

2023 Call for Indications of Interest and MRI Incentive Award NSF Major Research Instrumentation (MRI) Program

In November 2022 the National Science Foundation announced new guidelines for the annual Major Research Instrumentation (MRI) grant program which includes a new proposal track and pushes up the proposal due date to November 15, 2023. Sacramento State will hold an internal competition to select projects for this competition. Applicants accepted to submit to the upcoming MRI competition will be eligible to receive a \$2,500 MRI Incentive Award shared by the project Principal Investigators.

About NSF's MRI Program

The MRI Program aims to increase access to multi-user scientific and engineering instrumentation for research and student research training. MRI provides support to acquire critical research instrumentation or to develop next-generation research instruments that open new opportunities to advance the frontiers in science and engineering research. A MRI-funded instrument is also expected to enhance student research training to become future instrument users, designers and builders.

An MRI proposal may request up to \$4 million for either acquire or develop a research instrument. Each institution may submit in "Tracks" as defined below, *with up to two submissions in Track 1, one submission in Track 2 and one submission in Track 3, for a total of four possible submissions.*

- **Track 1:** proposals that request funds greater than or equal to \$100,000¹ and less than \$1.4 M.
- **Track 2:** proposals that request funds equal to \$1.4 M and up to, or equal to \$4 M.
- **Track 3:** proposals greater than or equal to \$100,000 ^(see 1) and less than, or equal to \$4 M to purchase, install, operate and maintain equipment and instrumentation to reduce helium consumption.

Proposals are due **November 15, 2023**, two months earlier than the previous January due date. See details at: <https://beta.nsf.gov/funding/opportunities/major-research-instrumentation-program-mri>

Sacramento State's MRI Submission

To put forth the strongest proposals from our campus, an internal competition will be held to select applicants to submit a proposal to the NSF. This internal competition is announced in late January with a late May submission date to give PI's time to: 1) assemble a strong team of faculty whose research the instrument will enable; and 2) secure written commitment from their college dean for required ongoing instrument expenses.

To apply, submit a two-page project summary including details on: 1) the track to which you might apply; 2) whether the request is for an acquisition or development project; 3) the proposed instrument and why it is needed; 4) the estimated cost and cost breakdown; 5) the faculty research activities that will be enabled with the instrument; 6) student research training the instrument will support; 7) any preparatory activities you have completed to write the MRI proposal (see proposal review form, #3); and 8) the intellectual merit and broader impacts of the proposed research activities.

In addition, please provide c.v.s for the PI and Co-PIs and a letter from your dean indicating their commitment to support the instrument's operating and maintenance costs over its lifetime and any supporting equipment and renovation costs if required. Applicants proposing to revise and resubmit a previously submitted proposal must also provide a copy of the reviewers' comments and summarize a conversation held with their Program Officer regarding how to improve the proposal.

¹ 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; or b) non-Ph.D.-granting institutions of higher education requesting instrumentation supporting research in any NSF-supported disciplines.

All documents must be submitted to research@csus.edu by 5 pm on Tuesday, May 30, 2023 following the Memorial Day weekend.

The review process consists of two steps: 1) eligibility review; and 2) full proposal review. To determine eligibility, ORIED will use the MRI guidelines to ensure all proposed instruments meet NSF's program requirements including those pertaining to allowable/unallowable costs. A full proposal review is conducted only when the number of eligible applicants exceeds the minimum number of proposals allowed per Track. If exceeded, a committee of reviewers from relevant college dean's offices and ORIED staff will use the attached review form to determine the instrument proposals Sacramento State will submit.

Applicants are expected to read the MRI guidelines before submitting and to devote as much attention to their two-page summary as they would if submitting the same to the NSF. We have found that many internal applicants were not considered because their project summary did not show an understanding of the MRI program. Thus, to help applicants assess their eligibility and prepare for this internal competition, the Offices of Research, Innovation, and Economic Development (ORIED) will provide a ½ hour webinar to interested applicants titled "How to Write Successful NSF Major Instrumentation Proposals." Please contact Dr. Jill Shannon at jill.shannon@csus.edu to view the webinar.

The MRI Incentive Award

Each team selected to submit an MRI proposal will be eligible to receive a \$2,500 award that will be divided among the project PIs. These funds can be used for additional employment salary or professional development funds. Since the MRI program is more prescriptive than other NSF competitions, recipients must commit to working with ORIED throughout the development of the proposal including competitive and technical components allowing time for substantive narrative review and feedback. The award will be distributed after the proposal has been submitted, only if this expectation has been met.

Applicants will be notified in June whether their proposed instrument has been selected for submission to NSF and for a MRI Incentive Award, allowing time to work with ORIED research development staff on the full proposal prior to NSF's November 15 deadline.

Should you have any questions, feel free to contact Dr. Jill Shannon at jill.shannon@csus.edu.

2023 NSF Major Research Instrumentation (MRI) Full Proposal Review Form for Indications of Interest

Reviewer Initials: _____ **Applicant Name:** _____ **Department:** _____ **Estimated Cost:** _____ **Proposal Type:** Acquisition or Development

Track (check one): **Track 1** (\$100 K to less than \$1.4 M) _____ **Track 2** (\$1.4 M to \$4 M) _____ **Track 3** (Reduce helium consumption \$100 K to \$4 M) _____

1. Research Instrument and Need – technical description of the requested instrumentation and why it is needed.

0-1	2	3	4	5	6	7	8	9	10	Points
Unacceptable	Fair		Good		Very Good		Excellent		Exceptional	

2. Research Activities to be Enabled – the specific faculty research program(s) and student research training activities that drive the request for instrumentation.

0-1	2	3	4	5	6	7	8	9	10	Points
Unacceptable	Fair		Good		Very Good		Excellent		Exceptional	

3. Preparation to Write the MRI Proposal – e.g., 1) preliminary results comparing existing equipment with proposed instrument to show new instrument’s performance; 2) use data on neighboring instruments to show need; 3) discussions/decisions regarding operations and maintenance; 4) decisions regarding internal management plan; or 5) for resubmissions, completed actions/plans to address reviewers’ feedback.

0-1	2	3	4	5	6	7	8	9	10	Points
Unacceptable	Fair		Good		Very Good		Excellent		Exceptional	

4. Intellectual Merit -the degree to which the planned uses of the proposed instrumentation constitute enhanced and potentially transformative research that will advance knowledge.

0-1	2	3	4	5	6	7	8	9	10	Points
Unacceptable	Fair		Good		Very Good		Excellent		Exceptional	

5. Broader Impact – ways the project would contribute to desired societal outcomes including: 1) how it will improve the quality of research training; 2) broaden the participation in science and engineering research by women, underrepresented minorities and persons with disabilities; and/or 3) have other social impact.

0-1	2	3	4	5	6	7	8	9	10	Points
Unacceptable	Fair		Good		Very Good		Excellent		Exceptional	

6. Based on your overall impression, should the project be selected to submit a proposal to the NSF?

1	2	3	4	Points
Should <u>not</u> be selected	Could be selected	Should be selected	Must be selected	

Optional Comments:

Total Points: