

# NSF 25-533: Findable Accessible Interoperable Reusable Open Science (FAIROS)

## Program Solicitation

### Document Information

#### Document History

- **Posted:** January 6, 2025
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#### U.S. National Science Foundation

Directorate for Computer and Information Science and Engineering

Office of Advanced Cyberinfrastructure

Directorate for Geosciences

Directorate for Social, Behavioral and Economic Sciences

Directorate for Mathematical and Physical Sciences

Directorate for STEM Education

Office of Integrative Activities

Office of International Science and Engineering

Directorate for Engineering

Directorate for Biological Sciences

Directorate for Technology, Innovation and Partnerships

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

April 09, 2025

Second Wednesday in April, Annually Thereafter



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## Important Information And Revision Notes

What is FAIROS? FAIROS is a program solicitation focused on supporting socio-technical cyberinfrastructure development activities that advance sustainable multi-disciplinary findable, accessible, interoperable, reusable (FAIR) principles, open science (OS) practices, and research data management (RDM) capabilities while building collaborations across distributed research communities of practice.

The specific changes in this solicitation include:

1. Removed primary focus on Research Coordination Networks (RCN);
2. Updated to include Research Proposals (includes Collaborative Research Proposals);
3. Expanded program solicitation participation to include all NSF Directorates/Offices;
4. Broadened scope to address RDM across domains, Artificial Intelligence/Machine Learning (AI/ML) FAIR tools and data infrastructure for advancing the FAIROS ecosystem, and international collaborations.

Prospective principal investigators (PIs) are strongly encouraged to contact the Cognizant Program Officers in CISE/OAC and in the participating directorate/division relevant to the proposal to ascertain whether the focus and budget of their proposed activities are appropriate for this solicitation. Such consultations should be completed at least one month in advance of the submission deadline.

Any proposal submitted in response to this solicitation should be submitted in accordance with the *NSF Proposal & Award Policies & Procedures Guide* (PAPPG) that is in effect for the relevant due date to which the proposal is being submitted. The NSF PAPPG is regularly revised and it is the responsibility of the proposer to ensure that the proposal meets the requirements specified in this solicitation and the applicable version of the PAPPG. Submitting a proposal prior to a specified deadline does not negate this requirement.

## Summary Of Program Requirements

### General Information

**Program Title:**

Findable Accessible Interoperable Reusable Open Science (FAIROS)

**Synopsis of Program:**

The FAIROS Program seeks to support a broad range of transformative open science activities including but not limited to i.) Research, education, and socio-technical cyberinfrastructure development capacities that advance sustainable multi-disciplinary findable, accessible, interoperable, reusable (FAIR) research data management (RDM) and open science capabilities, ii.) Piloting new models of scientific communication and publication that improve efficiency and accessibility, iii.) Developing FAIROS data portals, research data commons, RDM as a national service, and iv.) Lowering barriers to accessing, curating, integrating, linking, managing, sharing, and storing data across many disciplinary domains, irrespective of data size.

The program supports innovation across the cyberinfrastructure (CI) ecosystem to address accessibility, data curation, research data management, discoverability, reliability, reproducibility, preservation, sustainability, and utility of research products, including data software, and code, developed as part of funded projects.

FAIROS proposals must select one of two tracks to focus on, either: 1) **Disciplinary Improvements** targeted scientific communities, or 2) **Cross-Cutting Improvements** that apply to many or most scientific disciplines. In the case of proposals focused on Disciplinary Improvements, it is strongly recommended that prospective PIs contact a program officer from the list of Cognizant Program Officers in the directorate closest to the major disciplinary impact of the proposed work to ascertain that the scientific focus and budget of the proposed work are appropriate for this solicitation. In the case of proposals focused on Cross-Cutting Improvements, it is strongly recommended that prospective PIs contact the cognizant program officer from the Office of Advanced Cyberinfrastructure (OAC).

After selecting either Disciplinary Improvements or Cross-Cutting Improvements in which to focus research, the proposal must include the kinds of activities relevant to the selected track. Standard research proposals are the only type of proposal accepted in response to this solicitation.

The FAIROS Program is undertaken in support of the US NSF Public Access Initiative.

For more information on the US NSF Public Access Initiative please visit <https://new.nsf.gov/public-access>.

**Broadening Participation In STEM:**

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

NSF encourages IHEs that enroll, educate, graduate, and employ individuals who are members of groups underrepresented and/or underserved in STEM education programs and careers to lead, partner, and contribute to NSF opportunities, including leading and designing STEM research and education proposals for funding. Such IHEs include, but may not be limited to, community colleges and two-year institutions, mission-based institutions such as Historically Black Colleges and Universities (HBCUs), Tribal Colleges and Universities (TCUs), women's colleges, and institutions that

primarily serve persons with disabilities, as well as institutions defined by enrollment such as Predominantly Undergraduate Institutions (PUIs), Minority-Serving Institutions (MSIs), and Hispanic Serving Institutions (HSIs).

