

NSF Boosting Research Ideas for Transformative and Equitable Advances in Engineering (BRITE)

PROGRAM SOLICITATION NSF 23-592

REPLACES DOCUMENT(S): NSF 22-559



National Science Foundation
Directorate for Engineering
Division of Civil, Mechanical and Manufacturing Innovation

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

September 28, 2023

IMPORTANT INFORMATION AND REVISION NOTES

Revision Notes

1. The Synergy Track is removed. The solicitation now contains three tracks: Pivot, Relaunch, and Fellow.
2. The award duration is 3 years for all BRITE awards, with the potential for an NSF-initiated Two-Year Extension for Special Creativity for Fellow Track awards.
3. For Fellow awards only, the annual review at the end of year 2 will be used to assess progress the awardees have made towards advancing project goals.
4. "Research Approach and Research Plan" is removed from the additional solicitation specific review criteria.
5. List of Project Personnel must now also include any other project collaborators besides the PI and all Senior Personnel.
6. The list of cognizant Program Officers is updated.
7. Extensive revision of language has been performed for consistency and clarification, without change in intent, scope, and expected outcomes.

Important Information

NSF will hold TWO webinars on: June 20 and July 10. The information is as follows:

When: Jun 20, 2023 and July 10, 2023 @ 02:00-3:30 PM Eastern Time (US and Canada)

Topic: BRITE FY24 Solicitation Information Webinar

Register in advance for this webinar: https://nsf.zoomgov.com/webinar/register/WN_U7YjthToQFyVvoK7-tkeOw

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:

NSF Boosting Research Ideas for Transformative and Equitable Advances in Engineering (BRITE)

Synopsis of Program:

Program Title:

NSF Boosting Research Ideas for Transformative and Equitable Advances in Engineering (BRITE)

Synopsis of Program:

The National Science Foundation's strategic goals are to expand knowledge and build capacity for a diverse science and engineering workforce [1], consistent with NSF's commitment to diversity, equity, and inclusion in all science and engineering fields and research endeavors, as well as with US Government priorities [2,3]. This solicitation seeks proposals that enable experienced researchers with active research programs to take risks not typically associated with proposals submitted to core programs by pivoting to research areas where they have no proven track record, gaining knowledge from a different discipline and using it to forge new directions in their research field, or exploring divergent, bold, and ambitious research ideas where the expected scientific outcomes are highly uncertain and the potential to transform a field is significant, or experienced researchers with a hiatus in research activity to reestablish a foundation for sustained research productivity and broader impacts [4-10]. It is grounded in the expectation that leveraging prior science and engineering outcomes, harnessing talent from the broad scientific research community, enabling time for reflection and deliberation, including by learning new skills and through immersion in new areas, and supporting intellectual risk taking will lead to scientific and technological innovation.

All BRITE proposals are expected to address fundamental research that creates new knowledge in one or more program areas of the Division of Civil, Mechanical and Manufacturing Innovation (CMMI). BRITE proposals must identify key research outcomes and describe the research plans for the period of funding sought. Although collaborative proposals are not permitted and will be returned without review, the PI can include a collaborator as senior personnel. The role of such senior personnel should be limited to reflect the intended investment in the PI.

The solicitation includes three funding tracks in support of experienced scientists and engineers (tenured or equivalent): Pivot, Relaunch, and Fellow.

- The BRITE **Pivot Track** is intended to enable researchers to quickly adapt to the fast-moving pace of research by either leveraging their experience when pursuing a pivot into a field of research where they have no proven track record, or by incorporating research tools and methodologies from other fields of research to advance knowledge in their areas of expertise.
- The BRITE **Relaunch Track** is intended to enable researchers who have had a hiatus in research activity to relaunch back into active research by reestablishing a foundation for sustained productivity and broader impacts in the context of a research idea with significant potential for advancing knowledge.
- The BRITE **Fellow Track** is intended to support researchers who have demonstrated significant impact through and beyond scientific output to request extended time and freedom to use their intellectual creativity to explore divergent, bold, and ambitious research ideas where the expected scientific outcomes are highly uncertain and, therefore, high risk.

PIs are strongly encouraged to contact a cognizant Program Officer to assess the responsiveness of their ideas to the BRITE solicitation prior to submission. All funded projects will form an NSF BRITE cohort and investigators will be required to attend an annual PI meeting and may be invited to other activities.

