

# EPSCoR Research Infrastructure Improvement Program Track-1 (RII Track-1)

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## PROGRAM SOLICITATION NSF 22-599

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### REPLACES DOCUMENT(S): NSF 21-586

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National Science Foundation  
Office of Integrative Activities

**Letter of Intent Due Date(s) (required)** (due by 5 p.m. submitter's local time):

July 19, 2022

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

August 22, 2022

## IMPORTANT INFORMATION AND REVISION NOTES

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### Revision Notes

- A Letter of Intent (LOI) is required to compete in the RII Track-1 competition. LOIs must be submitted by the Authorized Organizational Representative (AOR) of the submitting organization on or before the LOI due date.
- The submitting jurisdiction must have in place a Science and Technology (S&T) Plan that has been officially accepted or approved within the past five (5) years to submit an RII Track-1 proposal.
- The EPSCoR Research Infrastructure Improvement (RII) Track-1 Planning Grant option has been expanded and is now available to eligible jurisdictions with current RII Track-1 awards that expire before October 1, 2024 as well as those without a current RII Track-1 award.

### Important Information

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

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

## SUMMARY OF PROGRAM REQUIREMENTS

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### General Information

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#### Program Title:

EPSCoR Research Infrastructure Improvement Program Track-1 (RII Track-1)

#### 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. Jurisdictions are eligible to participate in the NSF EPSCoR Research Infrastructure Improvement (RII) Program based on their level of total NSF support over their most recent five years (see EPSCoR [eligibility](#)). Through this program, NSF facilitates the establishment of partnerships among academic institutions and organizations in governmental, non-profit, and commercial or industrial sectors 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.

RII Track-1 awards provide up to \$20 million total over five years to support research-driven improvements to jurisdictions' physical and cyber infrastructure and human capital development in topical areas selected by the jurisdiction's EPSCoR steering committee as having the best potential to improve future R&D competitiveness. The project's research and capacity-building activities must align with the specific research priorities identified in the submitting jurisdiction's approved Science and Technology (S&T) Plan. Refer to Sections II and V.A.4.1 below for more information on alignment of the research and capacity-building activities of the project with the science, technology, engineering, and mathematics (STEM) research priorities of the S&T Plan.

**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.*

- Jeanne Small, telephone: (703) 292-8623, email: [jsmall@nsf.gov](mailto:jsmall@nsf.gov)
- Subrata Acharya, telephone: (703) 292-2451, email: [acharyas@nsf.gov](mailto:acharyas@nsf.gov)
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- Andrea Johnson, telephone: (703) 292-5164, email: [andjohns@nsf.gov](mailto:andjohns@nsf.gov)
- Eric W. Lindquist, telephone: (703) 292-7127, email: [elindqui@nsf.gov](mailto:elindqui@nsf.gov)
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**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 --- Education and Human Resources
- 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:** Cooperative Agreement

**Estimated Number of Awards:** 12

Up to twelve (12) awards are anticipated.

**Anticipated Funding Amount:** \$48,000,000

in FY 2023 (pending quality of proposals and availability of funds).

## Eligibility Information

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**Who May Submit Proposals:**

Proposals may only be submitted by the following:

- **Full proposals:** Only jurisdictions that meet the EPSCoR [eligibility](#) criteria may submit proposals to the RII Track-1 competition. In addition, only eligible EPSCoR jurisdictions with current RII Track-1 awards that expire before October 1, 2023 and those without current RII Track-1 awards may compete in this RII Track-1 competition. The jurisdiction's EPSCoR steering committee must designate a fiscal agent/proposing organization as the responsible recipient for the RII Track-1 award. This must be the employing organization of the Project Director. The submitting jurisdiction must have in place a Science and Technology (S&T) Plan that has been officially accepted or approved within the past five (5) years to submit an RII Track-1 proposal. Additional requirements exist for jurisdictions that have become eligible for EPSCoR support after one or more years of ineligibility, described in Section 1.B below.
- **Planning grants:** Only jurisdictions that meet the EPSCoR [eligibility](#) criteria may submit planning grant proposals to the RII Track-1 competition. The planning grant option is available to eligible jurisdictions with current RII Track-1 awards that expire before October 1, 2024 and those without a current RII Track-1 award. Additional requirements are described in Section 1.C below.

**Who May Serve as PI:**

The Project Director and Principal Investigator of a proposed EPSCoR project must be affiliated with a university, agency, or organization within the submitting EPSCoR-eligible jurisdiction. In addition, the Project Director must be the Principal Investigator and be employed by the fiscal agent/proposing organization.

**Limit on Number of Proposals per Organization:** 1

An eligible EPSCoR jurisdiction may submit only one RII Track-1 proposal in response to this solicitation. In addition, only the designated fiscal

agent/proposing organization, acting on behalf of a jurisdiction's EPSCoR steering committee, may submit the RII Track-1 proposal. More information on a jurisdiction's EPSCoR steering committee may be obtained by contacting a cognizant Program Officer listed in Section VIII below.

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

An investigator may serve as Principal Investigator (PI) or co-PI on only **one** RII Track-1 project.

## **Proposal Preparation and Submission Instructions**

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

- **Letters of Intent:** Submission of Letters of Intent is required. Please see the full text of this solicitation for further information.
- **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:**

Cost Sharing is required. Please see the full text of this solicitation for further information.
- **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**

- **Letter of Intent Due Date(s) (required)** (due by 5 p.m. submitter's local time):

July 19, 2022
- **Full Proposal Deadline(s)** (due by 5 p.m. submitter's local time):

August 22, 2022

## **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:**

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

### **Reporting Requirements:**

Additional reporting requirements apply. Please see the full text of this solicitation for further information.

## **TABLE OF CONTENTS**

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### [Summary of Program Requirements](#)

- I. [Introduction](#)
- II. [Program Description](#)

- III. [Award Information](#)
- IV. [Eligibility Information](#)
- V. [Proposal Preparation and Submission Instructions](#)
  - A. [Proposal Preparation Instructions](#)
  - B. [Budgetary Information](#)
  - C. [Due Dates](#)
  - D. [Research.gov/Grants.gov Requirements](#)
- VI. [NSF Proposal Processing and Review Procedures](#)
  - A. [Merit Review Principles and Criteria](#)
  - B. [Review and Selection Process](#)
- VII. [Award Administration Information](#)
  - A. [Notification of the Award](#)
  - B. [Award Conditions](#)
  - C. [Reporting Requirements](#)
- VIII. [Agency Contacts](#)
- IX. [Other Information](#)

## I. INTRODUCTION

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### A. EPSCoR Mission and Goals

The mission of EPSCoR is to enhance research competitiveness of targeted jurisdictions (states, territories, commonwealth) by strengthening STEM capacity and capability.

EPSCoR goals are to:

- Catalyze research capability across and among jurisdictions;
- Establish STEM professional development pathways;
- Broaden participation of diverse groups/institutions in STEM;
- Effect engagement in STEM at national and global levels; and
- Impact jurisdictional economic development.

### B. Criteria for Eligibility to Participate in RII Track-1

Research Infrastructure Improvement Program Track-1 (RII Track-1) eligibility is based on a jurisdiction's recent five-year history of total funds awarded by NSF relative to the Foundation's total research budget for that same period. The current table of eligible jurisdictions is available on the NSF EPSCoR website (see [EPSCoR eligibility](#)). Only eligible jurisdictions without a current RII Track-1 award or those with current RII Track-1 awards that expire before October 1, 2023 may submit a proposal in this RII Track-1 competition.

A new EPSCoR-eligible jurisdiction is defined as a State, US Territory, or US Commonwealth that previously did not qualify via the established eligibility criteria in any prior year but has become eligible under the current NSF EPSCoR eligibility list. To be eligible to apply for EPSCoR RII funding, a new EPSCoR-eligible jurisdiction must demonstrate its commitment to develop its research foundation and improve the quality of STEM research conducted at its universities and colleges, by:

- Applying for, and receiving, an EPSCoR RII Track-1 planning grant; and
- Developing a jurisdictional Science and Technology (S&T) Plan.

It may occur that a jurisdiction was previously eligible for EPSCoR support, then became ineligible for one or more years due to exceeding the established eligibility criteria, and then again became EPSCoR-eligible under the established criteria. In this case, the re-entering jurisdiction must again demonstrate its commitment to developing research capacity and improving the quality of STEM research and education at its universities and colleges. Although a new planning grant is strongly encouraged in such a case, the jurisdiction may submit a proposal in this RII Track-1 competition if it can provide documentation demonstrating that it has the administrative infrastructure in place to effectively manage RII awards (i.e., an active jurisdictional steering committee with current by-laws), as well as a current jurisdictional S&T Plan.

Additional information regarding eligibility is available at the [NSF EPSCoR Website](#).

