

# EPSCoR Research Infrastructure Improvement (RII) Track-4: EPSCoR Research Fellows

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## PROGRAM SOLICITATION

NSF 23-535

## REPLACES DOCUMENT(S):

NSF 22-573



National Science Foundation

Office of Integrative Activities

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

April 11, 2023

RII Track-4:@NASA

April 11, 2023

Second Tuesday in April, Annually Thereafter

RII Track-4:NASA

## IMPORTANT INFORMATION AND REVISION NOTES

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- PI eligibility is expanded to include non-tenured and tenured Assistant and Associate professor ranks (or equivalent ranks).
- Budgetary Limitations are expanded to allow for travel funds allocated for the host collaborator.
- The fellowship provides opportunities for extended or periodic collaborative visits to the selected host site.
- RII Track-4:Fellows Advancing Science and Technology (RII Track-4: FAST) is renamed to RII Track-4:@NASA.
- All NASA Centers are eligible to participate in the RII Track-4:@NASA sub-track.
- The number of allowable proposals per institution is increased from three to four in both RII Track-4:NASA and RII Track-4:@NASA.

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

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### General Information

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#### Program Title:

EPSCoR Research Infrastructure Improvement (RII) Track-4: EPSCoR Research Fellows

#### Synopsis of Program:

The Established Program to Stimulate Competitive Research (EPSCoR) is designed to fulfill the mandate of the National Science Foundation (NSF) to promote scientific progress nationwide. EPSCoR jurisdictions that are eligible for Research Infrastructure Improvement (RII) competitions are listed in the RII Eligibility table, which can be found [here](#). Through this program, NSF establishes partnerships with government, higher education, and industry that are designed to effect sustainable improvements in a jurisdiction's research infrastructure, Research and Development (R&D) capacity, and hence, its R&D competitiveness.

EPSCoR RII Track-4: EPSCoR Research Fellows directly aligns with NSF EPSCoR strategic goal of establishing sustainable Science, Technology, Engineering, and Mathematics (STEM) professional development pathways that advance workforce development in STEM and effects engagement in STEM at national and global levels. EPSCoR RII Track-4: EPSCoR Research Fellows provides awards to build research capacity in institutions and transform the career trajectories of investigators and further develop their individual research potential through collaborations with investigators from the nation's premier private, governmental, or academic research centers. The fellowship

provides opportunities to establish strong collaborations through extended or periodic collaborative visits to a selected host site. Through collaborative research activities with the host site, Fellows will be able to learn new techniques, develop new collaborations, advance existing partnerships, benefit from access to unique equipment and facilities, and/or shift their research toward potentially transformative new directions. The experiences gained through the fellowships are intended to have lasting impacts that will enhance the Fellows' research trajectories well beyond the award period. The benefits to the Fellows are also expected to improve the research capacity of their institutions and jurisdictions more broadly.

EPSCoR Research Infrastructure Improvement Track-4: EPSCoR Research Fellows offers the following two sub-tracks:

- 1) RII Track-4:NSF and
- 2) RII Track-4:@NASA

While the two tracks are similar in achieving the same goals, RII Track-4:NSF is open to a broad community and RII Track-4:@NASA focuses on faculty from institutions with high enrollments of students from underrepresented populations in STEM (See Section "IV. Eligibility Information" for more details) to collaborate with researchers at the National Aeronautics and Space Administration (NASA) research centers. PIs who are eligible for both tracks may apply for only one track per competition cycle.

In both sub-tracks, the RII Track-4 provides opportunities for the participation of one trainee, who must be an undergraduate or graduate student enrolled full-time in an accredited degree program, or a postdoctoral researcher from an EPSCoR jurisdiction. Staff members, such as technicians or lab assistants could be considered as trainees when properly justified.

#### **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.*

- Jose Colom-Ustariz, NSF, telephone: (703) 292-7088, email: [jcolom@nsf.gov](mailto:jcolom@nsf.gov)
- Chinonye Whitley, NSF, telephone: (703) 292-8458, email: [cwhitley@nsf.gov](mailto:cwhitley@nsf.gov)
- Pinhas Ben-Tzvi, NSF, telephone: (703) 292-8246, email: [pbentzvi@nsf.gov](mailto:pbentzvi@nsf.gov)
- Ali Shaykhian, NASA, telephone: (321) 289-0512, email: [Agency-EPSCoR-RII-Track-4@mail.nasa.gov](mailto:Agency-EPSCoR-RII-Track-4@mail.nasa.gov)
- Dawn M. Martin, NASA, telephone: (321) 747-8093, email: [Agency-EPSCoR-RII-Track-4@mail.nasa.gov](mailto:Agency-EPSCoR-RII-Track-4@mail.nasa.gov)
- Jeppie Compton, NASA, telephone: (321) 867-6988, email: [Agency-EPSCoR-RII-Track-4@mail.nasa.gov](mailto:Agency-EPSCoR-RII-Track-4@mail.nasa.gov)

