRING SynBio)

## Program Solicitation

### Document Information

#### Document History

- **Posted:** September 5, 2024

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#### U.S. National Science Foundation

Directorate for Engineering

Division of Chemical, Bioengineering, Environmental and Transport Systems

Division of Civil, Mechanical and Manufacturing Innovation



National Institutes of Health

National Institute of Biomedical Imaging and Bioengineering

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

December 04, 2024



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## Important Information And Revision Notes

This opportunity does not support Clinical Trials.

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:

Biomedical Research Initiative for Next-Gen BioTechnologies - SynBio Control (BRING SynBio)

#### Synopsis of Program:

The National Science Foundation Directorate for Engineering (NSF/ENG) and the National Institute of Biomedical Imaging and Bioengineering (NIH/NIBIB) announce the Biomedical Research Initiative for Next-Gen BioTechnologies-SynBio Control (BRING-SynBio) Solicitation. The BRING-SynBio Control solicitation aims to accelerate the translation of novel fundamental synthetic and engineering biology advances to early-stage biomedical technologies through interagency collaboration.

Projects responsive to the BRING-SynBio solicitation will include a two-phased plan to pursue proof of principle synthetic and engineering biology research (Phase I) and exploratory research to translate findings toward biomedical technologies (Phase II). Phase II research should build on the projected outcomes of Phase I. NSF will provide support for fundamental research activity in Phase I. NIH will provide support for exploratory biomedical engineering technology development in Phase II. Successful completion of Phase I milestones will be administratively evaluated by NIH/NIBIB to determine eligibility to transition to Phase II. This transition is neither automatic nor guaranteed.

**Potential areas of interest for BRING-SynBio include but are not limited to:**

Novel design principles for the characterization and design of new synthetic biology tools and parts:

- Gene circuit designs that enhance robustness, reliability, predictability, and tuneability of current designs.
- Modular designs for tools and parts that, when combined, result in predictable network outcomes.
- New strategies to improve upon size limitations of gene circuit designs.

Regulation and control of biological processes in cells/tissues:

- Synthetic gene regulatory networks for controlled modulation of gene expression and dynamic noise filtering.
- Design of synthetic circuits that incorporate novel feedback control strategies.

Projects that address only one of the phases, do not pursue advances in synthetic biology that incorporate biological control theory, or do not address a challenge with clear relevance to the [mission of NIBIB](#) are non-responsive. **Non-responsive projects will be returned without review.**

## **Broadening Participation In STEM**

NSF recognizes the unique lived experiences of individuals from communities that are underrepresented and/or underserved in science, technology, engineering, and mathematics (STEM) and the barriers to inclusion and access to STEM education and careers. NSF highly encourages the leadership, partnership, and contributions in all NSF opportunities of individuals who are members of such communities supported by NSF. This includes leading and designing STEM research and education proposals for funding; serving as peer reviewers, advisory committee members, and/or committee of visitor members; and serving as NSF leadership, program, and/or administrative staff. NSF also highly encourages demographically diverse institutions of higher education (IHEs) to lead, partner, and contribute to NSF opportunities on behalf of their research and education communities. NSF expects that all individuals, including those who are members of groups that are underrepresented and/or underserved in STEM, are treated equitably and inclusively in the Foundation's proposal and award process.

NSF encourages IHEs that enroll, educate, graduate, and employ individuals who are members of groups underrepresented and/or underserved in STEM education programs and careers to lead, partner, and contribute to NSF opportunities, including leading and designing STEM research and education proposals for funding. Such IHEs include, but may not be limited to, community colleges and two-year institutions, mission-based institutions such as Historically Black Colleges and Universities (HBCUs), Tribal Colleges and Universities (TCUs), women's colleges, and institutions that primarily serve persons with disabilities, as well as institutions defined by enrollment such as Predominantly Undergraduate Institutions (PUIs), Minority-Serving Institutions (MSIs), and Hispanic Serving Institutions (HSIs).