The expected funding ranges for BRITE awards are:

\$100,000 - \$200,000 per year

The award duration is 3 years for all BRITE awards, with the potential for an NSF-initiated Two-Year Extension for Special Creativity (see: <https://beta.nsf.gov/policies/pappg/23-1/ch-6-nsf-awards#6D3d>) for Fellow track awards.

BRITE proposals responding to this solicitation must include sections within the 15-page Project Description with the following section headings: Past Contributions, Research Approach and Research Plan, Track Relevance, Outcomes, and Diversity, Equity, and Inclusion Plan. Please see "Full Proposal Preparation Instructions" for additional details.

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.

- Siddiq M. Qidwai, Team Lead, telephone: (703) 292-2211, email: BRITE@nsf.gov
- Khershed P. Cooper, AM Cluster Rep, telephone: (703) 292-7017, email: BRITE@nsf.gov
- Harry Dankowicz, DCC Cluster Rep, telephone: (703) 292-2344, email: BRITE@nsf.gov
- Gianluca Cusatis, ECI Cluster Rep, telephone: (703) 292-5026, email: BRITE@nsf.gov
- Laurel C. Kuxhaus, MEM Cluster Rep, telephone: (703) 292-4465, email: BRITE@nsf.gov
- Kathryn Jablokow, OD Cluster Rep, telephone: (703) 292-7933, email: BRITE@nsf.gov
- Giovanna Biscontin, telephone: (703) 292-2339, email: BRITE@nsf.gov
- Wendy C. Crone, telephone: (703) 292-4681, email: BRITE@nsf.gov
- Lucy T. Zhang, telephone: (703) 292-5016, email: BRITE@nsf.gov

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

- 47.041 --- Engineering

Award Information

Anticipated Type of Award: Standard Grant or Continuing Grant

Estimated Number of Awards: 20

Pivot – about 10 awards

Relaunch – about 7 awards

Fellow – about 3 awards

Anticipated Funding Amount: \$10,000,000

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

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:

The PI must hold a tenured faculty appointment at the Associate/Full Professor rank or equivalent at an organization that is eligible to submit as described under "Who May Submit Proposals." Co-PIs are not allowed on any of the tracks. Separately submitted collaborative proposals are not allowed.

Principal Investigators are limited to one active BRITE award at a time.

BRITE Fellows may not currently hold or accept fellowships of equal caliber (i.e., similar intent, funding level, and/or prestige, such as the Vannevar Bush Faculty Fellows award) concurrently with a BRITE Fellow award.

Limit on Number of Proposals per Organization:

There are no restrictions or limits.

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

An individual may serve as PI on only one BRITE proposal. This limitation does not include receiving a subaward as part of another BRITE proposal. There are no restrictions or limits on serving as Senior Personnel. Co-PIs are not allowed on any of the tracks.

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):

September 28, 2023

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

This solicitation seeks proposals that enable experienced researchers with active research programs to take risks not typically associated with proposals submitted to core programs by pivoting to research areas where they have no proven track record, gaining knowledge from a different discipline and using it to forge new directions in their research field, or exploring divergent, bold, and ambitious research ideas where the expected scientific outcomes are highly uncertain and the potential to transform a field is significant, or experienced researchers with a hiatus in research activity to reestablish a foundation for sustained research productivity and broader impacts [4-10]. This solicitation invites proposals from the broad spectrum of the highly skilled scientific workforce in engineering fields that NSF supports to ensure diversity of thought in innovation [1]. BRITE PIs will actively engage in advancing their fields, serving as role models for STEM students, and serving the nation in addressing current and future real-world challenges.

This 2024 NSF BRITE solicitation consists of three tracks:

BRITE Pivot Track

BRITE Relaunch Track

BRITE Fellow Track

NSF is committed to research and development that derives expertise from and provides broad benefits to a diverse public. The underrepresentation of many groups in science and engineering deprives large segments of the population the opportunity to be creators of research and technology and deprives the scientific enterprise of their potential contributions. The program encourages proposals from, and meaningful partnerships with, Minority Serving Institutions (MSIs), as defined by the U.S. Department of Education (<https://www2.ed.gov/about/offices/list/ocr/edlite-minorityinst.html>) and other historically marginalized populations. The program also encourages the participation of the full spectrum of diverse talents in STEM.

II. PROGRAM DESCRIPTION

The guiding rationale of the NSF CMMI BRITE funding opportunity is that leveraging prior science and engineering outcomes, harnessing talent from the broad scientific research community, enabling time for reflection and deliberation, including by learning new skills and through immersion in new areas, and supporting intellectual risk taking will lead to scientific and technological innovation.

The goals of this solicitation will be accomplished through 3 tracks: BRITE Pivot, BRITE Relaunch, and BRITE Fellow. A proposal submitted to any of the three tracks will be a research proposal that advances the field, with strong intellectual merit and broader impacts as determined by external review in accordance with the standard NSF review criteria and procedures, as well as additional solicitation-specific criteria. Proposals submitted in response to this solicitation must include sections on how the proposal aligns with the selected track, the research approach and research plan, and a description of the intended scientific outcomes and broader impacts of the research activities. The principal investigator may choose to seek a stimulating environment through sabbatical or other leave outside of their academic institution, which may include spending time at another institution, industry, organization, or national lab. Note that while this type of activity is permitted, it is not required.

This NSF BRITE solicitation supports research that aligns with one or more of the CMMI program areas. *Proposals that are outside the bounds of CMMI program areas will be returned without review.*

BRITE proposals should be distinguishable from typical unsolicited proposals to core programs. Proposals submitted to the Pivot track should enable PIs to take risks associated with pivoting to research areas where they have no proven track record or gaining knowledge from a different discipline and using it to forge new directions in their research field. Proposals submitted to the Relaunch track should enable PIs with a hiatus in research activity to reestablish a foundation for sustained research productivity and broader impacts. Proposals submitted to the Fellow track should enable PIs to explore divergent, bold, and ambitious research ideas where the expected scientific outcomes are highly uncertain and the potential to transform a field is significant.

PIs are strongly encouraged to contact a cognizant Program Officer to assess the responsiveness of their ideas with the BRITE solicitation prior to submission by emailing a one-page project summary to brite@nsf.gov prior to submission.

TRACKS

Pivot track: The BRITE Pivot track is intended to enable researchers to quickly adapt to the fast-moving pace of research by either leveraging their experience when pursuing a pivot into a field of research where they have no proven track record, or by incorporating research tools and methodologies from other fields of research to advance knowledge in their areas of expertise. Proposals submitted to the Pivot track should enable PIs to take risks not usually associated with proposals submitted to core programs by emphasizing the originality of the pivot to both the PI and the relevant research community, as well as the potential for transformative impact.

In many fields of engineering, the research landscape is evolving and progressing at an unprecedented pace. The priorities, research trends, and state-of-the-art in a given field are likely to be very different than those at the beginning of the careers of many established researchers. Similarly, research tools and methodologies for conducting experimental or computational research are rapidly changing and growing in numbers. By enabling PIs to translate expertise in one field to impact in another, the Pivot track facilitates an expansion of the cumulative capabilities of the nation's STEM workforce to tackle complex interdisciplinary problems with outcomes of broad societal value.

Relaunch track: The BRITE Relaunch track is intended to enable researchers who have had a hiatus in research activity to relaunch back into active research by reestablishing a foundation for sustained productivity and broader impacts in the context of a research idea with significant potential for advancing knowledge. Proposals submitted to the Relaunch track should describe how the proposed foundation is designed to propel the PI back into active research that is sustained also at the conclusion of the award period, for example, by enabling the PI to become current with state-of-the-art research, attend research-intensive workshops and short courses, establish collaborative networks, participate in professional community activities, or learn best practices for mentoring and societal impact.

Many circumstances, including but not limited to a non-traditional career path in academia, a significant personal/family event, or a period of heavy teaching or service to an institution or for the community, may result in a hiatus in research activity. By enabling PIs to relaunch back into active research, the Relaunch track invests in a diversification of experiences of the nation's STEM researchers and ensures that their talents can be maximally harnessed.

For purposes of this solicitation, hiatus in research activity means an extended period without substantial external funding and/or without substantial peer-reviewed publications. The PI should provide a clear description in the track relevance section of the impacts of the hiatus situation, highlighting the PI's trajectory and achievements prior to the hiatus. *A justification of the hiatus should not be included and will not be considered during review.*

Fellow track: The BRITE Fellow track is intended to support researchers who have demonstrated significant impact through and beyond scientific output to request extended time and freedom to use their intellectual creativity to explore divergent, bold, and ambitious research ideas where the expected scientific outcomes are highly uncertain and, therefore, high risk. Proposals submitted to the Fellow track should define the PI's vision for transformational impact by creating new fields, disrupting a field and challenging prevailing paradigms, presenting unconventional approaches to intractable problems, and/or mobilizing research communities.

Impact beyond scientific output is here understood to include but not be limited to a demonstrated legacy of community building, innovative and inclusive engineering practices, sustainable educational reform, advancing holistic engineering talent, or diversifying pathways to and through engineering. By investing in individual PIs, the Fellow track enables open-ended scientific explorations that anticipate future needs, develop deep understanding of fundamental phenomena, strengthen and inspire research communities, and broaden participation in transformational research.

As a cohort, BRITE Fellows may be invited to participate in NSF organized meetings and activities throughout the year. These may include a kick-off meeting, technical workshops, and curricular workshops as a means of exploring techniques for further innovation. BRITE Fellows may be encouraged to serve on NSF advisory boards, panels, or groups. A list of BRITE Fellows will be announced publicly.

References

1. *Leading the World in Discovery and Innovation, STEM Talent Development and the Delivery of Benefits from Research: NSF Strategic Plan for Fiscal Years 2022-2026.* https://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf22068.
2. *Charting a Course for Success: America's Strategy for STEM Education. A Report by the Committee on STEM Education of the National Science & Technology Council.* <https://files.eric.ed.gov/fulltext/ED590474.pdf>.

3. FACT SHEET: Biden Harris Administration Announces Bold Multi-Sector Actions to Eliminate Systemic Barriers in STEM. <https://www.whitehouse.gov/ostp/news-updates/2022/12/12/fact-sheet-biden-harris-administration-announces-bold-multi-sector-actions-to-eliminate-systemic-barriers-in-stemm/>.
4. Mathews, K. R. 2014. Perspectives on Midcareer Faculty and Advice for Supporting Them. Cambridge, MA: The Collaborative on Academic Careers in Higher Education. http://scholar.harvard.edu/files/kmathews/files/coache_mathews_midcareerfaculty_20140721.pdf.
5. Eagan, M.K., Jr., and J. C. Garvey. 2015. Stressing Out: Connecting Race, Gender, and Stress with Faculty Productivity. The Journal of Higher Education 86:923-954. <https://doi.org/10.1080/00221546.2015.11777389>.
6. O'Meara, K., C. J. Lennartz, A. Kuvaeva, A. Jaeger, and J. Misra. 2019. Department Conditions and Practices Associated with Faculty Workload Satisfaction and Perceptions of Equity. The Journal of Higher Education 90:744-772. <https://doi.org/10.1080/00221546.2019.1584025>.
7. National Center for Science and Engineering Statistics (NCSES). 2021. Women, Minorities, and Persons with Disabilities in Science and Engineering. NSF 21-321. Alexandria, VA: National Science Foundation. Available at <https://nces.nsf.gov/pubs/nsf21321/>.
8. Huang, J., A. J. Gates, R. Sinatra, and A-L. Barabasi. 2020. Historical comparison of gender inequality in scientific careers across countries and disciplines. Proceedings of the National Academies of Sciences Feb 2020, 201914221. <https://doi.org/10.1073/pnas.1914221117>.
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10. O'Meara, K., A. Kuvaeva, G. Nyunt, C. Waugaman, and R. Jackson. 2017. Asked more often: Gender differences in faculty workload in research universities and the work interactions that shape them. American Educational Research Journal 54:1154-1186. <https://doi.org/10.3102/0002831217716767>.

III. AWARD INFORMATION

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

Anticipated funding is \$10,000,000, pending availability of funds to support approximately 20 awards in FY2024.

BRITE Pivot and Relaunch track proposals are eligible for 3 years of funding.

BRITE Fellow track proposals are eligible for 3 years of funding; an NSF-initiated Two-Year Extension for Special Creativity may be available based on extraordinary progress.

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:

The PI must hold a tenured faculty appointment at the Associate/Full Professor rank or equivalent at an organization that is eligible to submit as described under "Who May Submit Proposals." Co-PIs are not allowed on any of the tracks. Separately submitted collaborative proposals are not allowed.

Principal Investigators are limited to one active BRITE award at a time.

BRITE Fellows may not currently hold or accept fellowships of equal caliber (i.e., similar intent, funding level, and/or prestige, such as the Vannevar Bush Faculty Fellows award) concurrently with a BRITE Fellow award.

Limit on Number of Proposals per Organization:

There are no restrictions or limits.

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

An individual may serve as PI on only one BRITE proposal. This limitation does not include receiving a subaward as part of another BRITE proposal. There are no restrictions or limits on serving as Senior Personnel. Co-PIs are not allowed on any of the tracks.

