

NSF's 10 Big Ideas

Since 2017, NSF has been building a foundation for the Big Ideas through pioneering research and pilot activities. In 2019, NSF will invest in each Big Idea and continue to identify and support emerging opportunities for U.S. leadership in Big Ideas that serve the Nation's future.

- Future of Work
- Growing Convergence Research
- Harnessing the Data Revolution
- NSF 2026
- NSF INCLUDES
- Quantum Leap
- Understanding the Rules of Life
- Windows on the Universe
- Navigating the New Arctic
- **Mid-Scale Research Infrastructure**



NSF Infrastructure

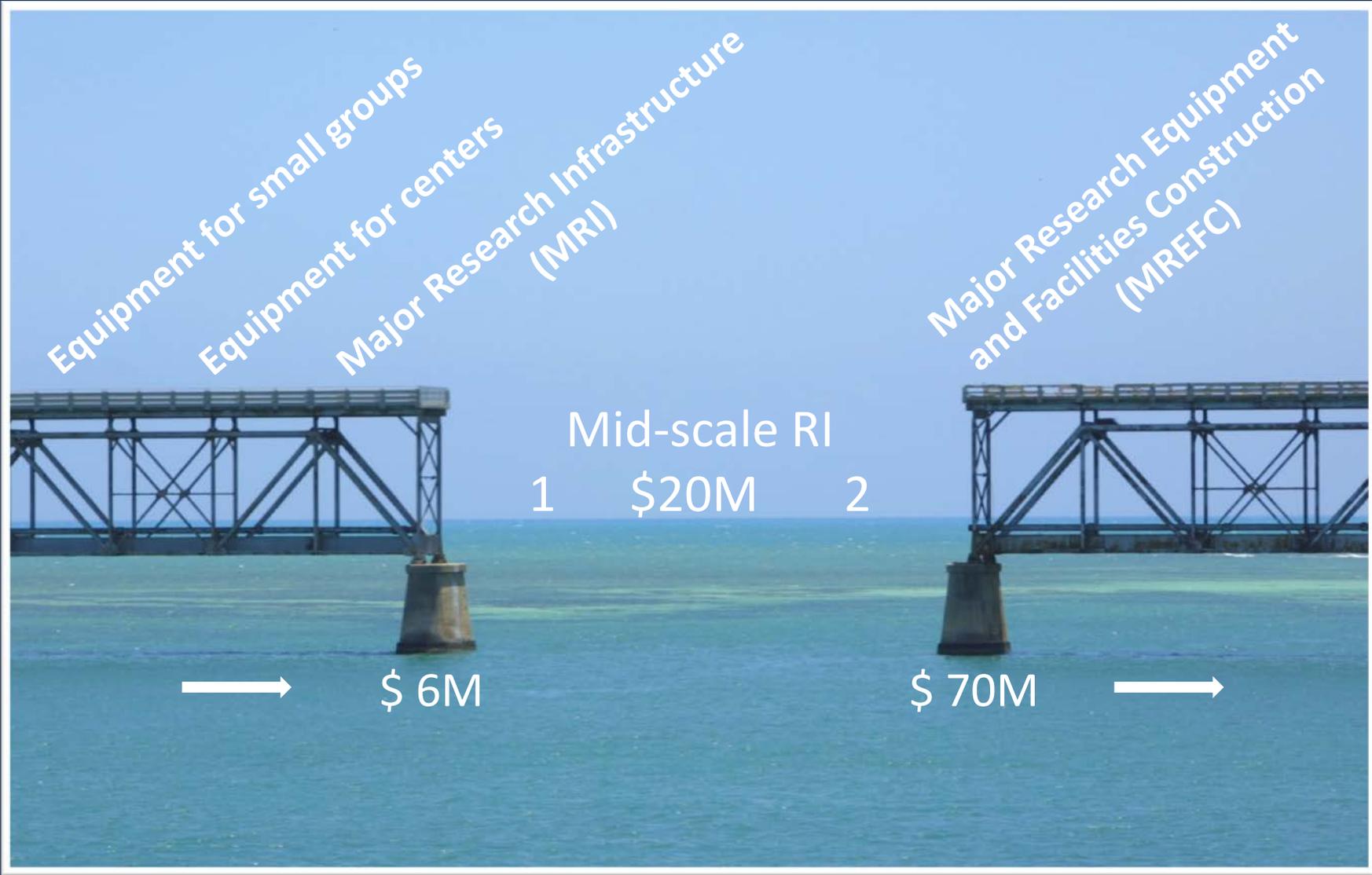


Photo Credit: Nathan D. Holmes

NSF 19-542 Mid-scale Research Infrastructure-2

Solicitation Information:

- Broadly defined research infrastructure
 - Mid-scale disciplinary instrumentation
 - Implementation of mid-scale facilities
 - Cyberinfrastructure
 - Other infrastructure to support science, engineering, or education research objectives
 - Mid-scale upgrades to existing research infrastructure
- Total project: \$20 million to \$70 million range



NSF 19-542 Mid-scale Research Infrastructure-2 Solicitation Information:

The Mid-scale RI-2 program emphasizes:

- strong scientific merit and response to an identified need of the research community;
- technical and managerial *readiness for implementation*;
- a well-developed plan for student training and involvement of a diverse workforce in mid-scale facility development, and/or associated data management;
- projects that will *directly* enable advances in any of the research domains supported by NSF, including STEM education.



