Exciting NSF Initiatives

This slide show will rotate through a number of exciting NSF initiatives.

Program Directors and Staff from the various NSF Divisions and Offices will be available to answer questions. Please go and talk one-on-one with whomever you wish!

Building Research Capacity in Biology (BRC-BIO)

- Awards will support **new faculty to initiate and build independent research** programs by enhancing their research capacity
- Projects **can include biology-focused research collaborations** among faculty within the same institution, across peer-, or research-intensive institutions, or partnerships with industry or other non-academic partners that advance the candidate's research program.
- Projects should enable the **establishment of sustainable research programs** for faculty and enrich undergraduate research experiences and thereby grow the STEM workforce.

Submission Window:
May 01, 2024 – July 01, 2024
Email brc-bio@nsf.gov

Mid-Career Advancement (MCA) Program

BIO, EDU, GEO, SBE, TIP, OIA – *see solicitation for participating units*

- Awards support salary for protected time (up to 6.5 months) and $100K in direct costs for scientists and engineers at the Associate Professor rank (or equivalent) with at least 3 years at that rank.
  - *PUI Track in BIO and GEO extends eligibility to Full Professors at Primarily Undergraduate Institutions only.*
- Provides an opportunity to substantively advance the PI's research program and career trajectory through synergistic and mutually beneficial mentored partnerships.
- Ensures PIs remain active in cutting-edge research at a critical career stage replete with constraints on time that can impinge on research productivity, retention, and career advancement.

Email: MCA.info@nsf.gov

EPSCoR: What We Do

Our mission is to enhance research competitiveness of targeted jurisdictions by strengthening STEM capacity and capability

Goals:

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

EPSCoR: Research Infrastructure Improvement

- **E-RISE** (up to $7M over 4 years, with possible renewal for additional time and funding)
  - Incubation of research teams and products in alignment with specific priorities described in jurisdictional Science & Technology Plan
- **E-CORE** (up to $8M over 4 years, with possible renewal for additional time and funding)
  - Builds capacity in one or more targeted research infrastructure cores that underlie the jurisdiction's research ecosystem
- **Focused EPSCoR Collaborations** (up to $1.5M per year for up to 4 years)
  - Interjurisdictional collaborations
  - Theme chosen by NSF EPSCoR to align with Foundation-wide priority areas
- **EPSCoR Research Fellows** (up to $300k over 2 years)
  - Fellowships for non-tenured faculty to have extended research visits to premier private, governmental, or academic institutions in the U.S.
- **EPSCoR Workshop Opportunities** (up to $200k)

HBCU-Excellence in Research (HBCU-EiR)

- Recommended and appropriated by Congress
  - "…provide opportunities for both public and private HBCUs,… in order to stimulate sustainable improvement in their research and development capacity. NSF is further encouraged to use research infrastructure improvement grants, co-funding programs, and other innovative mechanisms to achieve these goals."
- Provides research grants to individual faculty with an eye towards long-term impacts on research infrastructure at the institution.

NSF's GRANTED Initiative

Growing Research Access for Nationally Transformative Equity and Diversity (GRANTED)

- Enhancing practices and processes within the research enterprise;
- Developing and strengthening human capital within the research enterprise;
- Translating effective practices related to the research enterprise into diverse institutional and organizational contexts though partnerships with professional societies and organizations.

GRANTED will not fund disciplinary, post-doctoral, graduate, or undergraduate research activities.

Enabling Partnerships to Increase Innovation Capacity (EPIIC)

- Focused on collaborations and cohort building to spur regional innovation capacity that advance key technologies (e.g., advanced manufacturing, advanced wireless, artificial intelligence, biotechnology, quantum information science, semiconductors, novel materials, and microelectronics).
- Provides MSIs, PUIs, and two-year institutions with the support necessary to become equitable partners with teams competing under the current and subsequent NSF Engines program funding opportunities (or similar regional/national NSF initiatives).
- Awards are expected to be up to three (3) years in duration. Each award will be made at the level of up to **$400,000** for nearly 50 teams.