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

- 47.041 --- Engineering
- 47.049 --- Mathematical and Physical Sciences
- 47.050 --- Geosciences
- 47.070 --- Computer and Information Science and Engineering
- 47.074 --- Biological Sciences
- 47.075 --- Social Behavioral and Economic Sciences
- 47.076 --- STEM Education
- 47.079 --- Office of International Science and Engineering
- 47.083 --- Office of Integrative Activities (OIA)
- 47.084 --- NSF Technology, Innovation and Partnerships

## **Award Information**

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**Anticipated Type of Award:** Standard Grant

**Estimated Number of Awards:** 40

**Estimated Number of Awards Per Track:**

RII Track-4:NSF: 30

RII Track-4:@NASA: 10

**Anticipated Funding Amount:** \$12,000,000

**Anticipated Funding Amount Per Track:**

RII Track-4:NSF: \$9,000,000

RII Track-4:@NASA: \$3,000,000

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

## **Eligibility Information**

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#### **Who May Submit Proposals:**

Proposals may only be submitted by the following:

- EPSCoR jurisdictions that are RII-eligible for the FY 2023 RII Track-4 competition are listed in the FY 2023 RII Eligibility table, which can be found [here](#).

- Proposals may only be submitted by organizations located in RII-eligible jurisdictions, as follows:
  - Institutions of higher education (Ph.D.-granting and non-Ph.D.-granting), acting on behalf of their faculty members, that are accredited in and have a campus in the United States, its territories or possessions. Distinct academic campuses (e.g., that award their own degrees, have independent administrative structures, admissions policies, alumni associations, etc.) within multi-campus systems qualify as separate submission-eligible institutions.
  - Not-for-profit, non-degree-granting domestic U.S. organizations, acting on behalf of their employees, that include (but are not limited to) independent museums and science centers, observatories, research laboratories, professional societies, and similar organizations that are directly associated with the Nation's research or educational activities. These organizations must have an independent, permanent administrative organization (e.g., an Office of Sponsored Projects) located in the United States, its territories, or possessions, and have 501(c)(3) tax status.
- In addition, for the RII Track-4:@NASA opportunity, PIs must be employed by an institution that is from at least one of the four categories:
  - Minority-serving institutions, including Historically Black Colleges and Universities (HBCUs), Hispanic-serving institutions (HSIs), Tribal Colleges or Universities (TCUs), and other institutions that enroll a significant percentage of students from underrepresented populations as **defined** by the U.S. Department of Education (e.g., Alaska Native-serving institutions, Native Hawaiian-serving institutions, Predominantly Black Institutions, Asian American and Native American Pacific Islander-serving institutions, and Native American-serving non-tribal institutions);
  - Primarily Undergraduate Institutions (PUIs), including two-year colleges, that award associate's degrees, bachelor's degrees, and/or master's degrees in NSF-supported fields, but have awarded 20 or fewer Ph.D./D.Sci. degrees in all NSF-supported fields during the combined previous two academic years;
  - Institutions of higher education that are dedicated to serve students with disabilities, as listed in Table 1, page 5, of NSF's 2008 Broadening Participation report ([https://nsf-gov-resources.nsf.gov/2022-03/nsf\\_frameworkforaction\\_0808.pdf](https://nsf-gov-resources.nsf.gov/2022-03/nsf_frameworkforaction_0808.pdf));
  - Degree-granting women's colleges, as listed in the U.S. Department of Education Digest of Education Statistics ([https://nces.ed.gov/programs/digest/d21/tables/dt21\\_312.30.asp](https://nces.ed.gov/programs/digest/d21/tables/dt21_312.30.asp)).

#### **Who May Serve as PI:**

Principal Investigators must either:

- hold a non-tenured faculty position at a degree-granting institution of higher education; or a faculty member who hold long-term positions outside of the tenure track regardless of their position title or rank.
- be in an early-career, career-track position at an eligible non-degree-granting organization;
- hold a non-tenured or tenured faculty position at the Assistant or Associate Professor rank (or in an equivalent position) at an institution that is eligible to submit as described under "Who May Submit Proposals;" or
- For the faculty category of applicants, the faculty ranking should be determined by the faculty rank at the proposal's deadline date.

For some NASA research facilities, PIs and trainees must be U.S. Citizens, unless otherwise specified. Lawful Permanent Residents are eligible for research opportunities at NASA centers.

Additional eligibility restrictions for both tracks are as follows:

- Only single-PI proposals will be considered. No co-PIs should be included in the proposal.
- Persons who hold transitional fixed-term postdoctoral appointments are not eligible to apply as PI, even if their organizations classify such appointments as 'faculty' for administrative purposes.
- In all cases, the required letter from the PI's supervisory administrator should verify the PI's eligibility relative to these criteria.
- For submissions from a Primarily Undergraduate Institution a letter from the institution's Authorized Organizational Representative certifying their status as such is required. See Section V.A. below for further information.
- The PI may hold or accept fellowships of equal caliber (i.e., similar intent, funding level, and or prestige) concurrently with a Track-4 Fellow award.

Any questions regarding PI eligibility should be directed toward the cognizant Program Officers listed above.

