
Mathematics Opportunities

AMS Epsilon Fund

The AMS Epsilon Fund awards grants to summer mathematics programs that support and nurture mathematically talented high school students in the United States. The deadline for application for funding for summer 2006 programs is **December 15, 2005**. Application materials are available at <http://www.ams.org/outreach/epsilon.html> or by postal mail: Membership and Programs Department, AMS, 201 Charles Street, Providence, RI 02904-2294; telephone 800-321-4267, ext. 4170; email: prof-serv@ams.org.

—AMS announcement

AMS-AAAS Mass Media Fellowships

The American Association for the Advancement of Science (AAAS) sponsors the Mass Media Science and Engineering Summer Fellows Program, through which graduate students work during the summer in major media outlets. The AMS provides support each year for one or two graduate students in the mathematical sciences to participate in the program. In past years AMS-sponsored fellows have held positions at *Scientific American*, *Business Week*, *Voice of America*, *Discovery Channel Online*, *National Geographic Television*, *Popular Science*, *The Chicago Tribune*, and *Time* magazine.

Fellows receive a weekly stipend of US\$450, as well as travel expenses to and from AAAS and their sites, for ten weeks during the summer to be reporters, researchers, and production assistants in media organizations. They observe and participate in the process by which events and ideas become news, improve their ability to communicate about complex technical subjects in a manner understandable to the public, and increase their understanding of editorial decision making and the manner in which information is effectively disseminated. Each fellow attends an orientation and evaluation session in Washington DC and begins the internship in mid-June. Fellows submit interim and final reports to AAAS. A wrap-up session is held at the end of the summer.

Mathematical sciences faculty are urged to make their graduate students aware of this program. The deadline to apply for fellowships for the summer of 2006 is **January 15, 2006**. Further information about the fellowship program and application procedures is available online at <http://ehrweb.aaas.org/massmedia.htm>; or contact Stacey Pasco, Manager, Mass Media Program, AAAS Mass Media Science and Engineering Fellows Program, 1200 New York Avenue, NW, Washington, DC 20005; telephone 202-326-6441; fax 202-371-9849; see the AMS website at <http://www.ams.org/government/massmediafellowaward.html>; or contact the AMS Washington Office, 1527 Eighteenth Street, NW, Washington, DC 20036; telephone 202-588-1100; fax 202-588-1853; email: amsdc@ams.org.

—Elaine Kehoe

Enhancing the Mathematical Sciences Workforce in the Twenty-First Century

The long-range goal of the Enhancing the Mathematical Sciences Workforce in the Twenty-First Century (EMSW21) program of the National Science Foundation (NSF) is to increase the number of well-prepared U.S. citizens, nationals, and permanent residents who pursue careers in the mathematical sciences and in other NSF-supported disciplines. This program builds on the Vertical Integration of Research and Education (VIGRE) program and includes a broadened VIGRE activity, an additional component for Research Training Groups (RTG), and another for Mentoring through Critical Transition Points (MCTP) in the Mathematical Sciences. An updated program solicitation for EMSW21 is now available.

Notable changes from the previous program solicitation:

1. The previous solicitation required that each MCTP proposal have an undergraduate component. This requirement has been eliminated.
2. All EMSW21 proposals now require specific quantitative supporting data about the department's programs. A discussion of the required data appears in the "Supplementary Documentation" section of the program solicitation.

3. Other changes to clarify various aspects of the EMSW21 program are included throughout the solicitation.

The DMS expects to make eighteen or nineteen awards under this program in 2006. The deadline for proposals is **October 12, 2005**. For more information about the program and all of its components, see the website http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf05595.

Please note that, beginning in 2006, the annual proposal deadline date will be in June, allowing awards to be issued the following January to facilitate graduate student and postdoc recruitment in the first year of an award.