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

**Cognizant Program Officer(s):**

*Please note that the following information is current at the time of publishing. See program website for any updates to the points of contact.*

- Plato Smith, CISE/OAC Program Director, telephone: (703) 292-4278, email: [FAIROSQueries@nsf.gov](mailto:FAIROSQueries@nsf.gov)
- Tai-Yin Huang, GEO/AGS Program Director, telephone: 703-292-4943, email: [FAIROSQueries@nsf.gov](mailto:FAIROSQueries@nsf.gov)
- Raleigh Martin, GEO/EAR Program Director, telephone: (703) 292-7199, email: [FAIROSQueries@nsf.gov](mailto:FAIROSQueries@nsf.gov)
- Jose Colom-Ustariz, OD/OIA/EPSCoR Program Director, telephone: (703) 292-7088, email: [FAIROSQueries@nsf.gov](mailto:FAIROSQueries@nsf.gov)
- Allen Pope, OD/OISE Program Director, telephone: (703) 292-8030, email: [FAIROSQueries@nsf.gov](mailto:FAIROSQueries@nsf.gov)
- Bogdan Mihaila, MPS/PHY Program Director, telephone: (703) 292-8235, email: [FAIROSQueries@nsf.gov](mailto:FAIROSQueries@nsf.gov)
- Siddiq M. Qidwai, ENG Program Director, telephone: (703) 292-2211, email: [FAIROSQueries@nsf.gov](mailto:FAIROSQueries@nsf.gov)
- Jennifer W. Weller, BIO Program Director, telephone: (703) 292-2224, email: [FAIROSQueries@nsf.gov](mailto:FAIROSQueries@nsf.gov)
- Damon L. Tull, STEM Education Program Director, telephone: (703) 292-8151, email: [FAIROSQueries@nsf.gov](mailto:FAIROSQueries@nsf.gov)
- Jemin George, TIP Program Director, telephone: (703) 292-2251, email: [FAIROSQueries@nsf.gov](mailto:FAIROSQueries@nsf.gov)
- Thomas S. Woodson, SBE/SES Program Director, telephone: (703) 292-5150, email: [FAIROSQueries@nsf.gov](mailto:FAIROSQueries@nsf.gov)

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

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

**Award Information**

**Anticipated Type of Award:** Standard Grant or Continuing Grant or Cooperative Agreement

**Estimated Number of Awards:** 4 to 10

An expected 4 - 10 awards for up to three years are planned in total for this solicitation per each deadline. However, the number of awards will be based on quality of proposals, availability of funds, and responsiveness to priorities of the participating directorates/divisions.

**Anticipated Funding Amount:** \$2,400,000 to \$6,000,000

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

- Each Research proposal can have a budget up to \$600,000 for up to a three-year duration (not exceeding \$200,000 per year). Proposals for Research are expected to comprise collaborative, community-oriented, multidisciplinary projects with one or more institutions that address common underlying cyberinfrastructure research data management (RDM) challenges and contribute to community readiness for advancement in effective data practices supporting public access and open science. Collaborative Research Proposals are allowable within this category of Research Proposals.

### **Eligibility Information**

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

Proposals may only be submitted by the following:

- Institutions of Higher Education (IHEs): Two- and four-year IHEs (including community colleges) accredited in, and having a campus located in the US, acting on behalf of their faculty members. Special Instructions for International Branch Campuses of US IHEs: If the proposal includes funding to be provided to an international branch campus of a US institution of higher education (including through use of sub-awards and consultant arrangements), the proposer must explain the benefit(s) to the project of performance at the international branch campus, and justify why the project activities cannot be performed at the US campus.
- Non-profit, non-academic organizations: Independent museums, observatories, research laboratories, professional societies and similar organizations located in the U.S. that are directly associated with educational or research activities.
- Tribal Nations: An American Indian or Alaska Native tribe, band, nation, pueblo, village, or community that the Secretary of the Interior acknowledges as a federally recognized tribe pursuant to the Federally Recognized Indian Tribe List Act of 1994, 25 U.S.C. §§ 5130-5131.
- Other Federal Agencies and Federally Funded Research and Development Centers (FFRDCs): Prospective proposers from other Federal Agencies and FFRDCs, including NSF sponsored FFRDCs, must follow the guidance in PAPPG Chapter I.E.2 regarding limitations on eligibility.

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

There are no restrictions or limits.

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

There are no restrictions or limits.

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

An individual may participate as Principal Investigator, co-Principal Investigator or other Senior/Key Personnel in at most one FAIROS to any submission per deadline date annually in response to this particular solicitation. The first submitted proposal (chronological order of submission) in which that individual is participating will be accepted for review, and the remainder will be returned without review. For this purpose, a multi-institution collaborative project is treated as one proposal that is considered submitted when the final collaborative proposal is submitted. The reason for the PI limit on FAIROS proposals is to balance the number and quality of the submissions.

## Proposal Preparation and Submission Instructions

### A. Proposal Preparation Instructions

- **Letters of Intent:** Not required
- **Preliminary Proposal Submission:** Not required
- **Full Proposals:**
  - Full Proposals submitted via Research.gov: *NSF Proposal and Award Policies and Procedures Guide* (PAPPG) guidelines apply. The complete text of the PAPPG is available electronically on the NSF website at: [https://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=pappg](https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pappg).
  - Full Proposals submitted via Grants.gov: *NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov* guidelines apply (Note: The *NSF Grants.gov Application Guide* is available on the Grants.gov website and on the NSF website at: [https://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=grantsgovguide](https://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide)).

