



**Call for white papers
2017 NSF Major Research Instrumentation (MRI) Program**

As a university, we are eligible to submit three applications to NSF under the 2016 Major Research Instrumentation (MRI) solicitation: up to two for acquisition of research equipment and the balance for in-house instrument development. The purpose of this call is to identify instruments that are important to the future productivity and competitiveness of Lehigh research programs, and for which proposals are likely to be competitive in NSF review.

The current full NSF solicitation is at www.nsf.gov/pubs/2015/nsf15504/nsf15504.htm. Though not listed in the solicitation, the due date for 2017 remains the second Wednesday. The Directorates for Biological Sciences, Computer & Information Science & Engineering, Education & Human Resources, Engineering, Geosciences, Mathematical & Physical Sciences, and Social, Behavioral & Economic Sciences, and the Office of Integrative Activities are participating.

*See the instructions at the end of these guidelines for information on white paper submission, including the **required notice of intent to submit**.*

Timeline

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| Idea Exchange workshop | September 16 |
| | Express interest in presenting by September 12 |
| | Non-presenting attendees RSVP appreciated by September 14 |
| Intent to submit due | September 30, 8:00 AM |
| White papers due | October 10, 8:00 AM |
| Selected white papers notice to authors | November 7 |
| Full proposals due at NSF | January 11, 2017 |

Idea Exchange workshop

We strongly encourage representatives of all groups considering submission of proposals to present at the ***Idea Exchange workshop, 11:30 am – 1:30 pm on Friday, September 16***. Each group will have ten minutes to present what they are considering proposing, with the intent that discussion with colleagues enables teams to develop the strongest possible proposals. The VP for research and the deans of the colleges of Arts & Sciences and Engineering will be in attendance. **Please express interest in presenting by email to VPResearch@lehigh.edu by September 12** and be prepared to provide slides for presentation by September 14.

Intent to submit

In order to arrange for timely review, notice of intent to submit a white paper must be given by **8:00 am on September 30**. Please provide a provisional title, full list of participants, and anticipated total budget amount by email to VPResearch@lehigh.edu.

Selection criteria

Selected white papers will be strong in both of the following areas:

1. **Strategic value.** *Looking ahead*, is having the equipment important to our success in areas of research to which members of the faculty are committed? Is the proposed configuration of the equipment devised to enhance the future work of a significant number of faculty members? Might it help to catalyze the formation of research groups or potential clusters?
2. **Likelihood of success at NSF.** *At present*, is there a portfolio of faculty research at Lehigh that would be made substantially more productive by having the equipment in place? Is the instrument configured to best serve those research uses? To the degree that the instrument will catalyze growth of *new* research projects, it is critical that NSF reviewers be fully confident that this will happen.

In addition, both practical value to the university user community and success in NSF review require

- a suitable site for location of the equipment, whether existing or to be prepared using resources provided by colleges, departments or research 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 who are well prepared to provide 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 white paper 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. Final decisions on the proposals to go forward from Lehigh will be made by the vice president and associate provost for research and graduate studies, in consultation with the deans of the colleges represented on the white papers received and with the provost.

Application instructions

Each white paper must be organized as follows:

1. A **cover sheet** including
 - a. A descriptive title
 - b. Name(s) and signatures of key faculty members submitting the proposal. This should include all those listed in 4b 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 oversight of technical support and operation costs identified in the section on operating plans.
2. **Instrument description.** *Limit to one page.* Briefly describe the proposed instrument, or instrument development effort. This section may be supplemented by attachments that explain operation and features, but it must stand on its own. Reviewers will not be obligated to read all attachments. Clearly identify whether you plan instrument acquisition or development¹
3. **Proposed acquisition or development budget.** Provide a budget including faculty and staff time commitments, necessary supplies associated with the acquisition or development, preparation of space, installation, and allowable costs for service contracts. For acquisitions, 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, NSF allows, and we encourage, inclusion of service agreements for up to the first three years of ownership in the acquisition cost.

NSF requires a cost share of at least 30% of the total cost for purchase or development. For successful proposals, this will be borne by the colleges of anticipated users, the VP for research and the provost.

PLEASE NOTE: For an acquisition, NSF will provide funding only for equipment. The total project costs may also include facility preparation, installation costs and service contracts for up to the full duration of the project period (up to three years from the date of the award). These non-equipment costs must be borne within the university's required cost share of 30% of the total project cost. Therefore, such costs must not exceed 30% of the total cost. In addition, NSF's stated expectation is that well over 70% of the total project cost is devoted to the equipment purchase itself.

4. **Statement of impact.** *Limit to one page, exclusive of the table described below.* Explain how the instrument will advance research programs at Lehigh. 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.
 - 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 value of the instrument to their research. Use the tabular format at the end of these**

¹ 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 the best*, and indicate that you could provide a strong proposal using the alternative mechanism.

guidelines, a copy of which can be provided in Microsoft Word format for incorporation into white papers.

- 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. **Team members and users.**

For an acquisition, list the members of the core group who 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.
6. **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 instrument 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.
7. **Prior and related submissions.** If you have submitted this proposal to NSF before, you **must** provide copies of the reviewers' comments. 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.

White paper submission

Submitted by email to VPResearch@lehigh.edu as a single PDF file by **8:00 am on October 10, 2016**. As necessary, applicants may be asked for additional information, and as necessary full plans for financial management will be completed prior to initiating purchases.

Listing of research program impacts

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| Project or line of research: | |
| Investigators (name, department) <ul style="list-style-type: none">••••• ... | Status (check all that apply) <ul style="list-style-type: none"><input type="checkbox"/> Externally funded<input type="checkbox"/> Published<input type="checkbox"/> Illustrative data suitable for inclusion in the MRI proposal<input type="checkbox"/> Extension/expansion/enhancement of existing line of research<input type="checkbox"/> New line of research |
| Description (limit to about 300 words) | |

Copy/paste the table above for each project. The headings (“Project,” “Investigators,” “Description”) may be omitted.