#### **Limit on Number of Proposals per Organization:**

For RII Track-4: NSF: 4

A maximum of four proposals may be submitted in response to this solicitation by any single organization in an RII-eligible jurisdiction.

For RII Track-4:@NASA: 4

A maximum of four proposals may be submitted in response to this solicitation by any single organization in an RII-eligible jurisdiction.

In the case that the institution is eligible to submit both RII Track-4: NSF and RII Track-4:@NASA proposals, a maximum total of eight proposals, including a maximum of four RII Track-4: NSF proposals and four RII Track-4:@NASA proposals, may be submitted in response to this solicitation by any single organization in a RII-eligible jurisdiction.

If more than the maximum allowable proposals are submitted from any single institution, all proposals from that institution are subject to return without review.

The organization's Sponsored Projects Office is required to ensure that the above requirements are met.

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

An investigator may serve as PI on only one proposal submitted in response to this solicitation.

## **Proposal Preparation and Submission Instructions**

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## 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:**

"Off campus" indirect cost rates may apply.

- **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):

April 11, 2023

RII Track-4:@NASA

April 11, 2023

Second Tuesday in April, Annually Thereafter

RII Track-4: NSF

## Proposal Review Information Criteria

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### 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

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### Award Conditions:

Standard NSF award conditions apply.

### Reporting Requirements:

Standard NSF reporting requirements apply.

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## I. INTRODUCTION

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### EPSCoR Mission and Goals

The mission of EPSCoR is to assist the National Science Foundation in its statutory function "to strengthen research and education in science and engineering throughout the United States and to avoid undue concentration of such research and education." EPSCoR goals are to:

- Catalyze the development of research capabilities and the creation of new knowledge that expands jurisdictions' contributions to scientific discovery, innovation, learning, and knowledge-based prosperity;
- Establish sustainable Science, Technology, Engineering, and Mathematics (STEM) education, training, and professional development pathways that advance jurisdiction-identified research areas and workforce development;
- Broaden direct participation of demographically diverse individuals, institutions, and organizations in the project's science and engineering research and education initiatives;
- Effect sustainable engagement of project participants and partners, the jurisdictions, the national research community, and the general public through data-sharing, communication, outreach, and dissemination; and
- Impact research, education, and economic development beyond the project at academic, government, and private sector levels.

### EPSCoR Research Infrastructure Improvement Track-4: EPSCoR Research Fellows

Developing the full potential of EPSCoR jurisdictions' science and engineering research workforce is critical to the long-term competitiveness of the jurisdictions and the nation overall. To realize this potential, it is often worthwhile for researchers to spend periods of time at other institutions, forming deep collaborative connections that can be sustained for many years throughout their careers. The benefits of such an experience may be particularly valuable to those researchers who are not yet firmly established in their careers or who have had a pause in research activity and are looking to relaunch back into active research.

This EPSCoR Research Infrastructure Improvement Track-4: EPSCoR Research Fellows solicitation provides an opportunity for early career and non-tenured and tenured assistant/associate professor faculty to establish strong collaborations with the option to spend extended or periodic time (e.g., one, two, or three-month summer extended visit) at the nation's premier research facilities. The fellowship period may be used to initiate new collaborative relationships, to expand existing partnerships in ambitious new directions, or to make use of unique equipment not available at the PI's home institution. Successful fellowships will positively impact and potentially transform the recipient's research career trajectory. This fellowship support is intended to provide opportunities for PIs to establish collaborations and work at facilities of national prominence that would not otherwise be possible without the fellowship.

### EPSCoR Research Infrastructure Improvement Track-4: EPSCoR Research Fellows Tracks

This solicitation offers two tracks:

- 1) RII Track-4:NSF and
- 2) RII Track-4:@NASA

While they are similar in achieving the same goals, RII Track-4:NSF is open to a broad community, and RII Track-4:@NASA focuses on PIs from specific institutions of higher education with high enrollments of students from underrepresented populations in STEM (See Section "IV. Eligibility Information" for more details) to collaborate with scientists at NASA's research centers. PIs who are eligible for both tracks may apply for only one track per competition cycle. The support should contribute to both the PI's research capacity and to the improvement of their institution's scientific competitiveness more broadly.

#### RII Track-4:NSF

RII Track-4:NSF provides support to further develop the individual research potential of early career, non-tenured, and tenured faculty and researchers, including those at the assistant or associate (or equivalent) professor rank through collaborative activities, including extended or periodic visits to the nation's premier private, governmental, or academic research centers. Any research topic that is supported by NSF is eligible for consideration (see funding opportunities in the NSF Directorates and Offices listed under the "Applicable Catalog of Federal Domestic Assistance (CFDA) Number(s)" section within this solicitation). The fellowship host site may be any academic, governmental, commercial, or non-profit research facility within the United States or its territories including NSF-funded research sites for EPSCoR RII Track-1, EPSCoR RII Track-2, Center for Research Excellence in Science and Technology, [Engineering Research Center](#), [Materials Research Science and Engineering Center](#), [Physics Frontier Center](#), [Science and Technology Center](#), and [NSF INCLUDES](#) Alliance.