### C. EPSCoR RII Track-1 Planning Grants

#### • RII Track-1 Planning Grants for Newly Eligible Jurisdictions:

An RII Track-1 planning grant proposal can be submitted at any time after a jurisdiction's eligibility has been established. A new EPSCoR-eligible jurisdiction must seek such planning support to formulate a documented vision consistent with the jurisdiction's S&T Plan and an implementation design for their research, education, and innovation strategies. An expected outcome from any supported planning activity is the submission of a competitive RII Track-1 proposal, which combines capacity-building with capability enhancement for addressing research opportunities characterized by regional relevance and national importance. A jurisdiction wishing to submit a planning grant proposal must follow the guidance in the [PAPPG \(Chapter II.E.1\)](#) and *Dear Colleague Letter NSF 22-014*.

#### • RII Track-1 Planning Grants for Currently Eligible Jurisdictions:

An RII Track-1 planning grant proposal may be submitted to this competition by eligible jurisdictions without a current RII Track-1 award or those with current RII Track-1 awards that expire before October 1, 2024. A jurisdiction applying for an RII Track-1 planning grant may not also submit a full RII Track-1 proposal at any point from the date of the planning grant proposal submission to the date six months after the starting date of the planning grant award. The anticipated outcome from any supported planning activity is the submission of a competitive RII Track-1 proposal, which combines capacity-building with capability enhancement for addressing research opportunities characterized by regional relevance and national importance. A jurisdiction wishing to submit a planning grant proposal must follow the guidance in the [PAPPG \(Chapter II.E.1\)](#) and *Dear Colleague Letter NSF 22-014*.

## II. PROGRAM DESCRIPTION

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### RII Track-1 Program Description

Consistent with NSF EPSCoR's programmatic goals, the purpose of RII Track-1 is to provide support for sustainable improvements in a jurisdiction's academic research infrastructure that lead to increased research capacity and competitiveness. Specifically, the program aims to improve jurisdictional capacity in areas of STEM research and education that are supported by NSF and aligned with the jurisdiction's science and technology priorities.

Successful RII Track-1 proposals should establish a vision for how the planned effort will substantively enhance the R&D competitiveness of the jurisdiction's colleges and universities, including its primarily undergraduate institutions, two-year institutions, and minority-serving institutions. However, a compelling vision alone is insufficient; successful proposals must also include detailed plans for how the vision will be realized by describing how the proposal's stated goals and objectives will be fully achieved. Ultimately, the expectation is that the EPSCoR RII Track-1 project will improve a jurisdiction's R&D competitiveness in the targeted area(s) at the national or regional level. This improved competitiveness is expected to lead to increased success in securing additional non-EPSCoR research support, more effective STEM education and workforce development opportunities that engage diverse audiences across the jurisdiction, and stronger partnerships at the individual and institutional levels both within the jurisdiction and beyond.

#### Jurisdictional EPSCoR Steering Committee

An RII Track-1 project's success is rooted in its responsiveness to the particular needs and priorities of the submitting jurisdiction. To ensure a strong foundation, the proposal must have the support of the submitting jurisdiction's EPSCoR steering committee. The steering committee, working closely with diverse jurisdictional leaders in academia, government, and the private sector, is expected to work towards identifying R&D improvement strategies that will advance the development of nationally competitive capabilities in jurisdictional S&T priority areas. In preparation for submitting a proposal, the jurisdictional EPSCoR steering committee is expected to have conducted a comprehensive analysis of the jurisdiction's R&D strengths, the opportunities that exist to further develop R&D capacity, and the challenges that must be overcome to take advantage of those opportunities. The steering committee will have evaluated the maturity of existing R&D efforts in the jurisdiction as well as the potential of new research directions that align with jurisdictional needs.

#### Jurisdictional Science and Technology Plan

A well-designed Science & Technology (S&T) Plan is essential to the jurisdiction's efforts to enhance the competitiveness of its STEM research and education infrastructure. To submit an RII Track-1 proposal, the jurisdiction should have a current S&T Plan that has been officially accepted or approved within the past five (5) years, either by the jurisdictional EPSCoR steering committee or by a governing official or body acting on behalf of the jurisdiction. The S&T Plan establishes the jurisdiction-wide research priorities, including specific goals and objectives, and provides the framework that is expected to guide the jurisdiction's use of R&D infrastructure improvement resources. The S&T Plan should also be informed by the jurisdiction's economic development priorities and should describe pathways for bringing research outputs and outcomes to the marketplace where appropriate. The S&T Plan must be submitted with an RII Track-1 proposal as part of the Supplementary Documentation (see V.A.10.3 for specific requirements). The proposal's responsiveness to the S&T Plan will be considered during merit review, particularly as it relates to the project's expected Jurisdictional Impacts (see VI.A.2).

RII Track-1 proposals are unique in their jurisdiction-wide scope and complexity; in their integration of individual researchers, institutions, and organizations; in their development of both research capacity and research excellence; and in their role in developing the diverse, well-prepared, STEM-enabled workforce necessary to sustain research competitiveness and catalyze economic development and growth in the jurisdiction. To provide an organizing focus to its numerous components, an EPSCoR RII Track-1 proposal must clearly explain how all elements of the project will align with one or more S&T topical areas that are consistent with the specific research priorities of the jurisdiction's S&T Plan.

#### Elements of Proposed Research and Capacity-Building Activities

It is inherent to the nature of RII Track-1 projects that they simultaneously focus both on conducting high-quality research and on developing the infrastructure necessary for sustained improvements to jurisdictional R&D capacity. The jurisdiction determines the relative emphases of these elements in the proposal, with consideration of jurisdictional priorities, needs, and maturity of existing research infrastructure. The proposal should justify the strategic choices made of the relative weight of the research and the capacity-building activities to be undertaken. All elements of the project design are expected to advance the proposal's overarching vision and serve to improve the jurisdiction's overall R&D competitiveness in the chosen topical area(s).

Research conducted as part of an RII Track-1 project should be hypothesis- and/or problem-driven. Research in areas of recognized national or global interest is encouraged. Appropriate research topics are those that benefit from a comprehensive and integrative approach, typically relating to a scientific area of significant regional or jurisdictional importance. As noted above, the proposed research and capacity-building activities must align with the STEM research priorities identified in the jurisdictional S&T Plan. All proposed research and capacity-building activities are expected to meet NSF's high standards for intellectual merit and broader impacts.

Requested infrastructure investments in the RII Track-1 project are expected to complement the proposed research activities and clearly benefit the jurisdiction's R&D capacity. RII Track-1 proposals should clearly demonstrate how the timeline for anticipated research infrastructure improvements will support proposed research efforts across the five years of the project and should address the risks presented by potential delays in infrastructure acquisition. Infrastructure improvement strategies should focus available resources, whether from NSF funds or cost-share, on enabling research, technological innovation, education, workforce development, and broadening participation activities. All such activities are expected to align with identified long-term jurisdictional and regional objectives in general, and, in particular, with the planned research in the proposal's identified S&T topical area(s).

Development of meaningful partnerships as part of the RII Track-1 project is strongly encouraged as a means of enhancing the jurisdiction's R&D competitiveness. Proposals should include strong intellectual engagement of diverse participants from institutions of higher education across the submitting EPSCoR jurisdiction, as well as productive partnerships between the jurisdiction's academic institutions and organizations in its governmental, non-profit, and commercial or industrial sectors. Jurisdictions are encouraged to plan research and educational activities across the diversity of institutions located within its boundaries, including research universities, primarily undergraduate institutions, community colleges, and minority-serving institutions. The jurisdiction as a whole (including all institutions) should be positively impacted by a successful RII Track-1 project.

Collaborations among regional and national EPSCoR jurisdiction-based organizations are also encouraged, as are partnerships with nationally recognized centers of R&D activity, such as federal and industrial R&D laboratories, NSF-sponsored research centers, and academic institutions with nationally recognized research capabilities. Proposers are similarly encouraged to connect with NSF programs that support broadening participation in STEM and professional STEM societies for underrepresented minorities and people with disabilities.

EPSCoR RII Track-1 support may leverage, but should not duplicate, other available federal, jurisdictional, or organizational resources.