—From an NSF announcement

Clay Research Fellow Nominations

The Clay Mathematics Institute (CMI) is currently accepting nominations for the position of Clay Research Fellow. Fellows are employed for a period of two to five years and may conduct their research at whatever location or combination of locations best suits their research. In addition to a generous salary, the fellow receives support for travel and research expenses, as well as provisions for collaboration.

The primary selection criteria are the exceptional quality of the candidate's research and the candidate's promise to become a mathematical leader. At the time of their selection, most recent appointees were graduating Ph.D. students. However, mathematicians under age thirty have sometimes been appointed. Selection decisions are made by CMI's Scientific Advisory Board.

To nominate a candidate, please send the following items by **October 30, 2005**: (1) letter of nomination, (2) names and contact information of two other references, (3) curriculum vitae, and (4) publication list for the nominee. Nominations should be sent to Clay Mathematics Institute, One Bow Street, Cambridge, MA 02138. Electronic submissions are also accepted at nominations@claymath.org.

Information about Clay Research Fellows is also available on the CMI website at http://www.claymath.org/fas/research_fellows/. Additional information may be obtained by calling 617-995-2600 or by email: nominations@claymath.org.

—From a CMI announcement

News from the IMA

The 2005–2006 IMA thematic program “Imaging” addresses the processes of image formation (the use of data from sensors to form images) and image interpretation (the extraction of information from images). Imaging science is highly interdisciplinary; this program will bring together a broad spectrum of researchers while emphasizing the underlying mathematical structures and algorithms in imaging science, including harmonic analysis, partial

differential equations, integral geometry, calculus of variations, probability theory, statistics, and learning theory.

In keeping with its mission of fostering interdisciplinary research, the IMA is offering several intensive, informal workshops as part of the “Imaging” program. The workshops in the fall semester, “Sensor to Images”, are: Imaging from Wave Propagation, October 17–21; Frontiers in Imaging, November 7–11; and Integration of Sensing and Processing, December 5–9. The workshops in the spring semester, “Images to Understanding”, are: New Mathematics and Algorithms for 3-D Image Analysis, January 9–12; The Mathematics and Art of Film Editing and Restoration, February 6–10; Natural Images, March 6–10; Shape Spaces, April 3–7; and Visual Learning and Recognition, May 22–26. Limited financial support may be available for some workshop participants. The SIAM conference Imaging Science 2006, May 15–17, will be held in Minneapolis, just off campus from the IMA.

In recent years both old and new algorithms in algebraic geometry have led to significant and unexpected advances in diverse areas of application. Motivated by these exciting developments, the IMA has chosen “Applications of Algebraic Geometry” as the 2006–2007 thematic program. This program will bring together mathematicians, computer scientists, economists, statisticians, and engineers from various disciplines; the workshops in the first quarter will cover algorithms and software (with an eye on applications), while those in the second and third quarters will cover applications in optimization, control, statistics, economics and bioinformatics, coding, complexity, communications, and computational geometry. Opportunities for participation in the 2006–2007 program include **New Directions Visiting Professorships** for established mathematicians seeking to branch into new interdisciplinary research directions (application deadline **November 1, 2005**), **regular and industrial postdoctoral fellowships** (application deadline **January 5, 2006**), and **general memberships** (visits of a month or more, no application deadline).

The IMA actively solicits proposals for programs from members of the mathematical sciences community. Possibilities include annual programs (running September–June), summer programs (typically running two to four weeks and involving between 60 and 120 participants), and Hot Topics workshops (typically lasting a few days and treating a topic of exceptional contemporary interest and potential impact). Submission timelines: Preproposals for annual programs, at least four years in advance of the proposed start date; summer program proposals, roughly two to three years in advance; Hot Topics workshop proposals, at least six months in advance, cosponsorship by an industrial partner or institute is preferred. Additional information is available at <http://www.ima.umn.edu/solicit>.

Detailed information about IMA programs, as well as the online application forms for IMA workshops and memberships, can be found at <http://www.ima.umn.edu>.

—IMA announcement