#### RII Track-4:@NASA

RII Track-4:@NASA provides support to further develop the individual research potential of early career, non-tenured, and tenured faculty and researchers, including those at the assistant or associate (or equivalent) professor rank through collaborative activities, including extended or periodic visits (e.g., one, two, or three-month summer extended visit) to the selected NASA Center.

This initiative is a joint effort coordinated by NSF EPSCoR and NASA EPSCoR specifically focusing on Institutions of Higher Education (IHEs) that primarily serve students from groups traditionally underrepresented in STEM, including those from diverse ethnic and racial backgrounds, those with disabilities, and women. In addition to minority-serving institutions, two-year colleges and Primarily Undergraduate Institutions (PUIs) are encouraged to submit.

NSF and NASA aim to recognize efforts to build research capacity and transform the career trajectories of investigators at institutions that are historically underserved and to further enhance their individual research potential through collaborative activities.

Through this opportunity, RII Track-4:@NASA awardees will receive an additional \$60,000 from NASA to support their research at the home institution; this fund is awarded through the NASA EPSCoR, Research Infrastructure Development (RID) cooperative agreements, coordinated through the designated jurisdiction's director, and should help to build the awardees' research infrastructure and capacity.

Fellowship awardees will be able to learn new techniques, develop new collaborations or advance existing knowledge, benefit from access to unique NASA equipment and facilities, and/or shift their research toward potentially transformative new directions of importance to science and technology. The experiences gained through the fellowships are intended to have lasting impacts that will enhance the Fellows' research trajectories well beyond the award period. Awardees will have the opportunity to collaborate with NASA Mentors who serve as research collaborators, or technical monitors.

The NASA EPSCoR office will coordinate the logistical requirements to conduct the visit(s) at NASA sites. Awardees will be able to leverage the expertise gained through working with NASA Engineers/Scientists to build capacity at their home institution. The Fellow and the NASA Engineers/Scientists are encouraged to work together to generate peer-reviewed publications and professional conference presentations sharing their research accomplishments. The fellowship is contingent upon matching the applicant with a NASA Engineer or Scientist.

Review the <https://www.nasa.gov/stem/epscor/rii-track-4/index.html> for details related to the matching process.

**Keywords:** Early Career Investigator, Mid-Career Investigator, Professional Development, Fellowship

## II. PROGRAM DESCRIPTION

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### Overview

The primary driver for this opportunity is the desire to increase the competitiveness of EPSCoR-eligible institutions by catalyzing and strengthening the research programs of their talented faculty. Over the long term, EPSCoR investments are expected to result in sustained improvements in the individual research competitiveness of its awardees and to stimulate broader improvements to the research capacity of the awardees' institutions and jurisdictions. Proposals must demonstrate in a compelling way that each of these goals will be met.

Awards will provide support for applicants to travel and spend up to six months at a premier research facility within the United States and its territories (the "host site"); salary support will be provided. In addition, each award will provide support for the PI to travel to the host site, including both transportation and living expenses for the duration of the required visit(s). Up to six total months of salary support and travel expenses may also be requested for one additional trainee such as an undergraduate or graduate student, a postdoctoral or a technical staff member of the PI's Institution, to work with the PI and complete the planned activities. Additional support will be allowed to cover other travel and direct costs that are specifically associated with the fellowship project (e.g., purchasing supplies, shipping, publication costs, equipment, facility fees, attendance at conferences and related costs, etc.). Please see the "Budgetary Limitations" for greater details.

### Expectations for Successful Proposals

Successful RII Track-4:NSF and RII Track-4:@NASA proposals will present exciting, vibrant fellowship ideas that will positively impact and potentially transform the PI's individual career trajectory. Proposals will be evaluated for the extent to which a fellowship has the potential to positively transform the PI's individual career trajectory. Fellowships are also expected to impact the PI's research field, potential scientific discoveries, institution, and jurisdiction. All proposals should include well-defined, reasoned, and organized research objectives that could be driven by specific research questions or hypotheses, motivation, and context for the work to be conducted, the PI's specific research activities at the host site, and a discussion of how the benefits gained from the fellowship will be sustained beyond the award period. Note that clear specifications of research goals, activities, expected outcomes, and a project timetable are requirements for successful proposals. It is also crucial that the proposal explain clearly how the PI's research program would specifically benefit from the fellowship mechanism – identifying what specific opportunities will be made possible via the PI's collaborations and visit(s) to the host site.

### Benefits to the Home Institution and/or Jurisdiction

The direct benefits of RII Track-4:NSF and RII Track-4:@NASA fellowships are expected to be to the PI's individual research career trajectory. However, consistent with its programmatic focus on jurisdictional research capacity, NSF and NASA EPSCoR expects successful fellowships to also yield benefits to the PI's home institution and/or jurisdiction. Narrative text that describes how improving the PI's individual research capacity will directly raise her/his institution's overall capacity must be included. It is expected that successful fellowships will include more proactive efforts to leverage the fellowship experience to achieve increased institutional or jurisdictional benefits. PIs are encouraged to present creative approaches for achieving this desired outcome within the overall constraints of the fellowship mechanism.

### Partnership Considerations

As stated in the overview, this opportunity is intended to provide support for PIs to collaborate with facilities of national prominence that would not otherwise be possible without the fellowship. For this reason, the project description should include narrative text that explains why the interactions could not occur without the large injection of fellowship funding intended to support the collaboration.

An extended visit/relocation or a number of short periodic visits of the PI to the host institution is considered a primary feature of this fellowship activity. A host site located within the PI's current institutional system is not allowed. It is expected that the PI will complete, as minimum, a one-month extended visit to the host institution, or an equivalent of several periodic visits totaling one month over the duration of the award.

In addition, the fellowship is focused on creating new partnerships, advancing existing partnerships, or moving in new research directions. For this program, work with the PI's prior graduate or postdoctoral advisor is not encouraged unless the PI proposes to move in a new and independent research direction. If the fellowship does not meet the goal of moving in a research direction that is independent from the research of a prior graduate or postdoctoral advisor, the proposal should include narrative text that explains the fellowship's benefits to the PI.

### RII Track-4:NSF Guidance for Letters

Proposals must include letters, as described below in "Additional Guidance for RII Track-4:NSF" and "Additional Guidance for RII Track-4:@NASA".

### Fellowship Parameters

The award duration for fellowships will be for a maximum of 24 months. For planning purposes, PIs should assume that the award start date will be approximately nine months after the proposal deadline date.

#### **Eligible Host Organizations for RII Track-4:NSF**

Host sites may be academic institutions, government laboratories, Federally Funded Research and Development Centers (FFRDCs), or commercial or non-profit research centers. A PI proposing to visit a government laboratory, or a similar site, with a policy that requires the submission of a proposal for the use of instrumentation is expected to describe a plan for securing access to this equipment within the proposal's project description. Host sites must be located within the United States or its territories. Only a single host site may be identified in the proposal. PIs are not allowed to split their fellowship period between two or more host sites.

#### **Eligible Host Organizations for RII Track-4:@NASA**

Applicants must contact the NASA EPSCoR coordinator through the [Agency-EPSCoR-rii-track-4@mail.nasa.gov](mailto:Agency-EPSCoR-rii-track-4@mail.nasa.gov) expressing their interest; additional information, including NASA's research interests, can be found through the link <https://www.nasa.gov/stem/epscor/rii-track-4/index.html>.

#### **Matching Process for RII Track-4:@NASA**

A NASA mentor must be identified, and collaboration must be established to move forward with the proposal process. The applicants must email their CVs, contact information, and research interest to the NASA EPSCoR coordinator. Once a research topic is identified, the NASA EPSCoR coordinator will facilitate research discussions and collaborations with the NASA Mentor. In some cases, PIs may have prior research collaboration with NASA Scientists/Engineers, this information should be shared with the EPSCoR coordinator to proceed with possible match. The PI is required to include a letter of from the primary research collaborator or a letter from the NASA EPSCoR coordinator, in the proposal package. Please see section V.A for additional information and guidance.

### **III. AWARD INFORMATION**

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RII Track-4:NSF and RII Track-4:@NASA awards will be made as standard grants. The award amount will not exceed \$300,000 for Track-4:NSF and \$360,000 for RII Track-4:@NASA (additional \$60K provided by NASA). Project duration is limited to 24 months. Estimated program budget, number of awards and average award size/duration are subject to the availability of funds.

### **IV. ELIGIBILITY INFORMATION**

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#### **Who May Submit Proposals:**

Proposals may only be submitted by the following:

- EPSCoR jurisdictions that are RII-eligible for the FY 2023 RII Track-4 competition are listed in the FY 2023 RII Eligibility table, which can be found [here](#).
  - Proposals may only be submitted by organizations located in RII-eligible jurisdictions, as follows:
    - Institutions of higher education (Ph.D.-granting and non-Ph.D.-granting), acting on behalf of their faculty members, that are accredited in and have a campus in the United States, its territories or possessions. Distinct academic campuses (e.g., that award their own degrees, have independent administrative structures, admissions policies, alumni associations, etc.) within multi-campus systems qualify as separate submission-eligible institutions.
    - Not-for-profit, non-degree-granting domestic U.S. organizations, acting on behalf of their employees, that include (but are not limited to) independent museums and science centers, observatories, research laboratories, professional societies, and similar organizations that are directly associated with the Nation's research or educational activities. These organizations must have an independent, permanent administrative organization (e.g., an Office of Sponsored Projects) located in the United States, its territories, or possessions, and have 501(c)(3) tax status.
  - In addition, for the RII Track-4:@NASA opportunity, PIs must be employed by an institution that is from at least one of the four categories:
    - Minority-serving institutions, including Historically Black Colleges and Universities (HBCUs), Hispanic-serving institutions (HSIs), Tribal Colleges or Universities (TCUs), and other institutions that enroll a significant percentage of students from underrepresented populations as [defined](#) by the U.S. Department of Education (e.g., Alaska Native-serving institutions, Native Hawaiian-serving institutions, Predominantly Black Institutions, Asian American and Native American Pacific Islander-serving institutions, and Native American-serving non-tribal institutions);
    - Primarily Undergraduate Institutions (PUIs), including two-year colleges, that award associate's degrees, bachelor's degrees, and/or master's degrees in NSF-supported fields, but have awarded 20 or fewer Ph.D./D.Sci. degrees in all NSF-supported fields during the combined previous two academic years;
    - Institutions of higher education that are dedicated to serve students with disabilities, as listed in Table 1, page 5, of NSF's 2008 Broadening Participation report ([https://nsf-gov-resources.nsf.gov/2022-03/nsf\\_frameworkforaction\\_0808.pdf](https://nsf-gov-resources.nsf.gov/2022-03/nsf_frameworkforaction_0808.pdf));
    - Degree-granting women's colleges, as listed in the U.S. Department of Education Digest of Education Statistics ([https://nces.ed.gov/programs/digest/d21/tables/dt21\\_312.30.asp](https://nces.ed.gov/programs/digest/d21/tables/dt21_312.30.asp) ).