Examples of activities appropriate for inclusion in an RII Track-1 proposal include, but are not limited to:

- Integration of research and education by establishing research training groups for undergraduate or graduate students, or similar appropriate mechanisms; to encourage multidisciplinary, research-based educational experiences and connections with, for example, the private sector or national laboratories;
- Support for competitive levels of "start-up" funding for new faculty. Such support should connect to the project's research and capacity-building activities or to emerging areas as outlined in the proposal;
- Support for competitive levels of strategic funding to attract and/or retain established faculty who are active researchers in areas aligned with the project's research and capacity-building activities;
- Support for faculty and student teams that include women, groups that are traditionally underrepresented in STEM, and persons with disabilities that will result in a strong, quantifiable impact on the STEM workforce. Support may also be included as appropriate for students who are in the first generation of the family to attend college, or those from economically disadvantaged or rural populations;
- Support for the acquisition of equipment for research and discovery-based learning activities;
- Support for research and education projects targeting the full diversity of institutions across the jurisdiction, including 2-year, 4-year, and minority-serving institutions; and
- Support for activities that promise transformative outcomes, including revolutionizing disciplines, creating new fields, fostering economic development (including innovation, entrepreneurship education, technology transfer, and potential commercialization), or disrupting accepted theories and perspectives.

Proposals may include support for academic, for-profit, and non-profit organizations, as well as individuals employed by such organizations (for additional details, see next paragraph). Cooperative research efforts among or between diverse types of universities within an EPSCoR jurisdiction qualify for EPSCoR support and are encouraged, including partnerships involving research universities, primarily undergraduate institutions, two-year colleges, and minority-serving institutions.

In all cases, the Project Director and Principal Investigator of a proposed EPSCoR project must be affiliated with a research university, agency, or organization within the proposing jurisdiction. In addition, the Project Director must be the Principal Investigator and be employed by the fiscal agent/proposing organization. While the proposed project may involve collaborations between EPSCoR and non-EPSCoR jurisdictions, including international participants, EPSCoR funding must only be requested for and expended in EPSCoR jurisdictions. EPSCoR funding may not be used to support participants from non-EPSCoR jurisdictions, whether it be through a formal or informal mechanism, including, but not limited to, research experiences, internships, workshops, summer camps, or outreach activities. (This restriction does not preclude the involvement of non-EPSCoR participants when their participation does not incur significant additional costs).

### III. AWARD INFORMATION

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**Anticipated Type of Award:** Cooperative Agreement

**Estimated Number of Awards:** Twelve (12)

**Duration:** Funding requests must be for a duration of 5 years

**Anticipated Funding Amount:** \$48,000,000 in FY 2023 (pending quality of proposals and availability of funds)

**Limitation of Awards:**

- The RII Track-1 award amount may not exceed \$20 million total over (5) years.
- The estimated program budget, number of awards, and average award size and duration are subject to the quality of proposals and availability of funds.
- Eligible jurisdictions with active awards will be allowed to have a maximum overlap period of six months for two active RII Track-1 awards (i.e., the start date of a new award may not occur earlier than six months before the end date of a previous award).

### IV. ELIGIBILITY INFORMATION

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**Who May Submit Proposals:**

Proposals may only be submitted by the following:

- **Full proposals:** Only jurisdictions that meet the EPSCoR [eligibility](#) criteria may submit proposals to the RII Track-1 competition. In addition, only eligible EPSCoR jurisdictions with current RII Track-1 awards that expire before October 1, 2023 and those without current RII Track-1 awards may compete in this RII Track-1 competition. The jurisdiction's EPSCoR steering committee must designate a fiscal agent/proposing organization as the responsible recipient for the RII Track-1 award. This must be the employing organization of the Project Director. The submitting jurisdiction must have in place a Science and Technology (S&T) Plan that has been officially accepted or approved within the past five (5) years to submit an RII Track-1 proposal. Additional requirements exist for jurisdictions that have become eligible for EPSCoR support after one or more years of ineligibility, described in Section 1.B below.
- **Planning grants:** Only jurisdictions that meet the EPSCoR [eligibility](#) criteria may submit planning grant proposals to the RII Track-1 competition. The planning grant option is available to eligible jurisdictions with current RII Track-1 awards that expire before October 1, 2024 and those without a current RII Track-1 award. Additional requirements are described in Section 1.C below.

**Who May Serve as PI:**



The Project Director and Principal Investigator of a proposed EPSCoR project must be affiliated with a university, agency, or organization within the submitting EPSCoR-eligible jurisdiction. In addition, the Project Director must be the Principal Investigator and be employed by the fiscal agent/proposing organization.

**Limit on Number of Proposals per Organization: 1**

An eligible EPSCoR jurisdiction may submit only one RII Track-1 proposal in response to this solicitation. In addition, only the designated fiscal agent/proposing organization, acting on behalf of a jurisdiction's EPSCoR steering committee, may submit the RII Track-1 proposal. More information on a jurisdiction's EPSCoR steering committee may be obtained by contacting a cognizant Program Officer listed in Section VIII below.

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

An investigator may serve as Principal Investigator (PI) or co-PI on only **one** RII Track-1 project.

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

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

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**Letters of Intent (required):**

A Letter of Intent (LOI) is required to facilitate the NSF review process. The LOI must be submitted via Research.gov no later than 5:00 p.m. submitter's local time on the LOI due date. When submitting an LOI through Research.gov in response to this Program Solicitation please note the conditions outlined below:

- LOIs must be submitted through Research.gov (not Grants.gov), even if full proposals will be submitted via Grants.gov.
- Submission by an Authorized Organizational Representative (AOR) is required when submitting Letters of Intent.
- Submission of multiple Letters of Intent is not permitted.
- Keywords describing the science topical areas of the project are required when submitting Letters of Intent.

**Project Title:** The title should include "RII Track-1:" before the remainder of the title.

**Synopsis** (max 2,500 characters in this section, including any spaces and not to exceed one page): Upload a brief statement of the vision and goals of the project, its potential for societal impact, and how it aligns with the jurisdiction's Science & Technology Plan. Include an overview of the Research and Capacity-Building program, such as research theme titles, goals, and fundamental gaps or barriers in knowledge/technology that it meets. Briefly summarize the Other Project Elements. Succinctly describe the anticipated accomplishments of the project by the end of the requested funding period, including the benefits to the jurisdiction.

**Other Comments** (an additional max 2,500 characters including any blank spaces): Continue Synopsis as needed in this section.

**Keywords:** List up to fifteen keywords that represent the scientific content of the proposal.

LOIs will not be seen by reviewers or panelists or used in any manner to judge the merit of the proposed research. Due to the space limitations, it is therefore in the proposers' best interest to provide information on the proposed research topics only and to avoid providing extraneous information such as: prior accomplishments, motivation for the research, information on the qualifications of the project participants, etc.

LOIs will be used by NSF EPSCoR to assess requirements for proposal review. For more information on LOIs, please review the [NSF PAPPG](#). Note that no Supplementary Documents are allowed.

**Letter of Intent Preparation Instructions:**

When submitting a Letter of Intent through Research.gov in response to this Program Solicitation please note the conditions outlined below:

- Submission by an Authorized Organizational Representative (AOR) is required when submitting Letters of Intent.
- A Minimum of 0 and Maximum of 4 Other Senior Project Personnel are permitted
- A Minimum of 0 and Maximum of 20 Other Participating Organizations are permitted
- Research Keywords is required when submitting Letters of Intent
- Submission of multiple Letters of Intent is not permitted

**Full Proposal Preparation Instructions:** Proposers may opt to submit proposals in response to this Program Solicitation via Research.gov or Grants.gov.

- Full Proposals submitted via Research.gov: Proposals submitted in response to this program solicitation should be prepared and submitted in accordance with the general guidelines contained in the *NSF Proposal and Award Policies and Procedures Guide* (PAPPG). The complete text of the PAPPG is available electronically on the NSF website at: [https://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=pappg](https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pappg). Paper copies of the PAPPG may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-8134 or by e-mail from [nsfpubs@nsf.gov](mailto:nsfpubs@nsf.gov). The Prepare New Proposal setup will prompt you for the program solicitation number.
- Full proposals submitted via Grants.gov: Proposals submitted in response to this program solicitation via Grants.gov should be prepared and submitted in accordance with the *NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov*. The complete text of the *NSF Grants.gov Application Guide* is available on the Grants.gov website and on the NSF website at: ([https://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=grantsgovguide](https://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide)). To obtain copies of the Application Guide and Application Forms Package, click on the Apply tab on the Grants.gov site, then click on the Apply Step 1: Download a Grant Application Package and Application Instructions link and enter the funding opportunity number, (the program solicitation number without the NSF prefix) and press the Download Package button. Paper copies of the Grants.gov Application Guide also may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-8134 or by e-mail from [nsfpubs@nsf.gov](mailto:nsfpubs@nsf.gov).

See PAPPG Chapter II.C.2 for guidance on the required sections of a full research proposal submitted to NSF. Please note that the proposal preparation instructions provided in this program solicitation may deviate from the PAPPG instructions.