### B. Budgetary Information

- **Cost Sharing Requirements:**

Inclusion of voluntary committed cost sharing is prohibited.
- **Indirect Cost (F&A) Limitations:**

Not Applicable
- **Other Budgetary Limitations:**

Not Applicable

### C. Due Dates

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

April 09, 2025

Second Wednesday in April, Annually Thereafter

## Proposal Review Information Criteria

### Merit Review Criteria:

National Science Board approved criteria. Additional merit review criteria apply. Please see the full text of this solicitation for further information.

### Award Administration Information

#### Award Conditions:


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

#### Reporting Requirements:

Standard NSF reporting requirements apply

## I. Introduction




The first U.S. NSF Public Access Plan, Today's Data, Tomorrow's Discoveries: Increasing Access to the Results of Research Funded by the National Science Foundation ([NSF 15-52](#)), was published in March 2015. The second U.S. NSF Public Access Plan 2.0, Ensuring Open, Immediate and Equitable Access to National Science Foundation Funded Research ([NSF 23-104](#)), was published in February 2023. Both of the NSF Public Access Plans focus on advancing the access to NSF funded research. The FAIROS Program Solicitation supports the goals of the NSF Public Access Plans.

The Findable, Accessible, Interoperable, Reusable ([FAIR](#) ) Guiding Principles emerged from consultations among information scientists seeking to improve documentation of digital assets for humans and machines. The FAIR Guiding Principles for scientific data management and stewardship have been widely recognized as important and valuable strategies for improving scientific cyberinfrastructures and practices. These principles have become prominent elements of the larger Open Science movement to make scientific research products publicly accessible, a major national and international priority for the entire research community.

The FAIR and other interrelated Open Science guiding principles (i.e., practices that make scientific results more transparent and accessible) for scientific data management and stewardship establish a conceptual framework for advancing open science through improvements in key aspects of information sharing practices. Improvements in FAIR machine-actionable capabilities for all categories of research products (datasets, publications, code, physical samples, specimen sets, etc.) have now also become broadly accepted as a general means of advancing Open Science more generally.

In response to these community-driven principles of open science for a FAIR data ecosystem in alignment with overall NSF and Public Access priorities, this FAIROS solicitation supports piloting research, education, and socio-technical cyberinfrastructure development activities that advance sustainable multi-disciplinary FAIROS RDM and open science capabilities while broadening participation across distributed research communities of practice. This FAIROS opportunity complements related efforts, including activities of the NSF Office of Advanced Cyberinfrastructure (OAC), Office of Integrative Activities (OD/OIA), and Office of International Science and Engineering (OISE), as well as the NSF Geoscience Open Science Ecosystem (GEO OSE) program ([NSF 25-506](#)), the NSF Established Program to Stimulate Competitive Research (EPSCoR), and the NASA Transform to Open Science (TOPS) initiative. The FAIROS Program also enhances the importance of addressing open accessible science RDM challenges and lowering barriers to accessing, integrating, managing, sharing, and storing data across domains, irrespective of data size and data location. The FAIROS Program solicitation supports the overarching themes/pathways of the Cyberinfrastructure for Public Access and Open Science (CI PAOS) Program ([PD 24-7414](#)) Program Description which are Competency Building, Capability Building, and/or Community Building. FAIROS is a funding opportunity of the CI PAOS Program.

## II. Program Description

The FAIROS solicitation seeks to support socio-technical, collaborative, and sustainable FAIR RDM capabilities facilitating the advancement of open science within and across multiple research domains while also incorporating [FAIR](#)  Principles, Collective Benefit, Authority to Control, Responsibility and Ethics ([CARE](#) ) Principles for Indigenous Data Governance, and The Transparency, Responsibility, User Focus, Sustainability and Technology ([TRUST](#) ) Principles for digital repositories.

The solicitation was reframed from "FAIROS RCN" to simply "FAIROS" to broaden the scope of the types of potential funded projects. In addition to coordination and community building activities and broadening participation, key priorities for this FAIROS solicitation are to:

1. Pilot research, education, and socio-technical cyberinfrastructure tools and trusted data infrastructure capacities that advance sustainable multi-disciplinary RDM and open science ecosystems.
2. Pilot new models of scientific communication that improve scholarly publication.
3. Expand FAIR data portals, research data commons, and RDM as a service in the advancement of open science.
4. Lower barriers to accessing, managing, sharing, and storing data within and across multiple disciplinary domains, irrespective of data size.

The intent of the FAIROS program is to encourage collaboration between CI and S&E domain disciplines. (For this purpose, units of CISE other than OAC are considered domain disciplines.)

This FAIROS Program Solicitation is supported by the following directorates/offices.

**Directorate for Computer and Information Science and Engineering (CISE):** Proposals are encouraged on enabling accessibility, integration, discovery, management, and analysis of community-scale research data in support of identified research data science objectives or use cases, such as those related to data curation, data repositories, data sharing, data stewardship, library and information science, open science, publishing, reproducibility, research data lifecycle, research data management, reusability, and sustainability across domains. CISE particularly welcomes proposals that aim to enable community-scale integration of, and access to, data sets from funded research and/or those generated by industry to enable new research and discovery broadly for the CISE and other research communities. Proposals must address one or more of the following themes/pathways in the Cyberinfrastructure for Public and Open Science ([CI PAOS](#)) Program.