#### **Who May Serve as PI:**

Principal Investigators must either:

- hold a non-tenured faculty position at a degree-granting institution of higher education; or a faculty member who hold long-term

- positions outside of the tenure track regardless of their position title or rank.
- be in an early-career, career-track position at an eligible non-degree-granting organization;
- hold a non-tenured or tenured faculty position at the Assistant or Associate Professor rank (or in an equivalent position) at an institution that is eligible to submit as described under "Who May Submit Proposals;" or
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- Persons who hold transitional fixed-term postdoctoral appointments are not eligible to apply as PI, even if their organizations classify such appointments as 'faculty' for administrative purposes.
- In all cases, the required letter from the PI's supervisory administrator should verify the PI's eligibility relative to these criteria.
- For submissions from a Primarily Undergraduate Institution a letter from the institution's Authorized Organizational Representative certifying their status as such is required. See Section V.A. below for further information.
- The PI may hold or accept fellowships of equal caliber (i.e., similar intent, funding level, and or prestige) concurrently with a Track-4 Fellow award.

Any questions regarding PI eligibility should be directed toward the cognizant Program Officers listed above.

#### **Limit on Number of Proposals per Organization:**

For RII Track-4: NSF: 4

A maximum of four proposals may be submitted in response to this solicitation by any single organization in an RII-eligible jurisdiction.

For RII Track-4:@NASA: 4

A maximum of four proposals may be submitted in response to this solicitation by any single organization in an RII-eligible jurisdiction.

In the case that the institution is eligible to submit both RII Track-4: NSF and RII Track-4:@NASA proposals, a maximum total of eight proposals, including a maximum of four RII Track-4: NSF proposals and four RII Track-4:@NASA proposals, may be submitted in response to this solicitation by any single organization in a RII-eligible jurisdiction.

If more than the maximum allowable proposals are submitted from any single institution, all proposals from that institution are subject to return without review.

The organization's Sponsored Projects Office is required to ensure that the above requirements are met.

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

An investigator may serve as PI on only one proposal submitted in response to this solicitation.

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## **V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS**

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### **A. Proposal Preparation Instructions**

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**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=grantgovguide](https://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantgovguide). 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).

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.

The following instructions are specific to proposals submitted to the Research Infrastructure Improvement Program Track-4: EPSCoR Research Fellows competition and supplement the NSF PAPPG and NSF Grants.gov Application Guide.

- Only single-PI proposals will be considered. No co-PIs should be included in the proposal. Other Senior Personnel are permitted.
- The proposal section labeled Project Description may not exceed 10 pages, including text as well as any graphic or illustrative materials. Proposals that exceed the page limitations or that do not contain all items described below will be returned without review.

The proposal must include the following elements:

1. The project title must begin with "RII Track-4:NSF: or RII Track-4:@NASA:", depending on the track, and follow with an informative title in the topic area. The Research Proposal Type should be selected, and the Primary Place of Performance on the cover sheet should list the host institution for the fellowship visit and not the submitting institution.
2. Project Summary (1 page maximum). Provide an overview that briefly describes: the vision and goals of the fellowship project; the role of the host site and its personnel in achieving the project's vision and goals; a summary of the objectives and methods to be employed; the expected outcomes and impacts of the proposed activities; and plans for sustaining the project's impacts beyond the award period. In separate statements, provide a succinct summary of the intellectual merit and broader impacts of the project.

The Project Summary must identify the proposed host site and primary research collaborator(s).

At the bottom of the Project Summary, PIs should also indicate the NSF Directorate, Division, and Program that most closely aligns with the proposal's research focus.

3. Project Description (10 pages maximum). This section should present the activities for the proposed fellowship in a clear, detailed, compelling way and describe how the activities will lead to long-lasting impacts to the PI's research career trajectory. In addition to the requirements contained in PAPPG Chapter II D.2, the project description must articulate the motivation and context for the proposed fellowship project using language understandable to a scientific audience with broad disciplinary expertise. The goals and objectives for the fellowship project should be clearly stated, and the research plan for achieving the goals and objectives should be presented in sufficient detail to facilitate reviewers' assessment of the proposal. The project description should specify the expected outcomes from the fellowship and should include a timeline for meeting the project goals and objectives. It is crucial that the project description explain clearly how the PI will specifically benefit from the unique opportunities provided by the fellowship. It should also detail both the role of the host site in achieving the research goals and objectives and how the benefits to the PI's research career will be sustained beyond the award period.