The following instructions are specific to proposals submitted to the Research Infrastructure Improvement Program Track-1 (RII Track-1) competition and supplement the NSF PAPPG:

- The jurisdiction's EPSCoR steering committee shall designate a fiscal agent/proposing organization for the project. This must be the employing organization of the Project Director/Principal Investigator.
- Separately submitted collaborative RII Track-1 proposals will not be accepted and will be returned without review.
- The proposal section labeled Project Description may not exceed 35 pages, including text and any graphic or illustrative materials. Page limitations also apply to specific subsections of the proposal. Proposals that exceed the page limitations or that do not contain all items described below will be returned without review.

**Note: Proposals that use the maximum number of pages in each subsection of the Project Description will not be in compliance with the overall 35-page limitation.**

**Proposal Set-Up:** Select "Prepare New Full Proposal" in Research.gov. Search for and select this solicitation title in Step One of the Full Proposal wizard. In the proposal details section, select "Single proposal with or without subawards)." Separately submitted collaborative proposals will be returned without review.

The project title must begin with "RII Track-1:" and follow with an informative title.

## PROPOSAL REQUIREMENTS

The RII Track-1 Proposal must include the following elements:

### 1. NSF Cover Sheet.

- If the research will involve vertebrate animals or human subjects, the appropriate boxes on the Cover Sheet must be checked and the IACUC (Institutional Animal Care and Use Committee) or IRB (Institutional Review Board) approval dates and relevant assurance numbers must be given if available at the time of proposal submission.

**2. Project Summary (1 page maximum).** Provide a clear vision for and description of the proposed RII Track-1 project and its potential impact. Briefly describe the proposed scope, research, education, and capacity-building activities, and their integration. In separate labeled statements, provide a succinct summary of the intellectual merit and broader impacts of the proposed project. Also briefly describe how the research and capacity-building activities align with the STEM research priorities in the jurisdiction's approved S&T Plan.

**3. Table of Contents.** Generated automatically by the system.

## PROJECT DESCRIPTION REQUIREMENTS

**The proposal must adhere strictly to the page limits, organization, headings, and subheadings described below, including all required tables. The Project Description may not be revised or altered after the full proposal deadline. Proposals that do not adhere to these requirements will be returned without review.**

**Note that the PAPPG requires that all proposals contain a section labeled "Broader Impacts" in their Project Descriptions (PAPPG II.C.2.d).** Please note that if submitting via Research.gov, the section header for Broader Impacts must be on its own line with no other text on that line.

**4. Project Description (35 pages maximum).** In addition to the requirements contained in [PAPPG II.C.2.d](#), the project description must include clear, succinct goals, objectives, and activities for proposed research, education, workforce development, and sustainability beyond the project period. This section of the proposal should present the activities to be facilitated by the RII Track-1 project in a clear, compelling way and describe how the requested NSF support will enable successful pursuit of the project goals and lead to increased competitiveness for NSF (non-EPSCoR) funding.

The proposal must provide well-documented data and other evidence, including clear references and citations to data sources, to support claims throughout the Project Description. Research and Capacity-Building, Education and Workforce Development, and Broadening Participation targets and goals should be substantiated by clear descriptions of the state of the art and current challenges in the research topical areas and educational environment, as appropriate. Relevant baseline data must be provided in support of efforts to engage students, distinct groups, or populations, especially in the plans for Education and Workforce Development and Broadening Participation.

In addition to the separate section labeled "Broader Impacts" required by the PAPPG, the project description must contain:

**4.1 Status and Overview (3 pages maximum).** Describe the status of the jurisdiction's academic R&D enterprise, including the strengths, barriers, and opportunities for development of the academic institutions in support of overall R&D objectives. The proposal narrative should provide a convincing rationale for the project's scientific vision and indicate how the overall strategy, proposed implementation mechanisms, and infrastructure support will mitigate the identified barriers and improve academic research competitiveness. The discussion in this section must explicitly describe the alignment of the proposed research with the STEM research priorities of the jurisdictional S&T Plan and the rationale for the balance between research and capacity-building in the proposed activities.

**4.2 Results from Relevant Prior NSF Support (2 pages maximum).** A section on results from relevant prior NSF support must be included, and the relevance of that support to the proposed activities explained. This section should include a description of the activities and impacts of the prior RII Track-1 award, including major accomplishments in both intellectual merit and broader impacts. Evidence should be presented of how the jurisdiction was impacted by the prior award and how a new award will build on this prior work. New hires from previous RII Track-1 awards, their retention status, and the highlights of their research and education accomplishments, including external grants, should be described. This section should indicate how many of the prior RII Track-1 awards' participants are part of this proposal. In addition, this section should summarize the coordination and synergy among EPSCoR and other NSF investments in the jurisdiction.

**4.3 Research and Capacity-Building Program (22 pages maximum).** For each thematic area proposed for research and capacity building, this section should provide a concise description of the area's research goals and intellectual focus and describe the planned activities in sufficient detail to enable their intellectual merit and broader impacts to be assessed. The proposed research in each theme should be presented in the context of other efforts in the field (with appropriate references), stating the major challenges and current gaps in knowledge, and discussing the novelty and/or originality of the proposed approach. The narrative must contain sufficient detail regarding the scientific hypotheses, goals, and research and training methods (laboratory, field, theoretical, computational, or other)



for each theme. Elements of capacity building should be clearly identified, including a summary of the personnel and equipment already available in the jurisdiction, what personnel and equipment would need to be acquired in order to do the proposed work, and the timing of the acquisition of personnel and equipment within the five-year timeframe of the project. All proposed activities to develop, improve, and deploy cyberinfrastructure and other physical research infrastructure must be integrated with and appropriate to the pursuit of the RII Track-1 project goals. Substantive engagement with institutions across the jurisdiction is required. Innovative use of cyberinfrastructure and other technologies to broadly engage institutions, organizations, and sectors across the jurisdiction is encouraged.

In addition to providing clear and concise evidence for intellectual merit and broader impacts of the research and capacity-building activities, this section should:

- Identify by name all faculty-level participants and estimate the numbers of faculty and postdoctoral, graduate, and undergraduate research participants.
- Clearly establish the means of developing a coordinated, collaborative approach involving multiple investigators, institutions, and organizations throughout the jurisdiction.
- Describe interactions with other groups and organizations within the jurisdiction and at the national and international levels. The Research and Capacity-Building Program description must clearly demonstrate how each research topical area and approach contributes to the jurisdiction's strategy for the advancement of future research, education, and innovation. In particular, the narrative should demonstrate how the proposed research and capacity-building activities are aligned with the STEM research priorities of the jurisdiction's S&T Plan, and how they will advance the frontiers of knowledge and the jurisdiction's future competitiveness in the proposed research areas.

**4.4 Education and Workforce Development (5 pages maximum).** The scope of RII Track-1 efforts must include specific STEM education and workforce development activities that are integrated with the Research and Capacity-Building Program description and contribute to the preparation of a new cadre of competitive researchers, innovators, and educators. The proposed set of activities should present an implementation plan that includes an assessment of the current circumstances as well as clearly articulated goals, milestones, and timelines. Where appropriate, baseline data should be provided to give context for the impacts of the planned activities. Plans should include opportunities for faculty development (particularly for early-career faculty) and for student training (which may occur at any level of the STEM education continuum). The proposal should describe mentoring and professional development of students, junior or postdoctoral researchers, and early-career faculty. Efforts that focus on pre-college education should describe the basis for their inclusion and their relevance to the Research and Capacity-Building Program. The narrative should indicate synergies between proposed workforce development activities and other NSF investments in the jurisdiction that focus on strengthening STEM workforce development, especially in the research focus areas of the RII Track-1 project.

RII Track-1 projects may support the hiring, retention, and mentoring of new faculty; in such cases the role(s) of such faculty in the proposed Research and Capacity-Building Program must be clearly described. Awarded RII Track-1 projects are expected to follow through on all proposed new faculty hires as described in the proposal.

**4.5 Emerging Areas and Seed Funding (2 pages maximum).** This mechanism provides flexibility for RII Track-1 projects to respond quickly and effectively to new opportunities and pursue high-risk, high-impact, and potentially transformative research. This section should identify the areas to be invested in and their relevance to, and synergy with, the project as a whole. The mechanisms that will be employed to catalyze research should also be described, including anticipated funding amounts and durations for emerging areas and seed projects. The criteria and mechanisms for selecting and evaluating projects must be clearly described in terms of integration with the Research and Capacity-Building Program as well as the other project elements, including Education and Workforce Development and Sustainability plans. Seed funding through the RII Track-1 is not intended to provide a substitute for NSF individual investigator funding.

Projects and activities supported under the Emerging Areas and Seed Funding element, whether supported with funds from NSF or with cost share, must relate to the scope of the RII Track-1 project as described in the proposal. In addition, annual seed funding may not exceed ten percent (10%) of the annual funds requested from NSF. Seed funding may be supported using either NSF or cost-sharing funds, but cost sharing may not be used to exceed the ten percent limit. For more information about cost-share requirements, see Cost Sharing under V.B. Budgetary Information, below.