1. **Competency Building** - Advance FAIR principles and open science/engineering-driven collaborations
2. **Capability Building** - Advance exploratory activities to inform development of CI PAOS capabilities
3. **Community Building** - Advance integrative approaches to FAIR, open science, and RDM improvements

**Directorate for Geosciences (GEO):** Proposals are encouraged toward establishing foundational principles for RDM in support of scientific domains associated with GEO programs (<https://www.nsf.gov/funding/programs.jsp?org=GEO>). This includes efforts that translate open science principles (e.g., FAIR, CARE, TRUST) into practical guidelines and/or standards for RDM within geoscience research workflows. GEO particularly welcomes proposals that support RDM across the full data lifecycle, including advancement of approaches that leverage persistent identifiers (PIDs) to expose connections among publications, data, and other research products to assess impact and broaden credit for research contributions. Proposers primarily pursuing community-building, education/training, or culture change activities to instill open science practices within specific geoscience domains may wish to instead consider submissions to the Geosciences Open Science Ecosystem (GEO OSE) program.

**Directorate for STEM Education (EDU):** Proposals are encouraged that establish foundational principles for RDM in support of scientific domains associated with EDU programs (<https://new.nsf.gov/edu>). This includes efforts that translate open science principles (e.g., FAIR, CARE, TRUST) into practical guidelines and/or standards for RDM within STEM education workflows. EDU particularly welcomes proposals that support RDM across the full data lifecycle, from data creation to organized archiving, including approaches that leverage PIDs that connect digital products across publications, data repositories, meta-data information and other research products; goals are both to assess lasting impact and to ensure appropriate credit is assigned for research contributions. This solicitation is not meant to support proposals having a primary aim of community-building, education/training, or culture changing activities that instill open science practices within specific domains.

**Directorate for Biological Sciences (BIO):** Proposals are encouraged that establish foundational principles for RDM in support of scientific domains associated with BIO programs (<https://www.nsf.gov/funding/programs.jsp?org=BIO>). This includes efforts that translate open science principles (e.g., FAIR, CARE, TRUST) into practical guidelines and/or standards for RDM within bioscience research workflows. BIO particularly welcomes proposals that support RDM across the full data lifecycle, from data creation to organized archiving, including approaches that leverage PIDs that connect digital products across publications, data repositories, meta-data information and other research products; goals are both to assess lasting impact and to ensure appropriate credit is assigned for research contributions. This solicitation is not meant to support proposals having a primary aim of community-building, education/training, or culture changing activities that instill open science practices within specific bioscience domains.

**Directorate for Engineering (ENG):** Proposals are encouraged that enable findability, accessibility, interoperability, and reuse of cross-discipline multifaceted Engineering data, as well as for projects enhancing Engineering Data Management and Curation infrastructure, sustainability, and workforce development. ENG particularly welcomes proposals that aim to develop community-scale resources; to understand and address the challenges of accessing and sharing proprietary and confidential data; and/or to build infrastructure to reduce barriers to open access to Engineering data. This solicitation is



not meant to support proposals having a primary aim of community-building, education/training, or culture changing activities that instill open science practices within specific domains in Engineering.

**Directorate for Social, Behavioral and Economic Sciences (SBE):** Proposals are encouraged on the social, economic, political, cultural and environmental forces that shape and are shaped by open science initiatives including academic publishing, reproducibility and replicating science, collaborations and science production, and data curation, management, sharing, and stewardship. SBE especially encourages meta-science, or the science of science, proposals on findability, accessibility, interoperability, reuse and open science.

**Directorate for Mathematical and Physical Sciences (MPS):** Proposals are encouraged that appreciate the importance of FAIR and OS principles for scientific data management and sharing. The five divisions representing communities in the purview of the MPS directorate will consider proposals that focus on innovative approaches that promote the FAIROS principles in line with community priorities.

**Office of Integrative Activities (OIA)** - Proposals are encouraged that increase the capacity of organizations in EPSCoR jurisdictions or emerging research institutions in one or more areas of data curation, data sharing, data stewardship, open science, or research data management, in ways that increase access to novel research data.

**Office of International Science and Engineering (OISE):** Proposals are encouraged that support international collaboration to advance the frontiers of science. OISE welcomes proposals which focus on international aspects of cyberinfrastructure of public access and open science, in particular facilitating science collaboration by efficiently connecting data, networks, computational capabilities, and people across borders, as well as building an internationally competent US workforce. OISE encourages proposals which emphasize mutually beneficial international science cooperation that advances shared norms among the international research community while supporting US global leadership in research.

**Directorate for Technology, Innovation and Partnerships (TIP):** Proposals are encouraged that utilize Knowledge Graph representations to deploy FAIR RDM capabilities, facilitating the advancement of use-inspired and translational research in the following three areas:

1. **Advanced Materials Development Continuum:** Proposals that address current challenges in transitioning from advanced material discovery and development to processing, manufacturing, and ultimately deployment, through enabling of FAIR access to existing and future research data generated under ongoing efforts, such as the Designing Materials to Revolutionize and Engineer our Future ([DMREF](#)) Program.
2. **Climate resilience:** Proposals focused on enhancing the accessibility and interoperability of climate-related research data to support resilience planning, adaptation strategies, and mitigation efforts.
3. **Geohazards:** Proposals targeting the improvement of FAIR access to geohazard-related data, including but not limited to seismic activity, landslides, volcanic eruptions, lahars, coastal erosion, and tsunamis. Projects in this area should aim to enhance forecasting, risk assessment, and response capabilities through better management and integration of data generated under ongoing efforts, such as the [Centers for Innovation and Community Engagement in Solid Earth Geohazards](#).

