



**NATIONAL SCIENCE FOUNDATION
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NSF 17-042

Dear Colleague Letter: NSF Mathematical Sciences Graduate Internship

January 3, 2017

Dear Colleagues:

The National Science Foundation (NSF) Division of Mathematical Sciences (DMS) aims to provide opportunities to enrich the training of graduate doctoral students in the Mathematical Sciences through the provision of a NSF DMS funded summer research internship program. Towards this objective, DMS has partnered with the Oak Ridge Institute for Science and Education (ORISE) which is managed by Oak Ridge Associated Universities (ORAU) for the Department of Energy, to establish the NSF Mathematical Sciences Graduate Internship program.

The immediate goal of the program is to fund approximately twenty internships, primarily at the National Laboratories. The longer-term goals are to expand the program and to include private industries and nonprofit organizations as hosts. The program is intended to introduce doctoral students in mathematics to interesting applications of mathematical or statistical theories outside of academia. The internships are aimed at students who are interested in understanding the application of advanced mathematical and statistical techniques to "real world" problems, regardless of whether they plan to pursue an academic or nonacademic career.

The NSF Mathematical Sciences Graduate Internship program is expected to have significant benefits for several groups of stakeholders, including:

- For all participating graduate students: Enhanced understanding of their research areas in a broader context.
- For graduate students who pursue academic careers: Preparation to take mathematical inspiration from problems in disciplines outside of the mathematical sciences, allowing them to initiate development of new areas in mathematical sciences; preparation to serve as links in their future faculty appointments between academics and the business/industry/government/non-profit realm; and preparation to advise their future students on the full range of possible career paths that exist with training in the mathematical sciences.
- For graduate students who pursue careers outside academics: Better preparation for, and knowledge of, a wide range of career paths in areas of business, industry, government, and non-profits where the mathematical sciences play increasingly important roles.
- For faculty: Ph.D. interns who return to the academic setting with enhanced understanding of the

research area in a broader context.

- For academic departments: Enhanced ties to activities outside the university, and better career opportunities for graduate students.
- For the mathematical sciences community: Demonstration of the impact of an enriched training for doctoral students generally.

Students in full-time enrollment as a graduate student at an accredited US college or university located in the US during the 2016-2017 academic year will be considered. They should be pursuing a doctoral degree in the mathematical sciences and be able to provide two relevant letters of recommendation. These letters should address the student's academic record and potential for success in an internship, as indicated by communication and teamwork skills. Further details and the application procedure is described at <https://orise.orau.gov/nsf-msgi/default.html>.

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