From: Faculty Research Development Office
Office of the Vice President for Research

Subject: Limited Competition: NSF: Major Research Instrumentation (MRI) Program (NSF 23-519)

Date: June 20, 2023

UNM Researchers,

The NSF Major Research Instrumentation (MRI) Program serves to increase access to multi-user scientific and engineering instrumentation for research and research training in our Nation's institutions of higher education and not-for-profit scientific/engineering research organizations. An MRI award supports the acquisition of a multi-user research instrument that is commercially available through direct purchase from a vendor, or for the personnel costs and equipment that are required for the development of an instrument with new capabilities, thereby advancing instrumentation capabilities and enhancing expertise for instrument design and fabrication at academic institutions. MRI instruments are, in general, too costly and/or not appropriate for support through other NSF programs. MRI provides support to acquire critical research instrumentation without which advances in fundamental science and engineering research may not otherwise occur. MRI also provides support to obtain next-generation research instruments by developing instruments with new capabilities that open new opportunities to advance the frontiers in science and engineering research. Additionally, an MRI award is expected to enhance research training of students who will become the next generation of instrument users, designers and builders. MRI encourages proposals that facilitate U.S. leadership in microelectronics research and training.

An MRI proposal may request from NSF up to $4 million for either acquisition or development of a research instrument. Each performing organization may submit in revised "Tracks" as defined below, with no more than two (2) submissions in Track 1 and no more than one (1) submission in Track 2. For the newly defined Track 3, no more than one (1) submission per competition is permitted.

Any MRI proposal may request support for either the acquisition or development of a research instrument or an upgrade of an existing research instrument. Within their submission limit, NSF strongly encourages an organization to submit proposals for innovative development projects.

- Track 1: Track 1 MRI proposals are those that request funds from NSF greater than $100,000 and less than $1,400,000.
- Track 2: Track 2 MRI proposals are those that request funds from NSF greater than or equal to $1,400,000 up to and including$4,000,000.
- Track 3: Track 3 MRI proposals are those that request funds from NSF greater than or equal to $100,000 and less than or equal to$4,000,000 that include the purchase, installation, operation, and maintenance of equipment and instrumentation to conserve or reduce the consumption of helium. **Institutions may submit no more than one Track 3 proposal. Submission of a Track 3 proposal does not impact limits that apply for Track 1 and Track 2 proposals.**

Cost sharing requirements for new awards in the MRI Program are waived for a period of 5 years beginning with the FY 2023 MRI competition. Institutional submission limits for Track 1, Track 2 and Track 3 proposals remain.

Track 1 proposals requesting funds from NSF less than $100,000 will be accepted only from: a) eligible performing organizations requesting instrumentation supporting research in the disciplines of *mathematics or social, behavioral and economic sciences*.

Applications for instrument acquisition proposals have a project period of up to three years and development proposals have a project period of up to five years. Further details can be found at Major Research Instrumentation Program (MRI) | NSF - National Science Foundation. The due date for this year's full proposals to NSF is November 15, 2023.

This is a limited competition. The MRI program requires that an MRI-eligible organization may, as a performing organization, submit or be included as a significantly funded subawardee in no more than three MRI proposals in Tracks 1 and 2 as defined below, with no more than two (2) submissions in Track1 and no more than one (1) submission in Track 2. One (1) additional submission is permitted in the newly defined Track 3. **As a result, it is now possible for an institution to submit up to four MRI proposals within the Track limits described above.** Therefore, we are conducting an internal competition and are requesting pre-proposals, a budget overview, and NSF formatted CVs for the PI and Co-PIs be submitted via UNM's InfoReady Review portal https://unm.infoready4.com/ by **NOON on July 26, 2023**. No late submissions will be accepted.

The required 3-page pre-proposal for the internal competition must include:

- **Description of the Research Instrument and Needs:** A brief description of the instrument to be purchased or developed that clearly explains why it is needed, how the research to be enabled is compelling and justifies the instrument request.
    - An **acquisition proposal** should include a technical description of the requested instrumentation and clearly explain how the planned research drives the instrumentation request. If applicable, the existence and availability of comparable instrumentation (e.g., at organizations in close geographical proximity, or otherwise accessible through collaborations or cyberinfrastructure) should be discussed and justification for the requested instrument should be made clear.
    - A proposal to **develop an instrument** must clearly explain how the planned research drives the needed instrument capabilities and make clear that those capabilities are not available through an instrument purchase. Justification for submission as a development proposal: describe the characteristics that qualify your proposal as a development proposal.

- **Research Activities to be Enabled**. The degree to which the planned uses of the proposed instrumentation constitute exciting, ground-breaking and/or transformative research is a significant factor in the merit review evaluation of MRI proposals. Describe the specific research project(s) and research training activities that will be enabled and that drive the request for the desired instrumentation. Also describe current and potential funding sources that may support these activities and/or how the instrument will better enable future funding support.
- An explanation of how this instrument contributes to the unit's strategic research plan and enhanced capability for the department(s) or center(s).

- **Broader Impacts (Including Impact on Research and Training Infrastructure)**. Explain the extent to which the proposed project will make a substantial improvement in the organization's capabilities to conduct leading-edge research, to provide research experiences for undergraduate students using leading-edge capabilities, and to broaden the participation in science and engineering research.
- A description of the extent to which the instrument will be used for multi-user, shared-use research and/or research training. Include a list of prospective users (faculty, staff, post docs, students, etc.), including their department affiliations, and the focus of their research.
- ONLY FOR PROPOSALS REQUESTING OVER $1.4 million (Track 2): address the potential impact of the instrument on the research community of interest at the regional or national level.

- **Management Plan:** A description of the physical location of the proposed instrument and the space or the facility in which the instrument will be placed. A description of how and by whom the requested instrumentation will be operated and maintained over the expected lifetime of the instrument.

All applications will be routed to the relevant ADR(s)/Center Director(s) for approval and a brief statement of how this instrument will support their unit's strategic research plan. If multiple applications are submitted by the same unit, the ADR/Center Director will be asked to rank the applications.

Priority for selection will be given to pre-proposals that provide evidence that (1) this instrument will be broadly shared, servicing multiple educational and/or scientific users, and (2) it clearly supports a strategic priority for the department/center/college (i.e., evidence from a unit-level strategic plan or other similar types of documentation for meeting a unit-level priority).

If you have any questions, please contact limited@unm.edu.

If you are affiliated with HSC, please contact HSC Limited Competition at HSC-LimitedComps@salud.unm.edu for more information.