"Broadening participation in STEM" is the comprehensive phrase used by NSF to refer to the Foundation's goal of increasing the representation and diversity of individuals, organizations, and geographic regions that contribute to STEM teaching, research, and innovation. To broaden participation in STEM, it is necessary to address issues of equity, inclusion, and access in STEM education, training, and careers. Whereas all NSF programs might support broadening participation components, some programs primarily focus on supporting broadening participation research and projects. Examples can be found on the NSF [Broadening Participation in STEM](#) website.

### **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.*

- Steven W. Peretti, telephone: (703) 292-4201, email: [isperetti@nsf.gov](mailto:isperetti@nsf.gov)
- Aleksandr L. Simonian, telephone: (703) 292-2191, email: [asimonia@nsf.gov](mailto:asimonia@nsf.gov)
- Stephanie George, telephone: (703) 292-7825, email: [stgeorge@nsf.gov](mailto:stgeorge@nsf.gov)

- Steven M. Zehnder, telephone: (703) 292-7014, email: [szehnder@nsf.gov](mailto:szehnder@nsf.gov)
- Shivani Sharma, telephone: (703) 292-4204, email: [shisharm@nsf.gov](mailto:shisharm@nsf.gov)
- Tuba Fehr, National Institute of Biomedical Imaging and Bioengineering, telephone: (301) 451-7958, email: [tuba.fehr@nih.gov](mailto:tuba.fehr@nih.gov)

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

- 47.041 --- Engineering
- 93.286 --- National Institute of Biomedical Imaging and Bioengineering

**Award Information**

**Anticipated Type of Award:** Standard Grant

**Estimated Number of Awards:** 6 to 8

**Anticipated Funding Amount:** \$1,800,000 to \$2,400,000

**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 laboratories, professional societies and similar organizations located in the U.S. that are directly 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: 1**

An investigator may participate as Principal Investigator (PI), co-Principal Investigator (co-PI), or Other Senior/Key Personnel on no more than one proposal submitted in response to this solicitation. These eligibility constraints will be strictly enforced in order to treat everyone fairly and consistently. In the event that an individual exceeds this limit, proposals received within the limit will be accepted based on earliest date and time of proposal submission (i.e., the first two proposals received will be accepted, and the remainder will be returned without review). No exceptions will be made.

**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](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](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:**  
Not Applicable

## **C. Due Dates**

- **Full Proposal Deadline(s)** (due by 5 p.m. submitting organization's local time):  
December 04, 2024

## **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.

## **I. Introduction**

The National Science Foundation Directorate for Engineering (NSF/ENG) and the National Institute of Biomedical Imaging and Bioengineering (NIH/NIBIB) announce the Biomedical Research Initiative for Next-Gen BioTechnologies-SynBio Control (BRING-SynBio) Solicitation. The BRING-SynBio Control solicitation aims to accelerate the translation of novel fundamental synthetic and engineering biology advances to early-stage biomedical technologies through interagency collaboration.

## **II. Program Description**

The goal of the BRING-SynBio solicitation is to support fundamental and interdisciplinary proof of principle approaches in synthetic and engineering biology that spur the development of novel, early-stage biomedical technologies. This solicitation is focused on the use of biological control theory in the design and characterization of new synthetic biological tools and parts and their downstream application to technology development in the biomedical field. In this solicitation, biological control theory is defined as control strategies that are analogous to those exhibited in natural systems and include, but are not limited to, nested loops, multiple induction and inhibition interactions, feedback control, sensing and signaling functions, and switching between alternate pathways. Proposals must address research on fundamental aspects of synthetic and engineering biology and their potential to lead to early-stage biomedical technology development projects eligible for support through the NIH/NIBIB. Clinical Trials are not supported by this activity.

Projects are expected to include a two-year plan (Phase I) of fundamental, proof of principle research involving novel, biological control-guided aspects of synthetic gene circuit design and a two-year plan (Phase II) describing exploratory research focused on further development and validation of Phase I emerging technologies that offer novel capabilities for biomedical technology development to achieve overall project objectives. Phase II efforts should be predicated upon the proof of principle established during Phase I and should address major feasibility gaps for the technology that require further development and rigorous validation in a biomedically relevant setting. NSF/ENG will support fundamental research at the institution of higher education or non-profit organization in Phase I. The early-stage biomedical technology development efforts in Phase II will be supported separately by NIH/NIBIB.

NSF will coordinate and manage the review of the proposals. Proposals will be shared with NIH/NIBIB Program staff to determine programmatic fit to NIBIB's mission and suitability for funding. Investigators are advised to consult with NSF/ENG and NIH/NIBIB program officers early in their proposal planning process. No more than 21 months after the Phase I start date, award recipients may submit a Phase II transition package via email to the Program Officer at NIH/NIBIB including a Phase I report describing in detail progress towards completion of the Phase I milestones and may be asked to include other information necessary for successful evaluation of the Phase I of the project. This transition package may be shared with NSF Program Staff. Satisfactory completion of the Phase I milestones will be assessed administratively by agency staff to determine eligibility for transition to Phase II. Transition to Phase II is neither automatic nor guaranteed. After administrative review of the Phase I progress, it is possible that a project will not be recommended for transition to Phase II. Transition to Phase II will depend upon demonstration of milestone completion, feasibility of plans, programmatic priorities, and availability of funds. See Section VI.B for additional information.

## **III. Award Information**

NSF will provide \$150,000 in total cost per award per year for 2 years for Phase I. NSF estimates to make 6-8 awards total for Phase I per funding round.

NIH will provide \$275,000 in direct cost per award over 2 years for Phase II. Please refer to the Phase II budget in the Additional Documents section of the solicitation for details. NIH estimates to make 4-5 awards total for Phase II per funding round.

Estimated program budget, number of awards and average award size/duration are subject to the availability of funds. Anticipated Funding Amount estimates solely reflect NSF or NIH contributions in a given fiscal year.

## **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 laboratories, professional societies and similar organizations located in the U.S. that are directly 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: 1**

An investigator may participate as Principal Investigator (PI), co-Principal Investigator (co-PI), or Other Senior/Key Personnel on no more than one proposal submitted in response to this solicitation. These eligibility constraints will be strictly enforced in order to treat everyone fairly and consistently. In the event that an individual exceeds this limit, proposals received within the limit will be accepted based on earliest date and time of proposal submission (i.e., the first two proposals received will be accepted, and the remainder will be returned without review). No exceptions will be made.

#### **Additional Eligibility Info:**

Non-domestic (non-US) Entities (Foreign Institutions) are not eligible to apply for funding under this solicitation, nor to act as lead or collaborating institutions.

## **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](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](mailto: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](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](mailto: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 Titles:** Proposal titles must begin with BRING-SynBio, followed by a colon and the title of the project, for example BRING-SynBio: Title. If a proposal is submitted as part of a set of collaborative proposals, the title of the proposal should begin with Collaborative Research followed by a colon, then BRING-SynBio, followed by a colon, and the title. For example, the title of each proposal in a collaborative set of proposals would be Collaborative Research: BRING-SynBio: Title.

#### **Project Description:**

**Phase I and Phase II Headings:** A single Project Description must be submitted, and it must contain separate, clearly labeled headings for Phase I and Phase II. Under each heading, the research activities pursued under that phase must be described in detail. Objectives for Phase II should be based on the anticipated results from Phase I. Proposals must include both Phase I and Phase II to be considered complete and eligible for review.

**Milestones:** Delineation of milestones for Phase I is a key requirement of this solicitation. Proposals must provide a section entitled "Milestones," at the end of the Phase I Project Description. This section must include a clear description of the Phase I milestones that, if met, will justify proceeding to Phase II. A milestone is defined as a scheduled event in the project timeline or a quantitative performance measure that signifies completion of a major project stage/activity. Criteria for success of proposed tools and methodological approaches should be clearly outlined in the milestones and should be defined in terms of outcomes achieved (rather than tasks to be completed) to demonstrate initial validation of proposed tools and feasibility. The milestones proposed in the proposal must be objective, quantifiable, rigorously defined, feasible (in terms of the study timeline and approach), and scientifically justified. They should not be a restatement of the Phase I specific aims. An example of an NIH proposal containing milestones can be found at <https://www.niaid.nih.gov/grants-contracts/sample-applications#r21r33>.