**4.6 Broadening Participation (2 pages maximum).** Broadening participation in STEM is integral to building capacity within a jurisdiction and ensuring that available human and institutional resources play a meaningful role in the pursuit of the goals of the project. This includes diversity of all types – individual, institutional, and geographic. RII Track-1 project narratives should describe the current landscape of diversity, equity, and inclusion (DEI) within the jurisdiction, and provide plans for broadening the participation not only groups traditionally underrepresented in STEM but also of other groups within the jurisdiction whose eventual participation in the STEM enterprise would benefit the jurisdiction. Proposals must describe the basis for the proposal's strategic choices for broadening participation, including the institutional diversity of the participating organizations. Example activities include those that: support the STEM education and careers of women, groups traditionally underrepresented in STEM, persons with disabilities, and veterans; develop student employment and leadership options; identify innovative strategies for faculty recruitment and retention; and expand organizational participation. Providing opportunities to engage in STEM for students who are in the first generation of the family to attend college, or those from economically disadvantaged or rural populations may also be appropriate when such strategies are responsive to jurisdictional needs. Developing research capacity in participating institutions of all types and serving varied student populations is a required project component.

The plans for broadening participation must be supported by specific, well-documented, baseline data, including clear references and citations to data sources. Baseline data (e.g., enrollment numbers, graduation rates, population statistics, etc.) should demonstrate the current status of the targeted population(s) or demographic(s) for the proposed efforts to increase, or achieve explicit levels of, the participation of specific groups or populations (especially students) in proposed activities. If a strategy is being adapted from another successful project, cite the source of the activity, and provide relevant data.

**4.7 Partnerships and Collaborations (3 pages maximum).** Partnerships allow leveraging of resources and promote sustainability. Partnerships may seed science, engineering, and education collaborations that promote innovation and STEM workforce development, and can range in scope from intra-jurisdictional to inter-jurisdictional, regional, national, or international. Proposed activities should demonstrate how the anticipated partnerships and collaborations directly contribute to the attainment of project goals (including integration with the Research and Capacity-Building Program), increase research competitiveness, broaden and strengthen the STEM workforce, and provide opportunities that may include innovation, entrepreneurship education, technology transfer, and commercialization of research and education products. Proposed partnerships and collaborations may involve unfunded partners or stakeholders in the project. All activities should be detailed with clearly articulated goals, milestones, and timelines. The Partnerships and Collaborations section should specifically articulate partnerships with large NSF or other federally funded projects, including cyberinfrastructure resources, if applicable.

**4.8 Communication and Dissemination (2 pages maximum).** Communication and dissemination are essential for successful collaboration and the development of a diverse, well-trained STEM workforce and a scientifically informed citizenry. The dissemination of scientific results to stakeholders and citizens builds scientific literacy and strengthens educational and research capacity throughout jurisdiction. The Communication and Dissemination section should have a strong connection to the Research and Capacity-Building Program; activities should be linked to specific project goals. It should indicate mechanisms for communication among project teams, activities that promote sharing of data and findings, and ways to broadly disseminate results. This section should specifically address communication of the project's key features, activities, and accomplishments beyond the jurisdiction via the project's planned website and other means, and dissemination of results nationally and internationally. The plan should include strategies for enhancing recognition of the research and capacity-building activities and accomplishments, as well as those of the other project elements. The proposal should clearly describe plans for two-way

communication with stakeholders, and broad dissemination of the project's results and impacts.

**4.9 Sustainability (3 pages maximum).** RII Track-1 programs are catalytic, jurisdiction-wide investments in research and education infrastructure. A detailed plan for long-term sustainability of the proposed activities and infrastructure (physical, cyber, and human) beyond the lifespan of the project is required. The sustainability plan should anticipate how activities and infrastructure supported through the RII Track-1 project will be prioritized for sustainment and subsequently supported beyond RII Track-1 or other NSF EPSCoR funding. While it is not expected that all elements can or should be sustained, this plan should demonstrate the potential for enhancing research capacity and competitiveness in the long term through strategic plans for sustaining key investments of the project.

**4.9.1 Sustainability of Project Activities.** This section should describe the overall goals for sustaining key outcomes of the project beyond the award period. It should provide a rationale for the goals that are identified and indicate the desired trajectory toward reaching these goals during the five-year period of the award and beyond, including milestones and timelines. The plans should explain how the advances in research, education, and workforce development realized during the project, and the partnerships established, will each serve to advance the S&T competitiveness of the jurisdiction. As appropriate, the section should include forward-looking plans for the ongoing recruitment and retention of faculty and students, their training and mentoring, and related activities to support their continued career development (such as attending or organizing conferences, workshops, and summer schools). Recognizing that sustaining all project activities may not be possible, the general plans for maintaining impacts into the future should emphasize the project's strategies for identifying priority areas, its innovative approaches to securing necessary financial support, and its creativity in leveraging other NSF, federal, and private resources.

**4.9.2 Post-RII Track-1 Extramural Funding.** Successful RII Track-1 programs form the basis for leveraging and obtaining non-EPSCoR funding from NSF, including center-level funding opportunities, as well as other extramural sources. Describe the vision and specific plans for sustaining the research and education activities beyond the duration of RII Track-1 support. The plan must present a detailed strategy and timeline to generate sustained non-EPSCoR funding from federal, jurisdictional, or private sector sources. Additionally, it must include strategic, achievable goals for proposal submissions to NSF and other federal and non-federal sources involving RII participants during the award period. Innovative approaches for sustaining activities, resources, and infrastructure are encouraged, including, for example, leveraging of other existing programs, partnerships with private industry, user fees for facilities, sharing of intellectual property, and transitioning of operations to local, state, or federal government agencies.

**4.10 Management, Evaluation and Assessment (6 pages maximum).** A comprehensive plan for management, as well as the evaluation and assessment of the RII Track-1 project, must be included.

**4.10.1 Project Management Team.** The project management team is responsible for implementing the proposed activities and managing all aspects of the project. This team should be capable of developing and overseeing a strategic implementation plan for the project. It is critical that the management team be assembled with sufficient breadth (in terms of number, diversity, and levels of expertise) to enable full technical and administrative oversight for the achievement of project milestones. The management structure of the project should include:

- The jurisdictional EPSCoR steering committee: The committee should be composed of representatives from academia, government, and the private sector. Its role in project governance should be clearly detailed, including specific oversight responsibilities for the NSF EPSCoR RII Track-1 project. In order to avoid conflicts of interests in project governance and leadership, the RII Track-1 Project Director/Principal Investigator and co-PIs must not serve as voting members, Chairs, or co-Chairs of the EPSCoR steering committee for the submitting jurisdiction. In addition, RII Track-1 project participants may not serve on the EPSCoR steering committees of other jurisdictions.
- The RII Track-1 project management team: The roles and responsibilities of the Project Director/Principal Investigator (and co-Directors or co-PIs), administrative support personnel, and other team members must be clearly defined. A succession plan for key personnel should be included. The organizational affiliations and aggregate demographics for each team associated with the RII Track-1 project should be provided. The description of the project's management should include mechanisms to effectively use resources and respond to emerging opportunities and threats as they develop. Furthermore, the efforts of the management team's leadership in assessing project performance and enhancing public understanding of the role of science in service to society should be described.
- Any External Advisory Boards: RII Track-1 projects may utilize External Advisory Boards or Committees to provide advice and feedback on the project activities to the Project Director/Principal Investigator and management team. Where such boards or committees are utilized, the proposal should describe their charge (e.g., technical advice or diversity, equity, and inclusion guidance) and provide the organizational affiliations and aggregate demographics, where known. Projects with external advisory boards are expected to forward reports, recommendations, and responses to such feedback to NSF EPSCoR.

**4.10.2 Evaluation and Assessment.** The project design should incorporate mechanisms to evaluate, assess, monitor, and provide meaningful feedback on progress, outcomes, and impacts of the project. This section should summarize proposed milestones and metrics that the project team will use to assess and evaluate progress and achievements of all required elements of the proposed project during the award period and beyond. This section should also specify the mechanisms for how the results and recommendations from evaluation and assessment will be used to ensure progress and attainment of project goals, targets, and impacts during the project period. Targets for all project elements, including research, education, and workforce development activities, should be accompanied by appropriate baseline data. Research goals, objectives, milestones, and metrics are an important aspect of the evaluation and assessment plan and these should be clearly specified. The description should include annual metrics and milestones that will be used to assess progress.

Formative and summative assessment of the project is required. In addition, to facilitate EPSCoR program-level evaluation, projects will be required to provide data and cooperate with NSF staff and/or their contractors for such program-level endeavors.