The project description must describe the fellowship project's expected Intellectual Merit and Broader Impacts. In addition to addressing the Intellectual Merit of the project, the narrative should describe the project's research-focused activities and how these activities will enhance the PI's individual research capacity beyond the duration of the fellowship period. Per the guidance in the PAPPG, the Project Description must contain, as a separate section within the narrative, a section labeled "Broader Impacts". This section should articulate the benefits to the PI's home institution and/or jurisdiction that are expected to derive from the fellowship project. Additional benefits that fall under NSF's Broader Impacts merit review criterion should also be discussed in this section.

Proposals must also include a section detailing the Results from Prior NSF Support; for PIs with no prior NSF support, a simple statement to that effect is sufficient.

4. Budget Pages and Budget Justification. Prepare budget pages for each year of support and a budget justification (not to exceed five pages). Because the fellowship-related travel (transportation and living expenses) is expected to represent a significant component of the budget, PIs should provide sufficient detailed documentation to justify the requested expenses.

5. Facilities, Equipment, and Other Resources. The PI should provide a description of the relevant facilities, equipment, and other resources at the home institution or within the home jurisdiction if applicable. Only the PI's resources should be described, with emphasis on those resources needed for the project's work and especially any equipment that will be transported for use at the host site. Any facilities, equipment, and other resources that belong to the host site and are needed for the project should be described in the project description and not in this section. See [NSF PAPPG](#).

6. Supplementary Documentation (in addition to those required by the PAPPG).

#### **Additional Guidance for RII Track-4:NSF**

- At least one letter must be included from (i) a supervisory administrator at the home institution; (ii) a primary research collaborator at the host site; and (iii) the administrative manager(s) at the host institution. Proposals that do not include all three of these required letters will be returned without review. Where appropriate, more than one letter may be submitted for any of the categories.
- **Letter from the Supervisory Administrator:** The appropriate supervisory administrator at the PI's home institution is typically the PI's Department Chair or Dean. The purpose of this letter is to confirm the administrator's support of the PI's plans and particularly to verify that the PI will receive appropriate release time from other professional duties to complete the fellowship project as proposed. This letter should also confirm the PI's employment status at the home institution as it pertains to eligibility for the competition.
- **Letter from the Primary Research Collaborator(s):** This letter should confirm the collaborator's understanding of the goals of the EPSCoR fellowship and provide sufficient evidence to demonstrate that the PI will receive the support necessary to complete the proposed activities.
- **Letters from the Administrative Manager(s):** The purpose of this letter is to confirm that all necessary logistical arrangements (site access, office space, cyber connectivity) will be made for the PI's potential visit(s) to ensure that the project will proceed as proposed. In the case where the primary research collaborator at the host site is also the appropriate administrative manager, the PI should contact a cognizant NSF Program Officer for guidance.
- Additional letters from other parties may be submitted only if they are needed to verify specific tangible commitments related to activities described in the proposal.

#### **Additional Guidance for RII Track-4:@NASA**

- At least one letter must be included from (i) a supervisory administrator at the home institution and (ii) a NASA EPSCoR coordinator. Proposals that do not include these two required letters will be returned without review. Where appropriate, more than one letter may be submitted for any of the categories. Please contact the NASA EPSCoR coordinator for assistance with letters from the host NASA center.
- **Letter from Supervisory Administrator:** The appropriate supervisory administrator at the PI's home institution is typically the PI's Department Chair or Dean. The purpose of this letter is to confirm the administrator's support of the PI's plans and particularly to verify that the PI will receive appropriate release time from other professional duties to complete the fellowship as proposed. This letter should also confirm the PI's employment status at the home institution as it pertains to eligibility for the competition.
- Additional letters from other parties may be submitted only if they are needed to verify specific tangible commitments related to activities described in the proposal.
- For submissions from a Primarily Undergraduate Institution, a letter is required from an Authorized Organizational Representative, certifying that the originating and managing institution is an accredited college or university that awards Associate's degrees, Bachelor's degrees, and/or Master's degrees in NSF-supported fields, but has awarded 20 or fewer PhD/DSci degrees in all NSF-supported fields during the combined previous two academic years.

## B. Budgetary Information

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### Cost Sharing:

Inclusion of voluntary committed cost sharing is prohibited.

### Indirect Cost (F&A) Limitations:

"Off campus" indirect cost rates may apply.