**Ethical, Legal, and Social Implication (ELSI):** The Project Description must contain discussion of the Ethical, Legal, and Social Implications of the proposed work. Developments in synthetic and engineering biology have ethical, legal, and social implications. Proposals are required to integrate ethical considerations and implications of the research including research integrity, diversity of the research team, and societal impacts. This could include consideration of issues such as: transparency, inclusivity, social responsibility, impartiality, reliability, security and privacy. Related issues are openness and fairness of societal access to new technologies, responsible development of safe, secure, and robust operations in expected or foreseeable social and/or engineering contexts. Investigators are encouraged to consider the ethical implications of both intended and unintended outcomes, positive and negative, of new technologies and how best to mitigate risk to society.

**Broader Impacts:** Please follow the guidance provided in the PAPPG to prepare the Broader Impacts section. As a reminder, this must be a separate section labeled "Broader Impacts."

**Phase I Budget:** The Phase I budget is to be provided as described in the PAPPG. The estimated Phase II budget is not included in that submitted budget, it is to be provided as an additional document as described below.

#### **Additional Documents:**

**Supplementary Documents:** Supplementary documents are limited to the specific types of documentation listed in the PAPPG, with the following exceptions:

**1. Human Subjects Protection:** Proposals involving human subjects should include a supplementary document of no more than two pages in length summarizing potential risks to human subjects; plans for recruitment and informed



consent; inclusion of women, minorities, and children; and planned procedures to protect against or minimize potential risks. Human subjects plans must include the [NIH enrollment table](#).

**2. Vertebrate Animals:** Proposals involving vertebrate animals should include a supplementary document of no more than two pages in length that addresses the following points:

- Detailed description and justification of the proposed use of the animals, including species, strains, ages, sex, and number to be used;
- Information on the veterinary care of the animals;
- Description of procedures for minimizing discomfort, distress, pain, and injury; and
- Method of euthanasia and the reasons for its selection

**3. List of Project Personnel and Partner Institutions:** (Note - In separately submitted collaborative proposals, only the lead organization should provide this information). Provide current, accurate information for all personnel and institutions involved in the project. NSF staff will use this information in the merit review process to manage reviewer selection. The list should include all PIs, co-PIs, Senior/Key Personnel, funded or unfunded consultants and collaborators, Postdocs, and project-level advisory committee members. The list should include all personnel involved in sub-awards. This list should be numbered and include (in this order) Full name, Organization(s), and Role in the project, with each item separated by a semi-colon. Each person listed should start a new numbered line. For example:

- <First Name><Last Name>; <Organization Name>; <Role>
- <First Name><Last Name>; <Organization Name>; <Role>
- <First Name><Last Name>; <Organization Name>; <Role>
- <First Name><Last Name>; <Organization Name>; <Role>

**4. Letters of Collaboration:** There are two types of collaboration, one involving individuals/organizations that are included in the budget, and the other involving individuals/organizations that are not included in the budget. Collaborations that are included in the budget should be described in the Project Description. Any substantial collaboration with individuals/organizations not included in the budget should be described in the Facilities, Equipment and Other Resources section of the proposal. In either case, a letter of collaboration from each named participating organization other than the submitting lead, non-lead, and/or sub-awardee organizations must be provided at the time of submission of the proposal. These letters must not deviate from the restrictions and requirements set forth in Chapter II.D.2 of the PAPPG.

**5. Phase II Budget:** An estimated Phase II budget must be submitted using the SF424 R&R budget form ([https://apply07.grants.gov/apply/forms/sample/RR\\_Budget\\_3\\_0-V3.0.pdf](https://apply07.grants.gov/apply/forms/sample/RR_Budget_3_0-V3.0.pdf)). A detailed budget for both years of Phase II activities must be included. The combined budget for direct costs for the two-year Phase II project period may not exceed \$275,000. No more than \$200,000 in direct costs may be requested in any single year. Indirect costs, such as facilities and administrative costs can be requested in addition to the direct costs for each year of the Phase II project, however the overall Phase II budget must remain under \$275,000 in direct costs over the two-year budget period. This budget document is an estimate.