NSF 19-542 Mid-scale Research Infrastructure-2

Solicitation Information:

The Mid-scale RI-2 program will **NOT** support proposals that include the following:

- Pre-implementation research and development and other community or technical preparatory activities;
- Science research (except for validation of operational capability);
- Post-implementation research, operations, and maintenance;
- General-purpose support systems and equipment that are not directly required for the implementation and eventual operation of the proposed infrastructure; and
- Broadly provisioned high-performance computing resources.



NSF 19-542 Mid-scale Research Infrastructure-2 Submission Steps:

Letter of Intent (LOI)

A letter of intent is required and must be submitted by an Authorized Organizational Representative by the due date, **February 14, 2019**.



Preliminary Proposal

A preliminary proposal must be submitted by an Authorized Organizational Representative by the due date, **March 11, 2019**.

BY INVITATION ONLY



Full Proposal

Deadline: August 2, 2019



Letters of Intent *(required)*

- Should Include:
 - Title beginning with “Mid-scale RI-2:” or “Mid-scale RI-2 Consortium:”
 - Name and department of PIs, Co-PIs, and Senior Personnel
 - Name of any additional (non-lead) institutions participating, or sub-awardees entered in “Other Comments” section
 - Project Synopsis and Target Disciplines
- Due: **February 14, 2019** by 5 pm submitter’s local time
- Submission of multiple LOIs for a single project is not allowed.
- Each LOI is specific to the project, project title, and PI.



Preliminary Proposals *(required)*

- Should Include:
 - Title beginning with “Mid-scale RI-2:” or “Mid-scale RI-2 Consortium:”. Should correspond with LOI title
 - One PI and up to four Co-PIs. Other participants may be senior personnel.
 - Project Summary and Description
 - Solicitation lists specific points that the Project Description should address
- Due: March 11, 2019 by 5pm submitter’s local time
- Please inform NSF of any personnel changes made between LOI submission and preliminary proposal submission (e.g., email to listed contact PO for relevant Directorate)



Review Process:

LOIs

- No review or assessment
- Used by NSF to prepare reviewer/panelist pools

Preliminary Proposals

- Review managed by discipline-specific NSF units (Directorates or Divisions)

Full Proposals

- Reviewed as a cohort across NSF research areas
- Will likely include a reverse site visit



Additional Solicitation Specific Review Criteria

In addition to the general NSF merit review criteria (Intellectual Merit and Broader Impacts), reviewers will address the following:

1. Science drivers: identified high-priority science goals
2. Pre-implementation activities: development and design activities
3. Technical readiness: implementation within the proposed duration
4. Project management: maturity of the execution plan
5. Operations plan and project lifecycle: utilization and cost
6. Training of a diverse workforce: student training and the involvement of a diverse workforce in instrumentation



Project Execution Plans:

Pre-proposal: an *outline* of the PEP is required

Full proposal: The solicitation lists the minimum required components of the PEP for a mid-scale project. However, *the PEP should be appropriate for the complexity of the project, and may not require all of the elements described in the Large Facility Manual (LFM). If PIs think some elements of the PEP are not applicable, that section of the PEP should include a justification for exclusion.*

Please consult NSF's LFM (NSF 17-066) and its successor to be published as the Major Facilities Guide (MFG) for definitions of terms used in the solicitation, such as the PEP.

Note: The MFG is in its “Public Comment” period and can be accessed via the Federal Register through February 17th. NSF encourages encourage people to submit comments. https://www.nsf.gov/bfa/lfo/lfo_documents.jsp



Infrastructure to be sited at a non-NSF FFRDC (Federally Funded Research & Development Centers):

- Must be submitted as a consortium proposal from at least two Mid-scale RI-2 eligible institutions collaborating on the project
- The FFRDC must be partner of the consortium
 - Submit letter of collaboration with prescribed text from appropriate FFRDC member as a supplementary document
- NSF does not establish user facilities at non-NSF FFRDCs
- May require coordination between the non-NSF FFRDC agency and NSF
- Contact the relevant directorate representative listed in the solicitation and on the next slide for more information



Mid-scale RI-2 NSF Contacts

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