### Other Budgetary Limitations:

- Total funds requested may not exceed \$300,000. Funding requests should have a total duration of up to 24 months. In all cases the requested support is expected to closely align with the duration of the fellowship visit(s) to the host institution.
- Budgets may include up to six months of salary and fringe benefit support for the PI over the course of the fellowship. Support may be in the form of an academic year, calendar year, or summer months. For both Fellow tracks, PIs must be able to demonstrate a significant commitment to the research activity, and as such must dedicate significant time-effort to the activity.
- Up to a total of six months of salary and fringe benefit support (including tuition at the home institution, if appropriate) is also allowed over the course of the fellowship for one student participant or postdoctoral researcher.
- Budget justifications must clearly describe and justify travel expenses, to cover both the PI and one additional trainee. The requested travel budget must conform to additional requirements. This includes any local transportation (car rental) and living expenses during the fellowship visit(s). Multiple trips between the home institution and the host site are allowed. Detailed justification for the requested transportation costs must be provided. Under no circumstances may the living expense charges (Lodging, Meals, and Incidental Expenses) exceed the per diem rates set by the home institution's travel policy.
- Additional direct costs are allowed. These funds may be used for shipping, purchasing materials and/or supplies, publication charges, equipment, facility fees, attending conferences, or other similar costs which are directly related to the research activities.
- RII Track-4:@NASA awardees will receive additional \$60,000 from NASA EPSCoR to support their research at the home institution; this fund is awarded through the NASA EPSCoR, Research Infrastructure Development (RID) cooperative agreements, coordinated through the designated jurisdiction's director, and should help to build the awardees' research infrastructure and capacity. PI submits statement of work and budget request to his/her jurisdiction's director for processing. Equipment items with a unit cost of \$5,000 or more must have the prior written approval the NASA Grants Officer.
- Collaborators at the host institutions are not eligible to receive salary or fringe benefit support under this award. Host institutions may receive payment for accommodations provided to the PI or student-level participant during the fellowship visit; these expenses may include lodging, meals, and incidental expenses. Host institutions may also receive payment for services directly related to research activities during the fellowship visit; such costs must be consistent with established fee structures at the host institution. Under no circumstances may there be a subaward to the host institution.
- Up to \$10,000 may be requested for the host collaborator for travel related to the fellowship project which includes visit to the PI's home site and/or participation in conferences where the collaborative work is presented.

Proposals that fail to comply with any of these budgetary limitations will be returned without review.

## C. Due Dates

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

April 11, 2023

RII Track-4:@NASA

April 11, 2023

Second Tuesday in April, Annually Thereafter

RII Track-4: NSF

## D. Research.gov/Grants.gov Requirements

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### 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](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](mailto: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](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 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

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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/](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

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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**

Reviewers will also be asked to review each proposal with respect to the following specific questions as they relate to intellectual merit and broader impacts.

- What evidence is presented to demonstrate that the proposed research outcomes can be achieved within the constraints of the fellowship period, with the work being performed in collaboration with the host site?
- How will the fellowship have a transformative impact on the trajectory of the PI's research career both during the period of the award and beyond?
- How will the fellowship yield tangible benefits to the home institution and/or jurisdiction beyond the individual benefits to the PI?
- What evidence is there that the home institution and the host site are each committing the necessary resources, both scientific and administrative, to lend confidence that the fellowship project will be successful in achieving its intended outcomes?

## **B. Review and Selection Process**

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

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

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

After programmatic approval has been obtained, the proposals recommended for funding will be forwarded to the Division of Grants and Agreements 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**

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### **A. Notification of the Award**

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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**

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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 [nspubs@nsf.gov](mailto:nspubs@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 an award unless all iron, steel, manufactured products, and construction materials used in the project are produced in the United States. For additional information, visit NSF's [Build America, Buy America](#) webpage.

## **C. Reporting Requirements**

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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](https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pappg).

## **VIII. AGENCY CONTACTS**

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*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:

- Jose Colom-Ustariz, NSF, telephone: (703) 292-7088, email: [jcolom@nsf.gov](mailto:jcolom@nsf.gov)
- Chinonye Whitley, NSF, telephone: (703) 292-8458, email: [cwhitley@nsf.gov](mailto:cwhitley@nsf.gov)
- Pinhas Ben-Tzvi, NSF, telephone: (703) 292-8246, email: [pbentzvi@nsf.gov](mailto:pbentzvi@nsf.gov)
- Ali Shaykhian, NASA, telephone: (321) 289-0512, email: [Agency-EPSCoR-RII-Track-4@mail.nasa.gov](mailto:Agency-EPSCoR-RII-Track-4@mail.nasa.gov)
- Dawn M. Martin, NASA, telephone: (321) 747-8093, email: [Agency-EPSCoR-RII-Track-4@mail.nasa.gov](mailto:Agency-EPSCoR-RII-Track-4@mail.nasa.gov)
- Jeppie Compton, NASA, telephone: (321) 867-6988, email: [Agency-EPSCoR-RII-Track-4@mail.nasa.gov](mailto:Agency-EPSCoR-RII-Track-4@mail.nasa.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](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

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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

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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.

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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.

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- **Location:** 2415 Eisenhower Avenue, Alexandria, VA 22314
- **For General Information** (NSF Information Center): (703) 292-5111
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## PRIVACY ACT AND PUBLIC BURDEN STATEMENTS

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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:

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