## **B. Budgetary Information**

### **Cost Sharing:**

Inclusion of voluntary committed cost sharing is prohibited.

### **C. Due Dates**

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

December 04, 2024

## 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-web/content/aboutpsm>. For Research.gov user support, call the Research.gov Help Desk at 1-800-381-1532 or e-mail [rgov@nsf.gov](mailto:rgov@nsf.gov). The Research.gov Help Desk answers general technical questions related to the use of Research.gov systems. Specific questions related to this program solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this funding opportunity.

### For Proposals Submitted Via Grants.gov:

Before using Grants.gov for the first time, each organization must register to create an institutional profile. Once registered, the applicant's organization can then apply for any federal grant on the Grants.gov website. Comprehensive information about using Grants.gov is available on the Grants.gov Applicant Resources web page: <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](mailto:support@grants.gov). The Grants.gov Contact Center answers general technical questions related to the use of Grants.gov. Specific questions related to this program solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this solicitation.

**Submitting the Proposal:** Once all documents have been completed, the Authorized Organizational Representative (AOR) must submit the application to Grants.gov and verify the desired funding opportunity and agency to which the application is submitted. The AOR must then sign and submit the application to Grants.gov. The completed application will be transferred to the NSF Research.gov system 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 acknowledgment 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/](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 and Sharing Plan and the Mentoring Plan, as appropriate.

#### **Additional Solicitation Specific Review Criteria**

Proposals will be reviewed on additional criteria specific to this solicitation and additional NIH Review Criteria.

- How well does the project innovate on biological control theory and incorporate it in the overall study design?
- Does the Phase I effort address transformative approaches in the design and characterization of new synthetic circuits and regulatory networks?
- Does the proposal address the potential of the project to lead to early-stage biomedical technology development projects at NIH?
- Does the Phase II effort address major feasibility gaps for the proposed technology that require further development and rigorous validation in a biologically relevant setting?
- Does the proposal outline clear, quantifiable, and well justified milestones that can be met within the grant period and support proceeding to Phase II?
- How well does the proposal address the ethical, social, and legal implications of the proposed work?

#### **Additional NIH Review Criteria:**

The mission of the NIH is to support science in pursuit of knowledge about the biology and behavior of living systems and to apply that knowledge to extend healthy life and reduce the burdens of illness and disability. In their evaluations of scientific merit, reviewers will be asked to consider the following criteria that are used by NIH:

- **Overall Impact.** Reviewers will provide an overall impact/priority score and criterion scores to reflect their assessment of the likelihood for the project to exert a sustained, powerful influence on the research field(s) involved, in consideration of the following five core review criteria, and additional review criteria (as applicable for the project proposed).
- **Significance.** Does the project address an important problem or a critical barrier to progress in the field? If the aims of the project are achieved, how will scientific knowledge, technical capability, and/or clinical practice be improved? How will successful completion of the aims change the concepts, methods, technologies, treatments, services, or preventative interventions that drive this field?
- **Investigator(s).** Are the PD/PIs, collaborators, and other researchers well suited to the project? If Early-Stage Investigators or New Investigators, do they have appropriate experience and training? If established, have they demonstrated an ongoing record of accomplishments that have advanced their field(s)? If the project is collaborative or multi-PD/PI, do the investigators have complementary and integrated expertise; are their leadership approach, governance and organizational structure appropriate for the project?
- **Innovation.** Does the application challenge and seek to shift current research or clinical practice paradigms by utilizing novel theoretical concepts, approaches or methodologies, instrumentation, or interventions? Are the concepts, approaches or methodologies, instrumentation, or interventions novel to one field of research or novel in a broad sense? Is a refinement, improvement, or new application of theoretical concepts, approaches or methodologies, instrumentation, or interventions proposed?
- **Approach.** Are the overall strategy, methodology, and analyses well-reasoned and appropriate to accomplish the specific aims of the project? Are potential problems, alternative strategies, and benchmarks for success presented? If the project is in the early stages of development, will the strategy establish feasibility, and will particularly risky aspects be managed? If the project involves clinical research, are the plans for 1) protection of human subjects from research risks, and 2) inclusion of minorities and members of both sexes/genders, as well as the inclusion of children, justified in terms of the scientific goals and research strategy proposed?