Deadlines:

May 16, 2024 / June 27, 2024 / January 21, 2025

ExpandAI Program: Overview

- Aims to diversify participation in AI research, education, and workforce development through
  1. Capacity Building and
  2. Partnerships with the National AI Research Institutes
- MSIs are source of untapped talent critical to future AI innovation/responsible AI research
- ExpandAI promotes capacity development for new AI programs at Minority Serving Institutions (MSIs), as well as partnerships between MSIs and AI Institutes

Capacity

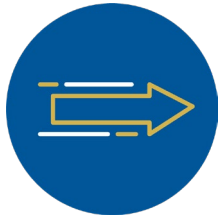
Build AI capacity

MSI-specific goals
Institutional Change
Potential Path
to Partnership

Partnership

Leverage AI Institutes

MSI-led awards
AI Institute subawards
Shared vision and goals
Institute integration plans



Approach

Lower barriers to success

Concept outlines
Submission windows
Flexible submissions

ExpandAI Program: Tracks

Track 1 - CAP

CAPACITY BUILDING – INSTITUTIONAL CHANGE

- Establishment of new AI research, education, workforce development, and/or infrastructure
- Planning and growth efforts focused on establishment of AI activities at MSI and early exploration of future partnerships

Track 2 - PARTNER

NEW COLLABORATIONS WITH AI INSTITUTES

- Leverage AI Institutes as new collaborations for MSIs to scale up established AI research and/or education
- Multi-organization collaborations submitted by the MSI with subaward to the AI Institute

Email: expandaiprogram@nsf.gov

Major Research Instrumentation (MRI)

- Increases access to shared-use/multi-user instrumentation for scientific and engineering research and research training
- **Acquisition** or **Development** of a major *shared-use* research instrumentation for **Research** and **Research Training**
- Three tracks with limited submission; Awards of $100,000 to $4 million
- Deadline window closes in mid-November

MRI@nsf.gov

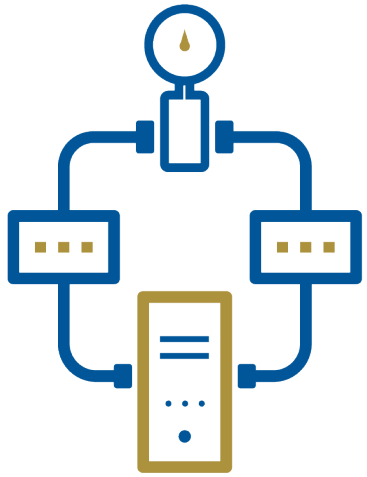
MRI Project Classifications

- **Acquisition** – the purchase or upgrade of a generally available, yet sophisticated instrument, with little or no modification and risk.
- **Development** – sophisticated research instrumentation with capabilities that may not yet exist. Enables enhanced or potentially transformative research opportunities, open new areas of research & research training, and/or have potential as a commercial product. Requires intensive building and testing.
- **Track 1** – Proposals requesting ≥ $100,000 to < $1.4 million. (2 proposals/org)
- **Track 2** – Proposals requesting $1.4 million up to $4 million (1 proposal/org)
- **Track 3*** – Proposals requesting ≥ $100,000 to $4 million for the purchase, installation, operation and maintenance of equipment to conserve or reduce the consumption of helium. (1 proposal/org)

* Note that Track 3 does not support research instrumentation.

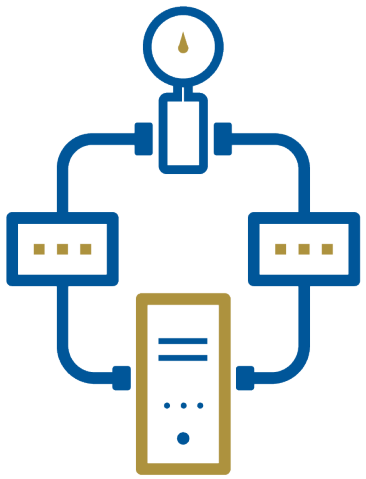
https://bit.ly/NSF-MRI; MRI@nsf.gov

Mid-scale Research Infrastructure (Mid-scale RI-1 and RI-2)



- RI-1 (https://bit.ly/NSF-MidscaleRI1)
  - Design or Implementation Projects.
  - Proposals can request from $4 million ($0.4M for Design) to < $20 million.
- RI-2 (https://bit.ly/NSF-MidscaleRI2)
  - Supports Implementation Projects.
  - Proposals can request from $20M to < $100M.
- Integration of **Research** and **Research Training**.
- Yearly competitions alternate between RI-1 and RI-2.