Additional Eligibility Info:

Principal investigators must hold a tenured faculty appointment at the Associate/Full Professor rank or equivalent to submit to any one of the tracks. This will be certified in a letter from the investigator's department head according to a provided template that must be uploaded as a supplementary document.

A significant commitment of PI time is expected for all tracks. For the Fellow Track, PIs are expected to dedicate at least 2 months of non-

teaching effort per year to be eligible.

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.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.

For all three tracks, the proposal should be designated as a "Research" type of proposal.

Proposals involving multiple organizations may only be submitted from a lead organization with other collaborating organizations included as subawardees. Separately submitted collaborative proposals are not allowed.

Proposal Title: The title of the proposal must begin with "BRITE" followed by the track identifier (Pivot, Relaunch or Fellow) followed by a colon. The rest of the title of the proposal should describe the project in concise, informative language, without use of acronyms, so that a technically literate reader can understand what the project is about. The title should emphasize the science and engineering work to be undertaken and be suitable for use in the public press.

KEY COMPONENTS OF THE PROJECT DESCRIPTION

Project Description

Full proposals must follow the PAPPG guidelines for the Project Description. The Project Description must include solicitation-specific subsections with the following headings: 1. Past Contributions, 2. Research Approach and Research Plan, 3. Track Relevance, 4. Outcomes, and 5. Diversity, Equity, and Inclusion Plan, with levels of detail to match the selected track. The solicitation-specific subsections are in addition to the requirements specified in the PAPPG (separate sections labeled "Broader Impacts" and "Results from Prior NSF support"). The Project Description must not exceed the 15-page limit. See section VI, Additional Solicitation Specific Review Criteria for more detail.

The Project Description should provide a clear statement of the work to be undertaken and must include the objectives for the period of the proposed research and expected significance. Proposals should discuss 1) objectives and significance of the proposed activity; 2) the suitability of the methods to be used; 3) the qualifications of the investigator; and 4) the ability of the effort to produce outcomes aligned with one of the tracks in this solicitation.

In addition to the requirements of the PAPPG, the project description must include the following sections with separately labeled headings as indicated:

Past Contributions:

In this section, investigators should provide context for their most significant prior contributions to the advancement of knowledge (intellectual merit) and achievement of desired societal outcomes (broader impacts) taken from anywhere along the span of their professional careers and as appropriate for the selected track. This discussion is not limited to the recent past and should not make reference to, or provide justification for, any hiatus in research activity if applicable.

For the BRITE Fellow track, this section should demonstrate significant impact through and beyond scientific output. The latter is here understood to include a demonstrated legacy of community building, innovative and inclusive engineering practices, sustainable educational reform, advancing holistic engineering talent, or diversifying pathways to and through engineering.

Research Approach and Research Plan:

In this section, investigators should summarize the state of the art of the field and or impact areas, describe what is innovative about the proposed approach, and describe the technical research activities to be undertaken. This section should describe how the research will lead to advances in one or more CMMI thrust areas.

Activities aimed only at development of a product or instrumentation are not responsive to this solicitation. If proposed, they must be accompanied by activities that will lead to new scientific knowledge.

Track Relevance

In this section, investigators should discuss the alignment between the proposed project goals and activities and the selected track, and explain how their proposal is distinguishable from typical unsolicited proposals to core programs.

Proposals submitted to the Pivot track should enable PIs to take risks associated with pivoting to research areas where they have no proven track record or gaining knowledge from a different discipline and using it to forge new directions in their research field. Proposals submitted to the Relaunch track should enable PIs with a hiatus in research activity to reestablish a foundation for sustained research productivity and broader impacts. Proposals submitted to the Fellow track should enable PIs to explore divergent, bold, and ambitious research ideas where the expected scientific outcomes are highly uncertain and the potential to transform a field is significant.

Outcomes

In this section, investigators should identify the expected project outcomes, including advancement of knowledge and benefits to society, as appropriate.

Outcomes associated with proposals submitted to the Pivot track should demonstrate advancement of knowledge achieved by leveraging prior experience to the benefit of a field of research new to the PI or by incorporating tools and methodologies from other fields of research in the PI's area of expertise.

Outcomes associated with proposals submitted to the Relaunch track should be relevant to the reestablishment of a foundation for sustained research productivity and broader impacts.

Outcomes associated with proposals submitted to the Fellow track should demonstrate transformational impact by creating new fields, disrupting a field and challenging prevailing paradigms, presenting unconventional approaches to intractable problems, and/or mobilizing research communities.