- **Environment.** Will the scientific environment in which the work will be done contribute to the probability of success? Are the institutional support, equipment, and other physical resources available to the investigators adequate for the project proposed? Will the project benefit from unique features of the scientific environment, subject populations, or collaborative arrangements? Where applicable, the following items will also be considered:
- **Protections for Human Subjects.** For research that involves human subjects but does not involve one of the six categories of research that are exempt under 45 CFR Part 46, the committee will evaluate the justification for involvement of human subjects and the proposed protections from research risk relating to their participation according to the following five review criteria: 1) risk to subjects, 2) adequacy of protection against risks, 3) potential benefits to the subjects and others, 4) importance of the knowledge to be gained, and 5) data and safety monitoring. For research that involves human subjects and meets the criteria for one or more of the six categories of research that are exempt under 45 CFR Part 46, the committee will evaluate: 1) the justification for the exemption, 2) human subjects involvement and characteristics, and 3) sources of materials. For additional information on review of the Human Subjects section, please refer to the Human Subjects Protection and Inclusion Guidelines.
- **Inclusion of Women, Minorities, and Children.** When the proposed project involves clinical research, the committee will evaluate the proposed plans for inclusion of minorities and members of both genders, as well as the inclusion of children.
- **Vertebrate Animals.** The committee will evaluate the involvement of live vertebrate animals as part of the scientific assessment according to the following five points: 1) proposed use of the animals, and species, strains, ages, sex, and numbers to be used; 2) justifications for the use of animals and for the appropriateness of the species and numbers proposed; 3) adequacy of veterinary care; 4) procedures for limiting discomfort, distress, pain and injury to that which is unavoidable in the conduct of scientifically sound research including the use of analgesic, anesthetic, and tranquilizing drugs and/or comfortable restraining devices; and 5) methods of euthanasia and reason for selection if not consistent with the AVMA Guidelines on Euthanasia. For additional information, see <https://grants.nih.gov/grants/olaw/VASchecklist.pdf>.
- **Biohazards.** Reviewers will assess whether materials or procedures proposed are potentially hazardous to research personnel and/or the environment, and if needed, determine whether adequate protection is proposed.
- **Budget and Period of Support.** Reviewers will consider whether the budget and the requested period of support are fully justified and reasonable in relation to the proposed research.

## B. Review and Selection Process

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

NSF will coordinate and manage the review of the proposals. Proposals will be shared with NIH/NIBIB Program staff to determine programmatic fit to NIBIB's mission and suitability for funding. All proposals will be assessed jointly by NSF and NIH. Program Officers from both agencies will be involved in selecting ad hoc reviewers and panelists, operating a joint panel, and, following joint discussion of overall feasibility, settling on recommendations to their respective leadership.

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.

**NSF Process:** 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.

**This section provides NIH/NIBIB-specific guidance for the BRING BioTech-SynBio Control program.**

#### **Phased Award:**

After initial peer review, and before an award is made, the assigned NIH program officer may contact the PI to negotiate transition milestones, which will include recommendations from reviewers, program staff, or possibly both.

If a proposal is funded:

- The PI should read the award notice, including the phased award terms and conditions of award. The agreed upon milestones negotiated with the NIH program officer will be included as a condition in the Notice of Award.
- The PI should read and keep for future reference the Phased Award Informational Letter, which gives detailed instructions on the transition application and the deadline for applying without a break in funds. The PI will receive it approximately one year before the end of the Phase I award.
- The Phase I award will reflect the budget period for only Phase I.