Mid-scale RI-1 and RI-2 Programs



- Emphasize strong scientific merit.
- Address research community-identified scientific needs or Enable National Research priorities.
- Enable U.S. researchers to remain competitive in global research.
- Train a diverse workforce in S&E infrastructure design and implementation.
- **Implementation** projects: Any combination of equipment, instrumentation, cyberinfrastructure, broadly used large-scale datasets and the commissioning and/or personnel needed to successfully complete the project.
- **Design** projects: Intended to lead to eventual implementation of a Mid-scale-class project.

Robert Noyce Teacher Scholarship Program: Goals

Address the need for recruiting, preparing, and retaining K-12 STEM teachers and teacher leaders in high-need school districts

Support talented STEM undergraduate majors and professionals to become K-12 STEM teachers in high-need school districts

Support experienced, exemplary K-12 STEM teachers to become teacher leaders in high-need school districts

Support research on the effectiveness and retention of K-12 STEM teachers in high-need school districts

Robert Noyce Teacher Scholarship Program: Opportunities

- Developing New Teachers
  - Track 1: STEM Undergraduates and Post-Bacs
  - Track 2: STEM Post-Bacs & 4 years of Salary Supplements
- Developing STEM Teacher Leaders
  - Track 3: Experienced & Exemplary Teachers of STEM
- Developing Research Understandings
  - Track 4: Research on STEM Teacher Effectiveness and Retention
- Developing Capacity: Capacity Building for New Noyce Projects
- Deepening Experiences in STEM
  - Research Experiences in STEM Settings

Improving Undergraduate STEM Education: Directorate for STEM Education (IUSE:EDU)

2 Tracks

Engaged Student Learning

Development, testing, and use of teaching practices and curricular innovations that will engage students and improve learning, persistence, and retention in STEM

Institutional and Community Transformation

Transformation of colleges and universities to implement and sustain highly effective STEM teaching and learning

IUSE: Innovation in Two-Year College STEM Education (ITYC) program

- Twin goals to:
  1. center students in the effort to advance innovation, promote equitable outcomes and broaden participation for all students in STEM education at two-year colleges, and
  2. enhance the capacity of two-year colleges to harness the talent and potential of their diverse student and faculty population through innovative disciplinary, multi-department, and college-wide efforts.
- Features two tracks:
  1. A Focus on the Academic Experiences of Two-Year College Students
  2. Leveraging Institutional Strengths and Innovation

Scholarships in STEM Program (S-STEM) Program: Goals

- Provide scholarships to **domestic low-income academically talented students with demonstrated financial need** pursuing a degree in an S-STEM eligible discipline.
- Adapt and implement evidence-based curricular and co-curricular activities to support S-STEM Scholars. These should include cohort building and faculty mentoring.
- Increase retention, student success, and graduation of these low-income students in STEM.
- Test strategies for systematically supporting student academic and career pathways in STEM in ways that align with institutional contexts and resources.

Scholarships in STEM Program (S-STEM) Program: Expected Outcomes

It is anticipated that S-STEM Scholars will achieve one of the following by the end of the scholarship award period (up to 5 years per degree):

Attain an associate, baccalaureate, or graduate degree in an S-STEM eligible discipline and enter the workforce or a graduate program in STEM.

Transfer from an associate to a baccalaureate degree program or advance from an undergraduate to a graduate program.

Tell us what you think!

- Use the QR code to let us know your thoughts on the session and how we can improve.
- Your feedback will not be shared with anyone outside of NSF.
- Each session has a different QR code.

Questions?

Go and visit a Program Director at their table!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