Diversity, Equity, and Inclusion Plan

In this section, investigators should describe a plan for activities that will be undertaken to provide equitable access to the project's research efforts and outcomes and/or build an inclusive research and education community. The proposed activities should be informed by already established best practices and related evidence. As BRITE awards are single-investigator projects, the scope is expected to lie within the bounds of an individual effort.

More information about NSF's commitment to diversity, equity, and inclusion in all science and engineering fields and research endeavors, as well as programs promoting broadening participation, can be found at the following link: <https://beta.nsf.gov/funding/initiatives/broadening-participation>.

Supplementary Documents:

The proposal should include applicable supplementary documents as instructed in the PAPPG. The following items are to be provided as additional supplementary documents.

Department Head Letter: A letter from the PI's department head certifying the PI's eligibility and the department's concurrence with the PI's proposed plan must be uploaded as a supplementary document and contain **only** the text provided below:

"This letter certifies that the PI is a tenured professor (or equivalent) in Department XX and eligible to participate in the BRITE solicitation. The department is in concurrence with the applicant's research and education activities as described in their project description."

A significant commitment of PI time is expected for all tracks. For the Fellow track, PIs are expected to dedicate at least 2 months of non-teaching effort per year to be eligible.

List of Project Personnel: Each proposal must include a table that lists the PI, all Senior Personnel, and any other project collaborators. This table should list the following information for each individual in separate columns: Last Name; First Name, Middle Initial; Organizational Affiliation. There is no limit on the number of Senior Personnel, but their role should be limited to reflect the intended investment in the PI. **This personnel table is in addition to the Collaborators and Other Affiliations Information that is required for all Senior Personnel.** NSF staff will use this information in the merit review process to manage reviewer selection.

Letters of Collaboration: Any substantial collaboration with individuals not included in the budget should be described in the Facilities, Equipment and Other Resources section of the proposal and documented in a letter of collaboration from each collaborator. Letters of collaboration should not contain endorsements or evaluation of the proposed project.

Investigators are permitted to include one detailed letter of collaboration up to two pages long. All other letters of collaboration must follow the PAPPG recommended format of 2 sentences. *Please note that letters of recommendation for the PI or other letters of support for the project are not permitted.*

Postdoctoral Researcher Mentoring Plan: (*up to one page*) In some cases, postdoctoral researcher involvement might be justified. Significant rationale should be provided in the Project Description if such involvement is intended. As described in the PAPPG section II.D.2.1, each proposal that requests funding to support postdoctoral researchers must upload a "Mentoring Plan" as a supplementary document. Such a plan should describe the mentoring activities that will be provided for the postdoctoral researcher.

B. Budgetary Information

Cost Sharing:

Inclusion of voluntary committed cost sharing is prohibited.

Other Budgetary Limitations:

Proposals should include a three-year budget.

Budgets for all projects must include funding for the PI to attend the annual PI meeting, which may be virtual or in the Washington, DC, area.

Because a **significant commitment of PI time is expected, PIs may request more than two months of salary support.** PAPPG Chapter II.D.2 contains NSF's Senior Personnel Salaries & Wages Policy. If anticipated, compensation for the PI in excess of two months must be disclosed in the proposal budget, justified in the budget justification, and specifically approved by NSF in the award notice budget. Any compensation for other Senior Personnel must be disclosed in the proposal budget, justified in the budget justification, and reflect a limited role.

For the Fellow track, PIs are expected to dedicate at least 2 non-teaching months per year to be eligible, and may request up to six months of salary support in a

given year but no more than twelve months over the three years of the award.

C. Due Dates

- **Full Proposal Deadline(s)** (due by 5 p.m. submitter's local time):
September 28, 2023

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 Research.gov 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 *Leading the World in Discovery and Innovation, STEM Talent Development and the Delivery of Benefits from Research - NSF Strategic Plan for Fiscal Years (FY) 2022 - 2026*. These strategies are integrated in the program planning and implementation process, of which proposal review is one part. NSF's mission is particularly well-implemented through the integration of research and education and broadening participation in NSF programs, projects, and activities.

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

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

A. Merit Review Principles and Criteria

The National Science Foundation strives to invest in a robust and diverse portfolio of projects that creates new knowledge and enables breakthroughs in

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

1. Merit Review Principles

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

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

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

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

2. Merit Review Criteria

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

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

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

- **Intellectual Merit:** The Intellectual Merit criterion encompasses the potential to advance knowledge; and
- **Broader Impacts:** The Broader Impacts criterion encompasses the potential to benefit society and contribute to the achievement of specific, desired societal outcomes.

