**NSF MRI General Guidelines**

**About**

 The NSF Major Research Instrumentation (MRI) grant mechanism funds the development or acquisition of multi-user research instruments that are critical to the advancement of science and engineering. Successful proposals will demonstrate the need for the instrument and how it will enhance both research and education at MTSU.

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| General Information |
| NOFO | [NSF 23-519](https://www.nsf.gov/funding/opportunities/mri-major-research-instrumentation-program/nsf23-519/solicitation) (expires December 2026) |
| Due Dates | Submissions accepted October 15, 2025 to November 14, 2025. |
| Project Period | 36 months for acquisition proposals and 60 months for development proposals. |
| Budget Limit | * Track 1: Track 1 MRI proposals are those that request funds from NSF greater than $100,000and 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 two Track 1 proposals, one Track 2 proposal, and one Track 3 proposal. Cost sharing is currently not permitted. |

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| Formatting Information |
| Document | PDF only |
| Font type and size | Arial, Courier New, Palatino Linotype at a font size of 10 points or larger; or Times New Roman or Computer Modern, 11 points or larger. |
| Margins | Minimum 1 inch on all sides. |
| Other formatting  | [Link to additional formatting instructions.](https://www.nsf.gov/pubs/policydocs/pappg22_1/index.jsp) |

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| Required Proposal Documents |
| Project Summary | (1 page) Concise description of the project including sections for titled Overview, Intellectual Merit, and Broader Impacts.1. Overview: Provide the project’s goals and objectives, introduce the instrument being requested, and detail the need for the instrument along with the project’s significance.
2. Intellectual Merit: Explain the innovative nature of the project, how it will advance the research field, and describe how success will be assessed.
3. Broader Impacts: Explain how the instrument will more broadly contribute to STEM education, enhance research infrastructure at MTSU, prepare a scientific workforce, or improve scientific literacy.
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| Project Description | (15 pages) Should include the following sections (a-e);1. Information About the Proposal

A1. Instrument Location and Type: Indicate in a single separate line the physical location of the proposed instrument as follows, "Instrument Location: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_".This section can also be used to reiterate the overall goal of the proposal, intellectual merit, and broader impacts.1. Research Activities to be Enabled: Likely to be one of the longest sections, describe specific research project and trainings that will use the proposed instrument. Personnel who will be using the instrument should also be listed. While not required, it can be helpful to organize this section as suggested below:

B1. Instrument Users and Sample Load Overview: Describe the types of analysis and approximate load on the proposed instrument. Include a table of faculty users with associated numbers of student users and research areas.B2. Major Instrument Users: Provide individual research project descriptions for major instrument users. Detail how the instrument will be utilized by each researcher. It is helpful to include small figures in this section.B3. Results from Prior NSF Support: Describe the grant support received by the PI and Co-PIs. Emphasize prior MRI or other instrument awards, specifying the operation, maintenance, and usage of priorly funded instruments.1. Description of the Research Instrument and Needs: Provide a detailed, technical description of the requested instrument. Discuss similar instrumentation at MTSU and justify why the requested instrument is needed or complimentary to that existing instrumentation. Explain how the proposed research drives the need for the requested instrumentation. Data from existing instrumentation can be provided here to demonstrate that it is inadequate for meeting proposed research objectives, thereby demonstrating the need for the requested instrumentation.
2. Broader Impacts: Describe the broader impact of the instrument on research, training, and student participation in the following sections.

D1. Impact on Research Environment: Describe the broader impact of the requested instrumentation on the research environment, including how it will enhance MTSU’s research capabilities.D2. Impact on Research Training: Describe how the requested instrumentation will be utilized in student training, through both expanded research opportunities and utilization in specific courses.D3. Regional Impact: If applicable, describe how the instrument could be utilized by other universities or industry partners in the region, thereby expanding the impact of the MRI award.D4. Broadening Participation: Describe how the requested instrumentation and proposed research will broaden the participation of students in STEM research and career preparation. Include possible outreach activities with K-12 or teacher groups that incorporate the requested instrumentation.1. Management Plan: Describe the location for the requested instrumentation and any infrastructure modifications that will be made to accommodate the instrumentation. Describe how the university maintain and support the cost of the instrument beyond the grant period. Provide a proposed timeline for instrument acquisition, installation, training, and incorporation into new research projects.
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| References Cited | (no page limit) Complete listing of the references cited in the Research Strategy. |
| Biosketches | (5 pages per person) Required for each PI, Co-PI, and other Senior Personnel listed on the Cover Page. Minor users should not include Biosketches. Should adhere to [specific biosketch formatting requirements](https://www.nsf.gov/funding/senior-personnel-documents#biographical-sketch-0bd). Should be prepared using [SciENcv](https://www.ncbi.nlm.nih.gov/sciencv/).  |
| Current & Pending Support | (no page limit) Required for each PI, Co-PI, and other Senior Personnel listed on the Cover Page. Should adhere to [specific formatting requirements](https://www.nsf.gov/funding/senior-personnel-documents#current-and-pending-other-support-5db). Should be prepared using [SciENcv](https://www.ncbi.nlm.nih.gov/sciencv/). |
| Facilities, Equipment, and Other Resources | (no page limit) A detailed description of the facilities (lab, computer, animal) and resources (supplies, space, time, funding) that support the capability to complete the proposed research. Specifically for the MRI, list similar and/or related instrumentation at or near the university as "Other Resources." |
| Budget | Follow budget limitations as indicated in the Tracks above. At least 70% of the total funds requested must be listed on the Equipment line of the budget. Eligible project costs are limited to the cost of the instrument, shipping, installation, commissioning, and calibration, the direct and indirect costs of maintenance, and of appropriate technical support (including training) to operate the instrument during the award period. Salary support is *only* permitted for personnel providing technical support to operate the instrument or train others during the award period. Budgets should be drafted by the PI, refined and approved by ORSP, and submitted to the NSF by ORSP.  |
| Budget Justification | (limit 5 pages) Explain the basis of cost estimates for the requested instrument. All items must be well justified, especially non-instrument expenses. |
| Data Management Plan | (limit 2 pages) Detail how the data generated by the proposed instrument will be managed. Specifically describe the types of data expected, policies for accessing the data, and plans for archiving the data. |
| Statement of Organizational Classification | Provide on institutional letterhead from the sponsored projects office, the following statement classifying the organization(s) as either non-Ph.D.-granting, Ph.D.-granting, or non-degree-granting (as defined in the NOFO). Statements must follow only the format indicated in the NOFO. |
| Letter of Commitment | Letter of commitment from the university pledging to continue operations and maintenance of the equipment beyond the funding period and over the expected life of the instrument. |
| Equipment Quote from Vendor | Provide the equipment quote from the vendor providing specifications and cost of the instrument and its components.  |

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| If Applicable/Optional Proposal Documents |
| Letters of Support | Can only be submitted if providing “*substantive* collaboration efforts and/or usage of the instrument”. Must follow the format indicated in the NOFO. General letters of support are not permitted. |