Proposed projects should align with or contribute to the Building the Prototype Open Knowledge Network ([Proto-OKN](#)) Program, specifically those structured along the lines of Theme 1 in Proto-OKN (see [NSF 23-571](#)). Proposed data and tools should adhere to the standards and protocols established by Proto-OKN Theme 2 projects and be made available through the Proto-OKN Fabric being developed by these Theme 2 efforts. Proposals should include letters of collaboration from Proto-OKN Theme 2 project PI(s) and any relevant Theme 1 PI(s), as priority consideration will be given to projects that effectively integrate with existing Proto-OKN initiatives. TIP values proposals that demonstrate close engagement with end users and outline a sustainable path beyond the FAIROS program, especially where the potential for long-term impact is credibly established.

Principal Investigators should take these directorate/office-specific research interests into consideration in crafting their proposed work in response to this solicitation, if disciplinary and cross-disciplinary projects are relevant to the directorates and offices supporting this FAIROS Program Solicitation.

## Tracks of Focus

FAIROS proposals must select one of two tracks to focus on, either: 1) **Disciplinary Improvements** to targeted scientific communities, or 2) **Cross-Cutting Improvements** that apply to many or most scientific disciplines. In the case of proposals focused on Disciplinary Improvements, it is strongly recommended that prospective PIs contact a program officer from the list of Cognizant Program Officers in the directorate closest to the major disciplinary impact of the proposed work to ascertain that the scientific focus and budget of the proposed work are appropriate for this solicitation. In the case of proposals focused on Cross-Cutting Improvements, it is strongly recommended that prospective PIs contact the cognizant program officer listed below from the Office of Advanced Cyberinfrastructure.

**Note** on Disciplinary Priorities of NSF Directorates: For more details on the priorities of individual NSF Directorates, see the agency Research Areas links provided at <https://new.nsf.gov/focus-areas> and the descriptions in each of the respective programs.

Proposals must clearly specify in the title of the proposal which option is being proposed by using either “Disciplinary Improvements:” or “Cross-Cutting Improvements:” as the start of the title):

1. **Disciplinary Improvements:** Identify a clearly designated and significant area or closely related areas of science and/or engineering; this should be a disciplinary focus that aligns with preferably one or at most two of the top-level NSF disciplinary research directorates that are clearly specified within the text of the proposal.
2. **Cross-Cutting Improvements:** Identify a functional space which is cross-cutting across multiple areas of science and engineering; this functional space should ideally be relevant to the priorities of both the NSF Office of Integrative Activities and the Public Access Initiative (see notes above). Note that for purposes of this solicitation, a functional space is a category of essential functions in the life cycle of research activities which is undertaken broadly across disparate areas of science and engineering. Examples of such categories include (but are not limited to) the four core components of the FAIR guiding principles and RDM. Other examples may be identified by proposals but must have similar importance and broad applicability.

The type of awards available for this FAIROS solicitation are:

1. **Research** - These awards target interdisciplinary teams that address common underlying multidisciplinary RDM and sharing challenges faced by NSF researchers while supporting FAIR community readiness in the advancement of public access and open science across domains. Collaborative proposals are allowable within this category of Research Proposals. A collaborative proposal is one in which investigators from two or more organizations wish to collaborate on a unified research project. Collaborative proposals may be submitted to NSF in one of two methods: as a single proposal, in which a single award is being requested (with subawards administered by the lead organization); or by simultaneous submission of proposals from different organizations, with each organization requesting a separate award. Research proposals may have budgets up to \$600,000 and durations up to 3 years (not exceeding \$200,000 per year).

Activities may include (but are not limited to): convening meetings (virtually and/or in person) of representatives and experts to **1.)** Integrate RDM best practices and FAIR, Collective Benefit, Authority to Control, Responsibility and Ethics (CARE) Principles for Indigenous Data Governance, and The Transparency, Responsibility, User Focus, Sustainability and Technology (TRUST) Principles for digital repositories in research data science efforts and training and across communities, **2.)** Leverage existing cyberinfrastructure and integrated research infrastructure for improving FAIROS capabilities, **3.)** Facilitate coordination, advancing alignment, and/or building capacity in FAIROS with international collaborators/colleagues and/or in an international context, **4.)** Coordinate US and international FAIROS integrated research infrastructure efforts, and **5.)** Evaluate FAIROS impact on international and multidisciplinary collaboration.