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

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

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

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

Additional Solicitation Specific Review Criteria

In addition to the above criteria, reviewers will be asked to address the following questions:

- Merit of Past Contributions
 - To what extent do the proposed activities leverage the PI's prior research contributions to the advancement of knowledge and achievement of desired societal outcomes as appropriate for the target track?
 - In addition, for proposals to the BRITE Fellow track, to what extent does the project description demonstrate significant impact of the PI's past contributions beyond scientific output?
- Track Relevance

- What is the potential for the proposed activities to achieve outcomes consistent with the selected track?
- Risk Assessment
 - For the Pivot and Fellow tracks, to what extent do the proposed activities enable the PI to take risks not usually associated with proposals submitted to core programs?
- Diversity, Equity, and Inclusion Plan
 - To what extent does the project include an authentic plan for the PI to foster diversity, equity, and inclusion in research and education in the local academic and/or broader community?

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.

Fellow Track proposals will go through an additional Merit Review Process as described below:

Blue Ribbon Panel

Following the proposal review panels, BRITE Program Officers will execute an in-person or virtual oral Blue Ribbon *Panel*. The review panel will consist of NSF personnel only.

The review criteria for the Blue Ribbon Panel are the same as those applied to the written proposal, as described above. These will be evaluated in terms of the PIs' effectiveness at conveying the potential for advancing knowledge and desired societal outcomes in a time-constrained setting using emphasis, text and graphics, and in response to questions of the Blue Ribbon Panel.

Schedule and Location for Blue Ribbon Panel

The National Science Foundation will notify each PI of the schedule and location for their oral presentation and provide further details as they become available. Presentations should comply with these instructions and any additional instructions that NSF may provide prior to the presentation.

Format of the Panel

Each oral presentation will occur as follows:

- The PI will have 15 minutes to present their proposed project to the Blue Ribbon Panel using electronic presentation tools.
- Ten minutes will be allocated for the Blue Ribbon Panel to ask questions of the PI following their presentation.

The PI should provide NSF with an electronic copy of their presentation one week in advance of their presentation.

Individuals with disabilities who need reasonable accommodations as part of the Blue Ribbon Panel process must contact the Office of Equity and Civil Rights' (OECR) Disability Program Manager (DPM) at rarequest@nsf.gov at least 30 calendar days prior to their presentation date. For further information, see the Proposal & Award Policies & Procedures Guide, Section II.A.2.

Expected Presentation Content

The presentation by the PI should effectively convey the state of the art of the research topic, the PI's vision for transformational impact, the degree of difficulty in accomplishing the research objectives and their potential to address societal needs, and the impact of the PI's prior contributions through and beyond scientific output.

To this end, the PI should include the following in their presentation:

+ **Introduction and Description** - Provide a brief introduction and overview of the Fellow topic idea. Describe the state of the art and why the time is right for this research. Describe the new science and engineering knowledge base that will be developed. Describe the research approach.

+ **Transformative Potential** – Describe the potential for transformative impact of the project achieved by creating new fields, disrupting a field and challenging prevailing paradigms, presenting unconventional approaches to intractable problems, and/or mobilizing research communities.

+ **High Risk/High Reward** - Describe how the proposed activities enable the PI to take risks not usually associated with proposals submitted to core programs. Explain why the expected scientific outcomes are highly uncertain. Describe the potential for significant return on investment in terms of resolving long-standing or anticipated grand societal challenges.

+ **Demonstrated Impact** – Describe how the PI's demonstrated impact through and beyond scientific output will be leveraged to achieve the project objectives. Describe significant impact through, for example, an outstanding record of creativity, legacy of community building, innovative and inclusive engineering practices, advancing holistic engineering talent, or diversifying pathways to and through engineering.

+ **Quad Chart** – Summarize the responses to each of the above four points in a quad chart on the final slide of the presentation.

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 or the Division of Acquisition and Cooperative Support for review of business, financial, and policy implications. After an administrative review has occurred, Grants and Agreements Officers perform the processing and issuance of a grant or other agreement. Proposers are cautioned that only a Grants and Agreements Officer may make commitments, obligations or awards on behalf of NSF or authorize the expenditure of funds. No commitment on the part of NSF should be inferred from technical or budgetary discussions with a NSF Program Officer. A Principal Investigator or organization that makes financial or personnel commitments in the absence of a grant or cooperative agreement signed by the NSF Grants and Agreements Officer does so at their own risk.

