



**Call for white papers
2016 NSF MRI Program**

We anticipate the ability to submit three applications to NSF¹ under the 2016 Major Research Instrumentation (MRI) solicitation. The purpose of this call is to identify instruments that (a) are important to the productivity and competitiveness of Lehigh research programs, and (b) are likely to be competitive in NSF review.

When proposing acquisition or development of an instrument under this program, you are encouraged to think broadly: Consider all areas of research at Lehigh that could benefit from having the instrument. Also consider ways in which the instrument could advance the work of, or catalyze formation of, research groups or potential clusters. Consider potential unique capabilities to an instrument can broaden its impact at Lehigh and make it more competitive in NSF review.

*See instructions and the end of these guidelines for information on **required notice of intent to submit and submission.***

Selection criteria

Among proposals deemed likely to be competitive in NSF review, selections will be made according to the potential to increase the productivity and competitiveness of Lehigh research programs. The number of faculty members and scope of research programs that will be aided by the acquisition will be important factors in making this judgment, as will alignment with the priorities and directions set by the colleges.

In addition, it will be necessary in each case to have

- a suitable site for location of the equipment, whether existing or to be prepared using resources provided by colleges, departments or centers.
- clear and unqualified assurance that all Lehigh investigators who are in a position to benefit from use of the equipment will have ready access to it.
- availability of personnel for any necessary technical and user support.
- clarity with regard to the ability to maintain the equipment, and with regard to responsibility for doing so.

White papers will be scored by faculty reviewers who have had no part in proposal preparation. It is therefore important that each white paper presents the case for the importance of the instrument and likelihood of success in NSF review in a manner appropriate for colleagues reading across fields within the sciences and engineering. Final decisions on the proposals to go forward from Lehigh for the NSF MRI program will be made by the vice president and associate provost for research and graduate studies in

¹ NSF accepts applications for both instrument acquisition (purchase) and instrument development. As a university we may submit a total of three applications no more than two of which may be for instrument acquisition.

consultation with the deans of the colleges represented on the white papers received and the provost.

Application instructions

Each white paper must be organized as follows:

1. The white paper **cover sheet** must include
 - a. A descriptive title
 - b. Name(s) and signatures of key faculty members submitting the proposal. This should include all those listed in 4a below. The first individual listed will be considered to be the contact person for the group and will take responsibility for the budget.
 - c. Signatures of department chair(s), center director(s) and/or dean(s) responsible for facilities, renovation, and technical support and operation costs identified in the section on operating plans.
2. **Instrument description.** *Limit to one page if possible.* Clearly identify whether you plan instrument acquisition or development². Briefly describe the proposed instrument, or instrument development effort.
 - a. Provide an accompanying budget for the acquisition. Quotations should be provided if at all possible. Aggressive pursuit of discounts is expected. While as described below long-term plans for maintenance must be part of the operating plans for the equipment, service agreements for up to the first three years of ownership may be included in the acquisition cost.
3. **Proposed acquisition/development budget.** Include costs of instrument development or acquisition, including faculty and staff time commitments, necessary supplies associated with the acquisition/development, preparation of space, installation and allowable costs for service contracts. Specify the total request to the NSF and the proposed university investment. NSF requires that the university provide at least 30% of total acquisition or development costs. *Please consult Sujata Jagota if uncertain about NSF rules on installation and service costs and required cost share.*
4. **Statement of impact for Lehigh.** *Limit to one page.* Explain how the new instrument will advance research programs at Lehigh. The primary selection criteria for which MRI proposals should go forward from Lehigh will be the central importance of the instrumentation and its strategic value to Lehigh. As such, be certain to
 - a. identify areas of rising and future importance in which we can and should be competitive considering faculty talents and interests, existing research programs, and directions being pursued by faculty groups, departments and the colleges.

² Occasionally, a team identifies options for both acquisition and development of an instrument. If this is the case, *please submit your white paper according to the approach you judge to be most compelling*, and indicate that you could provide a strong proposal using the alternative mechanism.

- b. specifically identify faculty members and their individual or group research programs that will be enhanced or enabled by the acquisition. **The white paper must include, for each individual or group research program listed, a statement written by the individual or a member of the group, describing the importance of the instrument to their research.**
 - c. as applicable, describe how this will replace existing equipment that is deficient in some way. Is the capability currently absent at Lehigh? If so, are Lehigh investigators accessing outside facilities, working through collaborators, or simply doing without the capability?
5. **Statement of scientific impact.** *Up to one half page.* Explain ways in which
- a. the instrument is unique among instruments of its kind, and/or
 - b. the instrument will be used in novel ways, or to support truly novel work, and/or
 - c. Lehigh faculty, staff or facilities support the productive use of the instrument in ways that could not easily be done elsewhere.
6. **Team members and users.**
For an acquisition, list the members of the core group that will be responsible for the instrument's installation and operation. For instrument development, list the key people who will be responsible for the development work and their anticipated levels of effort. For all proposals, list the team members' relevant accomplishments in NSF-funded programs including any MRI experience.
7. **Operating plans.** *Limit to one page.* Succinctly describe plans for assuring ongoing operation and availability of the equipment, including
- a. where it will be housed and how any necessary adaptation of facilities will be accomplished.
 - b. how the equipment will be made broadly available to those whose programs can benefit from its use and, as applicable, to catalyze formation of team projects.
 - c. how necessary technical and user support and maintenance will be accomplished, and consumable supplies provided, including sources of support for personnel.
 - d. Summarize the operating costs including service contracts and supplies. Estimate user fees necessary to sustain its operation, and compare these with projections for instrument use. Consider whether the instrument will be added to the instrument suite of an existing laboratory, the impact on use of other instruments, and any economies that can be gained by sharing personnel or other resources.
8. **Prior and related submissions.** If you have submitted this proposal to NSF before, you can provide a summary of the reviewers' comments for your proposal from NSF. Describe any other proposals planned or pending for the same or similar instrument. Describe any proposals pending or under development that would complement this proposal.

Intent to submit and submission

Each group intending to submit an application should express its **intent to submit by October 19, 2015**. Please provide a provisional title, list of participants, and anticipated budget by email to VPResearch@lehigh.edu.

Each **white paper** should be submitted as a single pdf, by email to VPResearch@lehigh.edu, by **November 9, 2015**. As necessary, applicants may be asked for additional information, and as necessary full plans for financial management will be completed prior to initiating purchases.

If at all possible, selections will be made by November 23, 2015. Full proposals to NSF will be due on January 13, 2016.