The FAIROS solicitation invites proposals which may include (but are not limited to) the following categories and examples of goals to coordinate and improve research efforts in any or all a variety of ways (where the proposal identifies other goals, it should be made clear how these goals advance FAIROS):

- Addressing data formats, metadata standards, and harmonization across domains while leveraging existing cyberinfrastructure to advance research data lifecycle management
- Addressing data curation, provenance, record keeping, organization of data, storage of data, linking, reporting of research data and results, sharing and access, institutional policies, and data management standard operating procedures for projects
- Improving Interoperability, Reproducibility, Sustainability of Data within/across Domains and Projects
- Enhancing Data Management and Curation Infrastructure, Sustainability, and Workforce Development
- Aligning Assessment Mechanisms, Evaluation Methods, and Success Metrics of FAIROS research processes
- Enabling International Collaboration, Coordination, and Integration which Advances RDM, FAIR Principles and Open Science
- Coordinating US and international FAIROS research infrastructure ecosystem efforts
- Facilitating coordination, advancing alignment, and/or building capacity in RDM and FAIR and open science with international collaborators, colleagues and/or in an international context
- Evaluating FAIR and open science impact on international and interdisciplinary collaboration
- Evaluating fairness concerns in international application of FAIROS principles
- Leveraging international collaboration to build shared norms and address challenges related to developing and implementing PAOS policies

### **III. Award Information**

**Anticipated Type of Award:** Standard, Continuing Grant

**Estimated Number of Awards:** 4 to 10

An expected 4 - 10 awards for up to three years are planned in total for this solicitation per each deadline. However, the number of awards will be based on quality of proposals, availability of funds, and responsiveness to priorities of the participating directorates/divisions.

**Anticipated Funding Amount:** \$2,400,000 to \$6,000,000

Estimated program budget, number of awards, and average award size/duration are subject to the availability of funds. Each Research request can be \$600,000 for up to a three-year duration (not exceeding \$200,000 per year).

### **IV. Eligibility Information**

**Who May Submit Proposals:**

Proposals may only be submitted by the following:

- Institutions of Higher Education (IHEs): Two- and four-year IHEs (including community colleges) accredited in, and having a campus located in the US, acting on behalf of their faculty members. Special Instructions for International Branch Campuses of US IHEs: If the proposal includes funding to be provided to an international branch campus of a US institution of higher education (including through use of sub-awards and consultant arrangements), the proposer must explain the benefit(s) to the project of performance at the international branch campus, and justify why the project activities cannot be performed at the US campus.
- Non-profit, non-academic organizations: Independent museums, observatories, research laboratories, professional societies and similar organizations located in the U.S. that are directly associated with educational or research activities.
- Tribal Nations: An American Indian or Alaska Native tribe, band, nation, pueblo, village, or community that the Secretary of the Interior acknowledges as a federally recognized tribe

pursuant to the Federally Recognized Indian Tribe List Act of 1994, 25 U.S.C. §§ 5130-5131.

- Other Federal Agencies and Federally Funded Research and Development Centers (FFRDCs): Prospective proposers from other Federal Agencies and FFRDCs, including NSF sponsored FFRDCs, must follow the guidance in PAPPG Chapter I.E.2 regarding limitations on eligibility.

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

There are no restrictions or limits.

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

There are no restrictions or limits.

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

An individual may participate as Principal Investigator, co-Principal Investigator or other Senior/Key Personnel in at most one FAIROS to any submission per deadline date annually in response to this particular solicitation. The first submitted proposal (chronological order of submission) in which that individual is participating will be accepted for review, and the remainder will be returned without review. For this purpose, a multi-institution collaborative project is treated as one proposal that is considered submitted when the final collaborative proposal is submitted. The reason for the PI limit on FAIROS proposals is to balance the number and quality of the submissions.

## **V. Proposal Preparation And Submission Instructions**

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

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

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

In determining which method to utilize in the electronic preparation and submission of the proposal, please note the following:

Collaborative Proposals. All collaborative proposals submitted as separate submissions from multiple organizations must be submitted via Research.gov. PAPPG Chapter II.E.3 provides additional information on collaborative proposals.

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

**The following provides additional guidance beyond that contained in the PAPPG or NSF Grants.gov Application Guide.**

Type of Proposal: The Research type of proposal should be selected. This solicitation does not accept the other types of proposals described in PAPPG Chapter II.F.

**Project Title:** The title must begin with either “Disciplinary Improvements:” or “Cross-Cutting Improvements:” to make clear which track the proposal addresses.

**Project Summary (1-page limit):**

The project Summary includes an overview description of the FAIROS proposal, the approaches to FAIR guiding principles and Open Science being proposed, proposed outcomes, and the research communities that will be beneficially impacted. The statement on intellectual merit should describe the potential of the proposed proposal to advance knowledge. The statement on broader impacts should describe the potential of the proposed activity to benefit society and contribute to the achievement of specific, desired societal outcomes.

**Project Description (15-page limit):** The Project Description should be prepared in accordance with the guidance contained in the PAPPG, including the requirement for a separate section labeled “Broader Impacts”. In addition:

The Project Description should define a plan that will lead to FAIROS research activities within the three-year timeframe for Research that will foster collaborative, disciplinary or multidisciplinary, and transformative improvements based on FAIR guiding principles and Open Science practices for specified areas of science and/or engineering. Disciplinary Improvements proposals should clearly specify the relevant NSF disciplinary research directorates within the Project Description. Principal Investigators should take the guidance and reports referenced into consideration in crafting their proposed work in response to this solicitation. The proposal should:

1. Describe how the proposed activities will address recognized FAIR, Open Science, and RDM socio-technical coordination challenges, needs and advance research capabilities in consistent, integrated, and compelling ways within either: a) a clearly designated and significant areas of science and/or engineering, i.e., a disciplinary focus that aligns with the top level NSF disciplinary research directorates, or b) a functional space which is clearly cross-cutting across multiple areas of science and engineering;
2. Describe how the proposed activities will concretely improve coordination and advancing research capabilities and collaborations through FAIR principles and Open Science best practices in a specified area or multiple areas of library and information science, science and/or engineering. The proposal must present compelling approaches to accomplishing the proposed goals. Articulate how the proposed goals align with the priorities of relevant NSF disciplinary research directorates, or alternatively, all areas of scientific inquiry in cross-cutting ways that communities of practice acknowledge as important, relevant, and useful to research.