#### **Transition to Phase II:**

No more than 21 months after the initial award start date, award recipients may submit a Phase II transition package to NIH that includes the following information:

- Fill out a [Non-Competing Continuation Progress Report \(PHS 2590\)](#) PDF. Include the following items:
  - Summary of the Phase I Specific Aims and importance of the work accomplished.
  - A section called "Milestones," describing in detail the milestones and progress achieved in Phase I.
  - Specific aims and research strategy for second phase/extension.
  - Data Management Plan for Phase II of the project. Data Management Plans must conform with the [NIH Data Management and Sharing Policy](#). Investigators are strongly encouraged to use the [Data Management and Sharing Plan Format Page](#) (OMB No. 0925-0001 and 0925-0002).
  - An updated budget form ([https://apply07.grants.gov/apply/forms/sample/RR\\_Budget\\_3\\_0-V3.0.pdf](https://apply07.grants.gov/apply/forms/sample/RR_Budget_3_0-V3.0.pdf)) with detailed budget justifications for each year of Phase II where applicable. If a detailed budget estimate for Phase II was included during the initial phase and there are no further changes, please do not include a new budget.
  - Updated biographical sketches for all key personnel.
  - Any additional documentation requested by program staff.

Program staff will review the transition package for completeness, and the cognizant program officer may contact the PI for additional information if he or she cannot assess whether milestones have been met. Once program staff determines that milestones have been met, they will assess the priority of the project and availability of funds in the NIBIB budget. If

the transition package is approved, the project will transition to Phase II. If the transition package is not approved, the PI and the PI's institution will be notified and the award will be closed out at the end of the Phase I award period. Phase II can begin only at the end of a Phase I budget year. Phase I will not be terminated early to fund Phase II.

## **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](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](mailto:nsfpubs@nsf.gov).

More comprehensive information on NSF Award Conditions and other important information on the administration of NSF awards is contained in the NSF *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](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 infrastructure projects under 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](#) web page

#### **Special Award Conditions:**

Attribution of support in publications must acknowledge the joint program, as well as the funding organization and both the NSF and NIH award numbers, by including the phrase, "as part of the NSF/NIH BRING BioTech-SynBio Control Program under [NSF award number] and [NIH award number]." During Phase I, award recipients will be required to submit a copy of their annual project report to cognizant NIH program officers.

**NIH-Specific Award Conditions:** Contact the cognizant NIH program officer for additional information.



## 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 annual project report, and a project outcomes report for the general public.

Failure to provide the required annual or final annual 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 annual 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](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:

- Steven W. Peretti, telephone: (703) 292-4201, email: [speretti@nsf.gov](mailto:speretti@nsf.gov)
- Aleksandr L. Simonian, telephone: (703) 292-2191, email: [asimonia@nsf.gov](mailto:asimonia@nsf.gov)
- Stephanie George, telephone: (703) 292-7825, email: [stgeorge@nsf.gov](mailto:stgeorge@nsf.gov)
- Steven M. Zehnder, telephone: (703) 292-7014, email: [zehnder@nsf.gov](mailto:zehnder@nsf.gov)
- Shivani Sharma, telephone: (703) 292-4204, email: [shisharm@nsf.gov](mailto:shisharm@nsf.gov)
- Tuba Fehr, National Institute of Biomedical Imaging and Bioengineering, telephone: (301) 451-7958, email: [tuba.fehr@nih.gov](mailto:tuba.fehr@nih.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](mailto: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](mailto: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.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** (NSF Information Center): (703) 292-5111
- **TDD (for the hearing-impaired):** (703) 292-5090

- **To Order Publications or Forms:**

Send an e-mail to: [nsfpubs@nsf.gov](mailto:nsfpubs@nsf.gov)

or telephone: (703) 292-8134

- **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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[Plain language](#) |



National Science Foundation, 2415 Eisenhower Ave Alexandria, VA 22314  
Tel: [\(703\) 292-5111](tel:7032925111),