The Evaluation and Assessment section must include plans for the annual review and evaluation of RII Track-1 project activities by an independent, external evaluator(s) during the award period. Detailed evaluation planning is expected to occur in the project's first year, with the first full evaluation report due in Year 2. Plans and reports prepared by the evaluator(s) must be consistent with NSF EPSCoR guidelines and submitted to NSF EPSCoR annually as specified in the Programmatic Terms and Conditions of the award. The project team's response to the external evaluation report must also be included with the corresponding annual project report.

**4.10.3 Summary Tables of Requested NSF Support.** Proposals that do not include both of the following Budget Tables (A and B) as the last subsection of the Management and Evaluation section of the Project Description will be returned without review. The tables count towards the page limits for both the Project Description and the Management and Evaluation section.

**Budget Table A:** Summary of Requested NSF Support by Organization. In tabular form, summarize the overall support levels planned for each participating organization (in \$K). For each entry in the Table, include indirect costs. Column totals must equal the total budget requested from NSF for the period shown.

**Budget Table A**

Organization	Year 1 (\$K)	Year 2 (\$K)	Year 3 (\$K)	Year 4 (\$K)	Year 5 (\$K)	5-Year TOTAL	% of NSF Request
Lead Organization (Name)							

Participating Organization (Name) (repeat for each organization participating in RII Track-1)							
<b>Total</b>							100%

**Budget Table B:** Summary of Requested NSF Support by Project Activity. In tabular form as follows, summarize the overall support levels (in \$K) planned for each of the major project activities. Provide separate entries for each research thematic area including salaries and fringe benefits for participants, seed funding, and relevant equipment. For all other entries, include an estimated cost of the implementation of the proposed plans. Support for graduate students should normally be included under the research categories rather than under the Education and Workforce Development or other categories. Other educational activities may be included under the relevant research areas as appropriate when those research and education activities are truly integrated; otherwise, they should be included in the Education and Workforce Development category. The table must include columns for annual, total, percentage, and cost sharing amounts, as shown below.

**Budget Table B**

Activity	Year 1 (\$K)	Year 2 (\$K)	Year 3 (\$K)	Year 4 (\$K)	Year 5 (\$K)	Total (\$K)	% of NSF Request	Cost Share (\$K)
Research Theme 1 (Title) salaries and fringe benefits								
Research Theme 1 Equipment								
Research Theme 2 (Title) salaries and fringe benefits								
Research Theme 2 Equipment								
Research Theme 3, ... (as needed)								
Education and Workforce Development								
Emerging Areas and Seed Funding								
Broadening Participation								
Partnerships and Collaborations								
Communications and Dissemination								
Sustainability								
Management (include all administrative expenses)								
Evaluation and Assessment								
Indirect Costs								
Other (specify)								
<b>Total</b>							100%	

**5. References Cited.** All references cited in the Project Description should be listed here. See [PAPPG Chapter II.C.2.e](#). While there is no page limitation for references, this section must include bibliographic citations only and must not be used to provide parenthetical information outside of the Project Description page limitations.

**6. Biographical Sketches.** Include biographical sketches for all Senior Personnel including each faculty and equivalent-level participant according to [standard NSF proposal guidelines](#). Please note that if submitting via Research.gov, Biographical Sketches of Senior Personnel are uploaded in the Senior Personnel Documents section of the proposal. It is permitted to include biographical sketches for any named collaborators ("Other Personnel") whose expertise is crucial to the success of the project, including the external evaluator(s). If doing so, these biographical sketches must be uploaded under Supplementary Documentation and they must conform to NSF guidelines for biographical sketches. Please note that if submitting via Research.gov, these biographical sketches are uploaded in the Other Personnel Biographical Information section of the proposal. Do not include biographical sketches for members of External Advisory Committees or Boards, as they are not considered project participants.

**7. Budget pages and budget justification.** Complete budget pages are required for each year of support. The submitting organization must provide a complete budget justification that may not exceed five pages. A five-year cumulative budget will be automatically generated by Research.gov or Grants.gov. Separate budget and budget justification pages must also be provided for each organization receiving a subaward. The budget justification for each subaward may not exceed five pages. Proposals that do not include separate budgets and budget justifications for each subawardee organization will be returned without review. All faculty-level and equivalent personnel expected to receive greater than two months of salary annually must be identified, and justification must be provided. Support for all members of the project leadership team must be indicated, whether it be from NSF funds or cost sharing. An explanation of the source, nature, amount and availability of the required cost sharing must also be provided and must be consistent with the guidelines provided by the *NSF Proposal and Award Policies and Procedures Guide (PAPPG Chapter II.C.2.g.xii)*.

Proposal budgets must comply with guidance in [2 CFR 200](#) and the current *NSF Proposal and Award Policies and Procedures Guide (PAPPG)*. Proposing entities are cautioned to ensure that all costs proposed are allowable (allocable, reasonable, and necessary), especially those costs associated with participants (Line F on the Proposal Budget). Costs typically considered to be for entertainment, incentive, or promotional purposes should be sufficiently detailed in the budget justification to support the programmatic relevance and need. In general, costs for entertainment, amusement, advertising/promotional purposes are unallowable and may not be requested. However, among EPSCoR's programmatic goals are emphases on establishing STEM development pathways and broadening participation of diverse groups in STEM, that can include "Bridge" programs designed to prepare high school students for the transition to college. This may include entertainment, amusement, and/or promotional costs related to STEM enrichment activities covering a range of possible career paths or activities focusing on cohort-building and maintaining healthy work-life balance. These categories of activities are consistent with the overall program goal of preparing students for the difficult high school to college transition. This may include residential programs for minor students whose supervisory requirements may require different choices than would be appropriate for adult students. When costs typically considered as entertainment, amusement, and promotion are necessary to accomplish the proposed objectives, they must be included in the budget and justified in the budget justification.

Additionally, jurisdictions submitting proposal budgets with Subawards (Line G5 on the Proposal Budget) must be able to verify that the lead institution has established a system to monitor the subawards issued on Federally sponsored projects and that appropriate agreements are in place with subrecipients.

Budgets should allow for travel and contracting expenses necessary to participate in NSF EPSCoR award monitoring and oversight activities, and to engage in national and jurisdictional EPSCoR events. In particular:

- The external evaluator must be retained as a consultant to the project.
- Newly awarded RII Track-1 projects are required to hold a strategic planning meeting within 90 days of the project award date. Funds should be allocated to host this meeting, with the entire leadership team in attendance.
- RII Track-1 projects are required to attend a Reverse Site Visit (RSV) at NSF headquarters in Project Year 2 and to host a Site Visit in Project Year 4. Funds should be allocated to ensure an appropriate team of project participants can attend both the RSV and Site Visit, and to provide meeting space for the Site Visit.
- The travel budget should include funds for an appropriate team of project participants to attend annual EPSCoR PI meetings and the biennial National EPSCoR Conference.
- RII Track-1 projects are expected to host or facilitate jurisdiction-wide meetings such as EPSCoR all-hands workshops and/or science symposia which include support for student (undergraduate and graduate as appropriate) participants of the RII Track-1 project.

**8. Current and Pending Support.** List current and pending support for all Senior Personnel including each faculty-level and equivalent investigator. Please note that if submitting via Research.gov, Current and Pending Support information for Senior Personnel is uploaded in the Senior Personnel Documents section of the proposal. See [PAPPG Chapter II.C.2.h](#).

**9. Facilities, Equipment, and Other Resources.** See guidance on Facilities, Equipment, and Other Resources ([PAPPG Chapter II.C.2.i](#)).

## 10. Supplementary Documentation

**10.1. Lists of Participants and Participating Organizations.** The Project Director/Principal Investigator is responsible for ensuring that all information needed to identify individual and organizational participants is provided to NSF EPSCoR in the manner described below. Upon receiving a Letter of Intent from an eligible Project Director/Principal Investigator at an eligible organization within an eligible EPSCoR jurisdiction (as described under Eligibility, above), NSF EPSCoR will provide a set of spreadsheet templates and instructions. The templates will be transmitted to the submitting Project Director/Principal Investigator via email. These templates must be fully completed according to the instructions and submitted, in searchable PDF format, as supplementary documentation through Research.gov or Grants.gov by the full proposal deadline. The completed templates must list all participants and participating organizations, as described in items (a) and (b) below and in the emailed instructions.