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

VII. AWARD ADMINISTRATION INFORMATION

A. Notification of the Award

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

B. Award Conditions

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

*These documents may be accessed electronically on NSF's Website at https://www.nsf.gov/awards/managing/award_conditions.jsp?org=NSF. Paper copies may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-8134 or by e-mail from nsfpubs@nsf.gov.

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

Administrative and National Policy Requirements

Build America, Buy America

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

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

Special Award Conditions:

NSF BRITE awards will be made in the form of standard or continuing grants.

PIs will be required to attend an annual PI meeting. The purpose of the meeting is to assess progress the awardees have made towards advancing project goals. PIs must include reasonable travel funds in the proposed budgets for this meeting.

For Fellow awards, the annual PI meeting at the end of year 2 will be used to assess progress the awardees have made towards advancing project goals. Each awardee will prepare briefing material (expected to be 10 pages or less) describing their accomplishments and make a short presentation which will be followed by questions and answers. Based on this assessment, NSF will decide on a possible Two-Year Extension for Special Creativity.

Grantees will be required to include appropriate acknowledgment of support from the NSF CMMI division in any publication (including World Wide Web pages) of any material based on or developed under the project, in the following terms:

"This material is based upon work supported by the National Science Foundation CMMI division under Award No. (Grantee enters NSF award number.)"

Grantees also will be required to orally acknowledge NSF support using the language specified above during all news media interviews, including popular media such as radio, television, and news magazines.

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:

- Siddiq M. Qidwai, Team Lead, telephone: (703) 292-2211, email: BRITE@nsf.gov
- Khershed P. Cooper, AM Cluster Rep, telephone: (703) 292-7017, email: BRITE@nsf.gov
- Harry Dankowicz, DCC Cluster Rep, telephone: (703) 292-2344, email: BRITE@nsf.gov
- Gianluca Cusatis, ECI Cluster Rep, telephone: (703) 292-5026, email: BRITE@nsf.gov
- Laurel C. Kuxhaus, MEM Cluster Rep, telephone: (703) 292-4465, email: BRITE@nsf.gov
- Kathryn Jablokow, OD Cluster Rep, telephone: (703) 292-7933, email: BRITE@nsf.gov
- Giovanna Biscontin, telephone: (703) 292-2339, email: BRITE@nsf.gov
- Wendy C. Crone, telephone: (703) 292-4681, email: BRITE@nsf.gov
- Lucy T. Zhang, telephone: (703) 292-5016, email: BRITE@nsf.gov

For questions related to the use of NSF systems contact:

- NSF Help Desk: 1-800-673-6188
- Research.gov Help Desk e-mail: rgov@nsf.gov

For questions relating to Grants.gov contact:

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

IX. OTHER INFORMATION

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

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

ABOUT THE NATIONAL SCIENCE FOUNDATION

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

supporting research and education in all fields of science and engineering."

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

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

Facilitation Awards for Scientists and Engineers with Disabilities (FASSED) provide funding for special assistance or equipment to enable persons with disabilities to work on NSF-supported projects. See the *NSF Proposal & Award Policies & Procedures Guide* Chapter II.F.7 for instructions regarding preparation of these types of proposals.

The National Science Foundation has Telephonic Device for the Deaf (TDD) and Federal Information Relay Service (FIRS) capabilities that enable individuals with hearing impairments to communicate with the Foundation about NSF programs, employment or general information. TDD may be accessed at (703) 292-5090 and (800) 281-8749, FIRS at (800) 877-8339.

The National Science Foundation Information Center may be reached at (703) 292-5111.

The National Science Foundation promotes and advances scientific progress in the United States by competitively awarding grants and cooperative agreements for research and education in the sciences, mathematics, and engineering.

To get the latest information about program deadlines, to download copies of NSF publications, and to access abstracts of awards, visit the NSF Website at <https://www.nsf.gov>

- **Location:** 2415 Eisenhower Avenue, Alexandria, VA 22314
- **For General Information** (NSF Information Center): (703) 292-5111
- **TDD (for the hearing-impaired):** (703) 292-5090
- **To Order Publications or Forms:**
 - Send an e-mail to: nsfpubs@nsf.gov
 - or telephone: (703) 292-8134
- **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

[Text Only](#)