The project description must address solicitation-specific review criteria grouped under the three themes of **Open Science Impact, Leveraging Cyberinfrastructure, and Measurable Outcomes** articulated in the **Additional Solicitation Specific Review Criteria** section of this solicitation.

NSF predominantly supports US participants. Any proposed international collaboration should articulate how it strengthens the project's activities. Participants from institutions outside the US are encouraged to seek support from their respective funding organizations. NSF funds may not be used to support the expenses of international scientists and students at their home institutions.

**Additional Single Copy Documents:**

**Prospective principal investigators (PIs) are strongly encouraged to contact the Cognizant Program Officers in CISE/OAC and in the participating directorate/division relevant to the proposal to ascertain whether the focus and budget of their proposed activities are appropriate for this solicitation.** Such consultations should be completed at least one month in advance of the submission deadline. PIs are strongly encouraged to include the names of the Cognizant Program Officers consulted in the Additional Single Copy Documents section of the proposal. The intent

of the FAIROS program is to encourage collaboration between CI and S&E domain disciplines. (For this purpose, units of CISE other than OAC are considered domain disciplines.)

## **B. Budgetary Information**

### **Cost Sharing:**

Inclusion of voluntary committed cost sharing is prohibited.

### **C. Due Dates**

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

April 09, 2025

Second Wednesday in April, Annually Thereafter

Proposals are due by the Deadline Date.

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

### **For Proposals Submitted Via Research.gov:**

To prepare and submit a proposal via Research.gov, see detailed technical instructions available

at: [https://www.research.gov/research-portal/appmanager/base/desktop?nfpb=true&\\_pageLabel=research\\_node\\_display&\\_nodePath=/researchGov/Service/Desktop/ProposalPreparationand](https://www.research.gov/research-portal/appmanager/base/desktop?nfpb=true&_pageLabel=research_node_display&_nodePath=/researchGov/Service/Desktop/ProposalPreparationand)

For Research.gov user support, call the Research.gov Help Desk at 1-800-381-1532 or e-mail [rgov@nsf.gov](mailto:rgov@nsf.gov). The Research.gov Help Desk answers general technical questions related to the use of 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/applicants>. In addition, the NSF Grants.gov Application Guide (see link in Section V.A) provides instructions regarding the technical preparation of proposals via Grants.gov. For Grants.gov user support, contact the Grants.gov Contact Center at 1-800-518-4726 or by email: [support@grants.gov](mailto:support@grants.gov). The Grants.gov Contact Center answers general technical questions related to the use of Grants.gov. Specific questions related to this program solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this solicitation.

**Submitting the Proposal:** Once all documents have been completed, the Authorized Organizational Representative (AOR) must submit the application to Grants.gov and verify the desired funding opportunity and agency to which the application is submitted. The AOR must then sign and submit the application to Grants.gov. The completed application will be transferred to Research.gov for further processing.

The NSF [Grants.gov Proposal Processing in Research.gov informational page](#) provides submission guidance to applicants and links to helpful resources including the NSF [Grants.gov Application Guide](#), [Grants.gov Proposal Processing in Research.gov how-to guide](#), and [Grants.gov Submitted Proposals Frequently Asked Questions](#). Grants.gov proposals must pass all NSF pre-check and post-check validations in order to be accepted by Research.gov at NSF.

When submitting via Grants.gov, NSF strongly recommends applicants initiate proposal submission at least five business days in advance of a deadline to allow adequate time to address NSF compliance errors and resubmissions by 5:00 p.m. submitting organization's local time on the deadline. Please note that some errors

cannot be corrected in Grants.gov. Once a proposal passes pre-checks but fails any post-check, an applicant can only correct and submit the in-progress proposal in Research.gov.

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

## **VI. NSF Proposal Processing And Review Procedures**

Proposals received by NSF are assigned to the appropriate NSF program for 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**

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

#### **1. Merit Review Principles**

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

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

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

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

## 2. Merit Review Criteria

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

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

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

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

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

1. What is the potential for the proposed activity to
  - a. Advance knowledge and understanding within its own field or across different fields (Intellectual Merit); and
  - b. Benefit society or advance desired societal outcomes (Broader Impacts)?



2. To what extent do the proposed activities suggest and explore creative, original, or potentially transformative concepts?
3. Is the plan for carrying out the proposed activities well-reasoned, well-organized, and based on a sound rationale? Does the plan incorporate a mechanism to assess success?
4. How well qualified is the individual, team, or organization to conduct the proposed activities?
5. Are there adequate resources available to the PI (either at the home organization or through collaborations) to carry out the proposed activities?