**Proposals that do not include fully searchable PDF versions of complete and accurate lists of individual and organizational participants in the exact formats provided by NSF EPSCoR may be returned without review.**

a. *List of Participants.* Provide an alphabetical (by last name) list of all participating senior investigators (faculty level and equivalent), anyone named in the proposal who will receive financial support through the project (including subcontractors), and other key personnel (including advisory board members, external evaluators, and collaborators). This list must identify the roles of participants as follows:

- PI: the PI of the project as indicated on the Cover Sheet;
- Co-PI: co-investigators as indicated on the Cover Sheet;
- Funded: any funded participant whose name appears in the proposal including Budget lines A or B;
- Evaluator: any individual external evaluator who is named in the proposal;
- Consultant: any named individual (other than the external evaluator(s)), who will receive a subcontract or consultant fees under budget lines G.3 or G.6;
- Advisory: any individual named in the proposal as an advisor to the project including as a member of an external advisory board; and,
- Unfunded: any collaborator or participant named in the proposal with a specified role but who will not receive salary or other payment.

Give the full first and last names and organizational affiliations of all such individuals. List only those individuals who are named and have roles specified in the proposal.

b. *List of Participating Organizations.* Provide a list of all organizations (including, but not limited to: academic and research institutions, companies, government agencies, and non-profit organizations) that will participate in, contribute to, or directly benefit from the proposed project. This list must identify the roles of the participating organizations as follows:

- Primary awardee: the submitting organization as indicated on the Cover Sheet;
- Subawardee: any organization funded through a subaward on budget line G.5;
- Subcontractor: any organization that will contract with the project through budget line G.3 or G.6, including the external evaluators if the contract will go to an organization; and,
- Unfunded: any organization named in the proposal that will provide facilities or support including access to laboratory equipment or internships, but which will not receive funding or other payment.

Give the full name and place of business (city, state) of all such organizations. List only those organizations that are named and have roles specified in the proposal.

Examples for the lists of participants and participating organizations:

- Person A from institution X will provide data and assist in analyses but will not be funded by the project. Person A is named in the proposal and the role is described – list person A as a participant (collaborator); do not list X as a participating organization.
- Organization Y, which will not receive any funds from the project, submits a letter, via person B, committing specific resources to the project (such as internships or use of lab space) – list Y as a participating organization (unfunded); if person B has a role in providing this support, specified either in the proposal or the letter, then list person B as a participant (unfunded), otherwise do not.
- Person C, affiliated with organization Z, is the external evaluator for the project and is named in the proposal. List person C as a participant (evaluator). If person C will be compensated via organization Z, then also list Z as a participating organization (subcontractor), otherwise do not.

**10.2. Letters of Collaboration.** Include only official letters with specific commitments of resources from participating institutions, organizations anticipated to receive subawards or subcontracts, and organizations that will provide resources for the project. The content of these letters should be confined to the specific commitments and not include general statements of support for the project, the organizations, or investigators. Examples include commitments to: collaborate on one or more aspects of the proposed research; share data or facilities; provide training or educational opportunities, experiences, or internships; serve in a formalized advisory capacity to the project; support the recruitment and hiring of faculty or other key personnel; and, provide organizational support for specific activities stated in the proposal. Letters must not be used to describe the research, education, or other project activities (including evaluation and assessment). Letters that include such descriptions, including methods or approaches or qualifications of project participants, will not be allowed. Any commitments of direct financial support must be strictly limited to and consistent with the required cost sharing and must comply with all guidelines governing cost sharing (See Cost Sharing under V.B. Budgetary Information, below). Signed letters should be scanned and uploaded into the Other Supplementary Documents section of Research.gov or Grants.gov in order to be considered with the proposal package.



**Submissions may not submit letters of support which do not provide specific commitments of resources.**

**10.3.** The RII Track-1 proposal must include the jurisdiction's *most recent S&T Plan* (one that has been officially accepted or approved within the past five (5) years) in the Other Supplementary Documents Section. The S&T Plan must be in accepted or approved form at the jurisdiction level, either via the EPSCoR jurisdiction steering committee or a governing official or body acting on behalf of the jurisdiction. Evidence of official acceptance or approval by the designated body or official, including the effective date and signature(s) of the approver(s), must be clearly indicated, either in the S&T Plan itself or via an official document (or letter) uploaded separately as a Supplementary Document. In addition, the effective date of the S&T plan must be clearly indicated on the cover page of the plan. Note that no one who is a named participant on the RII Track-1 project may serve as an official approver of the jurisdiction's S&T Plan. The S&T Plan must identify the STEM research priorities of the jurisdiction. Alignment between the research and capacity-building activities of the proposal and the STEM research priorities in the S&T Plan will be considered during proposal review with respect to the additional solicitation specific review criteria, particularly Jurisdictional Impacts (see VI.A.2 Merit Review Criteria, below).

**Proposals that do not include the S&T Plan of the submitting jurisdiction, and evidence that the plan has been approved and accepted within the past 5 years, will be returned without review.**

**10.4.** A *Postdoctoral Researcher Mentoring Plan* (if postdocs will be supported by the project; maximum of 1 page) and a *Data Management Plan* (maximum of 2 pages). See the [PAPPG Chapter II.C.2.j](#) for details.

**11. Single Copy Documents. Collaborators & Other Affiliations (COA) Information.** Each individual identified as senior project personnel must submit information on collaborators and other affiliations as single copy documents (see the [PAPPG Chapter II.C.1.e](#)). Please note that if submitting via Research.gov, COA information for Senior Personnel is uploaded in the Senior Personnel Documents section of the proposal. *For RII Track-1 proposals, this information must be submitted for each individual identified as senior project personnel in the List of Participants in 10.1.a above (the PI, co-PIs, and Funded Participants). Do not submit COA Information for external evaluators, external advisory board members, or unfunded collaborators.*

## **B. Budgetary Information**

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### **Cost Sharing:**

Cost Sharing is required.

Cost sharing at a level of at least, and no more than, 20 percent of the amount requested from NSF is required for all proposals submitted in response to this solicitation. See [PAPPG II.C.2.g.xii](#) for details.

All cost sharing amounts are subject to audit. The sources and uses of cost sharing must be consistent with the policies of NSF and the awardee organization(s), as well as all applicable federal and state (or territorial) laws and regulations. Cost sharing must be allowable and allocable to the project. Projects and activities supported under the "Emerging Areas and Seed Funding" element of the RII Track-1 project, and which are funded through cost share, must relate to the scope of the RII Track-1 project as defined by the proposal and RII Track-1 Strategic Plan.

The proposed cost sharing must be shown on Line M on the proposal budget. For purposes of budget preparation, the cumulative cost sharing amount must be entered on Line M of the first year's budget. Should an award be made, the organization's cost sharing commitment, as specified on the first year's approved budget, must be met prior to award expiration.

Such cost sharing will be an eligibility, rather than a review criterion. Proposers are advised not to exceed the mandatory cost sharing level or amount specified in the solicitation.

When mandatory cost sharing is included on Line M, and accepted by the Foundation, the commitment of funds becomes legally binding and is subject to audit. When applicable, the estimated value of any in-kind contributions also should be included on Line M. An explanation of the source, nature, amount and availability of any proposed cost sharing must be provided in the budget justification. Contributions may be made from any non-Federal source, including non-Federal grants or contracts, and may be cash or in-kind. 2 CFR § 200.306 describes criteria and procedures for the allowability of cash and in-kind contributions in satisfying cost sharing and matching requirements. It should be noted that contributions derived from other Federal funds or counted as cost sharing toward projects of another Federal agency must not be counted towards meeting the specific cost sharing requirements of the NSF award.

Failure to provide the level of cost sharing required by the NSF solicitation and reflected in the NSF award budget may result in termination of the NSF award, disallowance of award costs and/or refund of award funds to NSF by the awardee.

### **Other Budgetary Limitations:**

Proposals that do not adhere to the following budget guidelines may be returned without review:

- Funding requests must be for a duration of five (5) years.
- There is no restriction on the amount requested annually, but the total request is limited to \$20 million.
- Budgets for participating organizations must be included as subawards to the budget of the submitting organization. Only the budget of the submitting organization may include subawards (i.e., no subawards may appear in the budgets of subawardee organizations).
- Subawards to organizations in non-EPSCoR jurisdictions are not permitted.
- Financial compensation for the external evaluator(s) must be included in the budget of the submitting organization under NSF budget line G.3 (Consultant Services). No other form of financial compensation for these services will be allowed.
- EPSCoR funding must only be requested for and expended in EPSCoR jurisdictions. EPSCoR funding may not be used to support participants from non-EPSCoR jurisdictions.
- Proposal budgets must comply with guidance in the current *NSF Proposal and Award Policies and Procedures Guide*, with special attention given to rules for [Participant Support \(Line F on the Proposal Budget\)](#), especially with regard to gifts and entertainment. In general, costs of entertainment and amusement are unallowable and may not be requested. Additionally, jurisdictions submitting proposal budgets with Subawards (Line G5 on the Proposal Budget) must be able to verify that the lead institution has established a system to monitor the subawards issued on Federally sponsored projects and that appropriate agreements are in place with subrecipients.

