



NATIONAL SCIENCE FOUNDATION  
2415 EISENHOWER AVENUE  
ALEXANDRIA, VIRGINIA 22314

**NSF 22-075**

## Dear Colleague Letter: Mid-scale Research Infrastructure — Engineering Conferences

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April 21, 2022

Dear Colleagues:

Through this Dear Colleague Letter (DCL), the NSF Directorate for Engineering (ENG) announces plans to support workshops to identify critical needs for unique and compelling research infrastructure that can address national research priorities to significantly advance engineering research frontiers. Such workshops are typically identified as conferences in the NSF Proposal & Award Policies & Procedures Guide ([PAPPG](#)), and will hereafter be referred to as conferences. Members of the engineering research community are invited to propose conferences that identify gaps in existing research infrastructure and define the mid-scale research infrastructure, with project costs ranging from \$6 million up to \$100 million, that would be needed to address grand challenges for engineering research. Conference outcomes may help define either design or implementation projects for future mid-scale research infrastructure.

NSF has traditionally supported research infrastructure projects at the lower end through the Major Research Instrumentation (MRI) program and at the higher end through Major Research Equipment and Facilities Construction (MREFC) projects. The Mid-scale Research Infrastructure (Mid-scale RI) program is intended to provide NSF with an agile, Foundation-wide process to fund research infrastructure capabilities in the mid-scale range between the MRI and MREFC thresholds. In FY 2021, the NSF released two Mid-scale RI solicitations: Mid-scale RI-1 ([NSF 21-505](#)) for design and implementation projects requesting up to \$20 million and Mid-scale RI-2 ([NSF 21-537](#)) for implementation projects from \$20 million up to \$100 million. In both solicitations, NSF defines research infrastructure "as any combination of facilities, equipment, instrumentation, or computational hardware or software, and the necessary human capital in support of the same. Major facilities and mid-scale projects are subsets of research infrastructure." NSF's Research Infrastructure Guide ([NSF 21-107](#)) contains NSF policy on the planning and management of research infrastructure through its full life cycle.

Mid-scale RI projects directly enable advances in fundamental science, technology, engineering, and mathematics (STEM) in one or more of the research and education domains supported by the NSF. Mid-scale RI projects emphasize strong scientific merit with a unique research infrastructure that addresses identified national research priorities, rather than regional or campus level priorities. Demonstrated technical and project management expertise is required for both design and implementation projects, as are well-developed plans for student training and the involvement of a diverse workforce in all aspects of Mid-scale RI activities.

With this DCL, NSF anticipates funding up to eight engineering research conferences on mid-scale research infrastructure. Each conference proposal should be rooted in strong science drivers that address emerging research infrastructure needs in engineering disciplines. Proposals that embrace cross-disciplinary approaches to research infrastructure for engineering are particularly welcome. The budget of a conference proposal is generally limited to \$50,000, but under exceptional circumstances may be supported up to \$100,000. The conference should support 20 to 80 attendees, with broad community engagement beyond participants from the organizing institution. In addition to academic researchers, conference participants may include national lab researchers and representatives from industry, federal agencies, and international organizations, as well as students and educators.

Conferences are encouraged to include individuals with experience in the management of research infrastructure at this scale for the purpose of mentoring investigators in the development of Project Management and Project Execution Plans. Conference proposals should include the deliverable of a publicly posted workshop report with recommendations that address the identified gap in research infrastructure. The report should position the engineering research community to respond to future funding opportunities for mid-scale research infrastructure projects. Organizers are encouraged to explore various formats for their proposed conference to engage their target communities most effectively.

Prior to submitting a conference proposal, the Principal Investigator (PI) must contact one of the Program Officers listed below to ensure that the proposal fits the goals of this DCL. PIs will then be directed to appropriate Program Officer(s) for submission through the normal proposal submission process outlined in Chapter II.E.9 of the PAPPG. Conference proposals must be submitted via Research.gov and the "Conference" type of proposal should be selected. The system will automatically insert the prepended title "Conference" and that should be followed by "Mid-scale RI-EW:". Conference proposals should be submitted by June 17, 2022, for consideration during Fiscal Year 2022. Proposals or requests where PIs have not contacted one of the listed Program Officers in this DCL will be returned without consideration.

## **POINTS OF CONTACT**

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Sincerely,

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