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

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

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

All proposals must clearly address the following solicitation-specific review criteria through well-identified proposal elements. The criteria are grouped under three themes:

1. **Open Science Impact:** Do the project outcomes combine well-recognized open science and research data management needs of the research community, and advance research capability within a significant area or areas of library and information science, research libraries, science and engineering?
2. **Leveraging Cyberinfrastructure:** How will the project activities invigorate and leverage existing NSF and national cyberinfrastructure investments, as appropriate? How will the project activities engage open science and cyberinfrastructure experts, data stewards, specialists, librarians, scientists, engineers, information schools, and/or research labs working in harmony with relevant domain scientists who are users of open science?
3. **Measurable Outcomes:** Does the proposed project clearly articulate the services and capabilities to be delivered, and how they are to be delivered? How will the project's outcomes and its activities have long-term impacts, and how will these be sustained beyond the lifetime of the award, as appropriate? Does the proposed project clearly articulate quantifiable metrics, for development and delivery of the services and capabilities to be delivered by the project, and for the anticipated community adoption and usage?

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

Proposals submitted in response to this program solicitation will be reviewed by

Ad hoc Review and/or Panel Review.

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

After scientific, technical and programmatic review and consideration of appropriate factors, the NSF Program Officer recommends to the cognizant Division Director whether the proposal should be declined or recommended for award. NSF strives to be able to tell proposers whether their proposals have been declined or recommended for funding within

six months. Large or particularly complex proposals or proposals from new recipients may require additional review and processing time. The time interval begins on the deadline or target date, or receipt date, whichever is later. The interval ends when the Division Director acts upon the Program Officer's recommendation.

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

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

## **VII. Award Administration Information**

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

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

### **B. Award Conditions**

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

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

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

### **Administrative and National Policy Requirements**

#### **Build America, Buy America**

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

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

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

Must participate in annual PI meeting.

#### **C. Reporting Requirements**

For all multi-year grants (including both standard and continuing grants), the Principal Investigator must submit an annual project report to the cognizant Program Officer no later than 90 days prior to the end of the current budget period. (Some programs or awards require submission of more frequent project reports). No later than 120 days following expiration of a grant, the PI also is required to submit a final annual project report, and a project outcomes report for the general public.

Failure to provide the required annual or final annual project reports, or the project outcomes report, will delay NSF review and processing of any future funding increments as well as any pending proposals for all identified PIs and co-PIs on a given award. PIs should examine the formats of the required reports in advance to assure availability of required data.

PIs are required to use NSF's electronic project-reporting system, available through Research.gov, for preparation and submission of annual and final annual project reports. Such reports provide information on accomplishments, project participants (individual and organizational), publications, and other specific products and impacts of the project. Submission of the report via Research.gov constitutes certification by the PI that the contents of the report are accurate and complete. The project outcomes report also must be prepared and submitted using Research.gov. This report serves as a brief summary, prepared specifically for the public, of the nature and outcomes of the project. This report will be posted on the NSF website exactly as it is submitted by the PI.

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

### **VIII. Agency Contacts**

*Please note that the program contact information is current at the time of publishing. See program website for any updates to the points of contact.*

General inquiries regarding this program should be made to:

- Plato Smith, CISE/OAC Program Director, telephone: (703) 292-4278, email: [FAIROSQueries@nsf.gov](mailto:FAIROSQueries@nsf.gov)
- Tai-Yin Huang, GEO/AGS Program Director, telephone: 703-292-4943, email: [FAIROSQueries@nsf.gov](mailto:FAIROSQueries@nsf.gov)
- Raleigh Martin, GEO/EAR Program Director, telephone: (703) 292-7199, email: [FAIROSQueries@nsf.gov](mailto:FAIROSQueries@nsf.gov)
- Jose Colom-Ustariz, OD/OIA/EPSCoR Program Director, telephone: (703) 292-7088, email: [FAIROSQueries@nsf.gov](mailto:FAIROSQueries@nsf.gov)
- Allen Pope, OD/OISE Program Director, telephone: (703) 292-8030, email: [FAIROSQueries@nsf.gov](mailto:FAIROSQueries@nsf.gov)
- Bogdan Mihaila, MPS/PHY Program Director, telephone: (703) 292-8235, email: [FAIROSQueries@nsf.gov](mailto:FAIROSQueries@nsf.gov)
- Siddiq M. Qidwai, ENG Program Director, telephone: (703) 292-2211, email: [FAIROSQueries@nsf.gov](mailto:FAIROSQueries@nsf.gov)
- Jennifer W. Weller, BIO Program Director, telephone: (703) 292-2224, email: [FAIROSQueries@nsf.gov](mailto:FAIROSQueries@nsf.gov)
- Damon L. Tull, STEM Education Program Director, telephone: (703) 292-8151, email: [FAIROSQueries@nsf.gov](mailto:FAIROSQueries@nsf.gov)

- Jemin George, TIP Program Director, telephone: (703) 292-2251, email: [FAIROSQueries@nsf.gov](mailto:FAIROSQueries@nsf.gov)
- Thomas S. Woodson, SBE/SES Program Director, telephone: (703) 292-5150, email: [FAIROSQueries@nsf.gov](mailto:FAIROSQueries@nsf.gov)

For questions related to the use of NSF systems contact:

- NSF Help Desk: 1-800-381-1532
- Research.gov Help Desk e-mail: [rgov@nsf.gov](mailto:rgov@nsf.gov)

For questions relating to Grants.gov contact:

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

## IX. Other Information

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

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

## About The National Science Foundation

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

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

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

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

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