## **C. Due Dates**

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- **Letter of Intent Due Date(s) (required)** (due by 5 p.m. submitter's local time):

July 19, 2022

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

August 22, 2022

## 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 the NSF FastLane system for further processing.

Proposers that submitted via Research.gov may use Research.gov to verify the status of their submission to NSF. For proposers that submitted via Grants.gov, until an application has been received and validated by NSF, the Authorized Organizational Representative may check the status of an application on Grants.gov. After proposers have received an e-mail notification from NSF, Research.gov should be used to check the status of an application.

## VI. NSF PROPOSAL PROCESSING AND REVIEW PROCEDURES

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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.C.2.d(i). contains additional information for use by proposers in development of the Project Description section of the proposal). Reviewers are strongly encouraged to review the criteria, including PAPPG Chapter II.C.2.d(i), prior to the review of a proposal.

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

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

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

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

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

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

## Additional Solicitation Specific Review Criteria

Reviewers for the RII Track-1 competition will also consider the following specific aspects of intellectual merit and broader impacts, as applicable:

**Research Capacity** – What is the potential of the project to advance the relevant fields of STEM research while simultaneously enhancing research competitiveness and developing research capacity and infrastructure (including physical, cyber, and human resources) throughout the jurisdiction? How will the proposed activities contribute to the national and international recognition of the project participants and participating organizations? What is the potential of the project to increase the capacity of the participating organizations and capability of project participants to propose and implement research activities in the future? How will the proposed enhancement of research capacity substantively benefit the diversity of institutional types within the jurisdiction?

**Jurisdictional Impacts** – How well aligned are the project's research and capacity-building activities with the STEM research priorities described in the jurisdiction's S&T Plan? What is the potential to achieve meaningful and sustained impacts within and throughout the jurisdiction with respect to education capacity (including workforce preparation), economic development (including innovation, technology transfer, and potential commercialization), and quality of life? How do the proposed activities promote organizational connections and linkages within the jurisdiction, as well as between private and public sectors? How well do the proposed partnerships and collaborations advance the project goals? How well does the project leverage past accomplishments and existing resources, especially those from prior EPSCoR funding and NSF, jurisdictional, and regional investments?

**Workforce Development** – What is the potential to enhance research and education capacity through the recruitment, mentoring, and professional development of students, junior researchers, and faculty (including early career)? How effectively will the range of project participants (including diverse populations and organizations) be engaged in the research and education activities? What is the potential to prepare a new cadre of competitive researchers, innovators, entrepreneurs, and educators, especially in the proposed area(s) of research? What novel and effective ways are proposed to broaden the participation of women and groups traditionally underrepresented in STEM, including persons with disabilities, students who are in the first generation of the family to attend college, and those from economically disadvantaged or rural populations, especially in the proposed area(s) of research? How well will the project enhance participation and research capacity at institutions throughout the jurisdiction, including emerging research, non-research intensive, two-year, and minority-serving institutions (e.g., Historically Black Colleges and Universities, Hispanic Serving Institutions, and Tribal Colleges and Universities)?

**Integration of Project Elements** – How well are the project elements (especially education, workforce development, and broadening participation) aligned and integrated with the research and capacity-building activities? What added value and benefits can be realized through the integration of the project elements with research as part of an RII project? What is the potential of the project to reach its education and workforce development goals and objectives as a result of the proposed research, and vice versa? What is the level of integration among shared facilities and research partners?

In addition, reviewers will be instructed to consider the feasibility of the proposed activities, and in particular whether sufficient and accurate baseline data have been provided regarding the proposed project goals.

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

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

### Administrative and National Policy Requirements

## **Build America, Buy America**

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

Consistent with the requirements of the Build America, Buy America Act (Pub. L. 117-58, Division G, Title IX, Subtitle A, November 15, 2021), no funding made available through this funding opportunity may be obligated for 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:**

All annual and final reports must conform to the written guidelines provided by the program to the PI each year. The annual and final reports must provide the aggregate numbers of women and members of other groups traditionally underrepresented in STEM fields participating as faculty, staff, graduate students, or undergraduate students in the activities funded by the award.

**Any cooperative agreement awarded in response to this solicitation will contain the following term and condition:**

### **Ensuring Adequate COVID-19 Safety Protocols**

- a. This clause implements Section 3(b) of Executive Order 14042, Ensuring Adequate COVID Safety Protocols for Federal Contractors, dated September 9, 2021 (published in the Federal Register on September 14, 2021, 86 FR 50985). Note that the Department of Labor has included "cooperative agreements" within the definition of "contract-like instrument" in its rule referenced at Section 2(e) of this Executive Order, which provides:

For purposes of this order, the term "contract or contract-like instrument" shall have the meaning set forth in the Department of Labor's proposed rule, "Increasing the Minimum Wage for Federal Contractors," 86 Fed. Reg. 38816, 38887 (July 22, 2021). If the Department of Labor issues a final rule relating to that proposed rule, that term shall have the meaning set forth in that final rule.

- b. The awardee must comply with all guidance, including guidance conveyed through Frequently Asked Questions, as amended during the performance of this award, for awardee workplace locations published by the Safer Federal Workforce Task Force (Task Force Guidance) at <https://www.saferfederalworkforce.gov/contractors/>.
- c. *Subawards*. The awardee must include the substance of this clause, including this paragraph (c), in subawards at any tier that exceed the simplified acquisition threshold, as defined in Federal Acquisition Regulation 2.101 on the date of subaward, and are for services, including construction, performed in whole or in part within the United States or its outlying areas. That threshold is presently \$250,000.
- d. *Definition*. As used in this clause, *United States or its outlying areas* means:
1. The fifty States;
  2. The District of Columbia;
  3. The commonwealths of Puerto Rico and the Northern Mariana Islands;
  4. The territories of American Samoa, Guam, and the United States Virgin Islands; and
  5. The minor outlying islands of Baker Island, Howland Island, Jarvis Island, Johnston Atoll, Kingman Reef, Midway Islands, Navassa Island, Palmyra Atoll, and Wake Atoll.
- e. The Foundation will take no action to enforce this article, where the place of performance identified in the award is in a U.S. state or outlying area subject to a court order prohibiting the application of requirements pursuant to the Executive Order (hereinafter, "Excluded State or Outlying Area". A current list of such Excluded States and Outlying Areas is maintained at <https://www.saferfederalworkforce.gov/contractors/>

## **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).

NSF EPSCoR will conduct performance effectiveness reviews during the award. These reviews may include site visits, reverse site visits, and/or video teleconferencing. Continued funding will be contingent upon both the annual project reports and the results of performance effectiveness reviews.

## **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:

- Jeanne Small, telephone: (703) 292-8623, email: [jsmall@nsf.gov](mailto:jsmall@nsf.gov)
- Subrata Acharya, telephone: (703) 292-2451, email: [acharyas@nsf.gov](mailto:acharyas@nsf.gov)
- Jose Colom-Ustariz, telephone: (703) 292-7088, email: [jcolom@nsf.gov](mailto:jcolom@nsf.gov)
- Andrea Johnson, telephone: (703) 292-5164, email: [andjohns@nsf.gov](mailto:andjohns@nsf.gov)
- Eric W. Lindquist, telephone: (703) 292-7127, email: [elindqui@nsf.gov](mailto:elindqui@nsf.gov)
- JD Swanson, telephone: (703) 292-2898, email: [jswanson@nsf.gov](mailto:jswanson@nsf.gov)
- Chinonye Nnakwe Whitley, telephone: (703) 292-8458, email: [cwhitley@nsf.gov](mailto:cwhitley@nsf.gov)

For questions related to the use of FastLane or Research.gov, contact:

- FastLane and Research.gov Help Desk: 1-800-673-6188
- FastLane Help Desk e-mail: [fastlane@nsf.gov](mailto:fastlane@nsf.gov).
- Research.gov Help Desk e-mail: [rgov@nsf.gov](mailto:rgov@nsf.gov)

For questions relating to Grants.gov contact:

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

## IX. OTHER INFORMATION

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

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

## ABOUT THE NATIONAL SCIENCE FOUNDATION

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

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

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

*Facilitation Awards for Scientists and Engineers with Disabilities (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.E.6 for instructions regarding preparation of these types of proposals.

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

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

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

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

- **Location:** 2415 Eisenhower Avenue, Alexandria, VA 22314
- **For General Information** (703) 292-5111

(NSF Information Center):

- **TDD (for the hearing-impaired):** (703) 292-5090

- **To Order Publications or Forms:**

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

or telephone: (703) 292-8134

- **To Locate NSF Employees:** (703) 292-5111

## PRIVACY ACT AND PUBLIC BURDEN STATEMENTS

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