
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 2007 programs is **December 15, 2006**. Application materials are available at <http://www.ams.org/outreach/epsilon.html> or by mail: Membership and Programs Department, American Mathematical Society, 201 Charles Street, Providence, RI 02904-2294; telephone 800-321-4267, ext. 4170; email: prof-serv@ams.org.

—AMS announcement

AMS-AAAS Mass Media Summer 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 the 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, plus travel expenses, to work for ten weeks during the summer as 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 of how information is effectively disseminated. Each fellow attends an orientation and evaluation session in Washington, D.C., 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 2007 is **January 15, 2007**. Further information about the fellowship program and application procedures is available online at <http://www.aaas.org/programs/education/MassMedia/>; or applicants may 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; email: spasco@aaas.org. Further information is also available at <http://www.ams.org/government/massmediaann.html> and through 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

AMS Department Chairs Workshop

This annual one-day workshop for chairs and leaders of departments of mathematical sciences will be held a day before the start of the New Orleans Joint Mathematics Meetings on Thursday, January 4, 2007, 8:00 a.m. to 6:30 p.m. The workshop format is intended to stimulate discussion among attending chairs and workshop leaders. Sharing ideas and experiences with peers provides a form of department chair therapy, creating an environment that enables attending chairs to address departmental matters from new perspectives.

Past workshop sessions have focused on a range of issues facing departments today, including personnel issues (staff and faculty), long-range planning, hiring, promotion and tenure, budget management, assessments, outreach, stewardship, junior faculty development, communication, and departmental leadership.

There is a registration fee for the workshop, which is in addition to and separate from the Joint Meetings registration. An invitation to attend the workshop will be sent to department chairs this fall. Information will also be posted on the AMS website. For further information, please contact the AMS Washington Office at 202-588-1100 or amsdc@ams.org.

—AMS Washington Office

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.

The VIGRE program supports projects that involve entire departments in the training process, from the start of the undergraduate career through the completion of a postdoctoral fellowship. The RTG program involves a group of researchers based in a subarea of the mathematical sciences or linked by a multidisciplinary theme and supports training at educational levels from undergraduate to postdoctoral within that focus. The MCTP program supports projects, either departmentally based or conducted by a large group of faculty members, that are aimed at critical transition points in the educational careers of students and junior researchers.

The DMS expects to make between nine and fifteen awards under this program in 2007. The deadline for proposals is **June 5, 2007**. 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.

—From an NSF announcement

NSA Grant and Sabbatical Programs

The Mathematical Sciences Program of the National Security Agency (NSA) provides grants and sabbatical opportunities to support research and career development by academic mathematical scientists.

Through the Mathematical Sciences Program, the NSA awards grants to universities and nonprofit institutions to support self-directed research in the following areas of mathematics, including possible computational aspects: algebra, number theory, discrete mathematics, probability, and statistics. Proposals involving cryptology are no longer supported under this program. The NSA also accepts proposals for modest grants for conferences, workshops, and special academic endeavors. Research grants are designed principally to provide summer salary for professors, travel support, and limited support for graduate students. Efforts that encourage the participation of women and underrepresented groups in the mathematical sciences are particularly welcomed. Principal investigators and other personnel supported by NSA grants must be U.S. citizens or permanent residents of the United States. The deadline for submission of grant proposals is **October 15** each year. Grants begin in the fall of the following year. For more information on the application process and for proposal guidelines, see <http://www.nsa.gov/msp/msp00002.cfm>.

The NSA Mathematics Sabbatical program provides support for academic mathematical scientists to work at the NSA for periods ranging from nine to twenty-four months. The NSA pays half of a sabbatical visitor's salary and benefits during academic months and 100 percent of salary and benefits during any summer months of the sabbatical detail. A choice is offered between an allowance for moving expenses and a monthly housing supplement. Applicants and their immediate family members must be U.S. citizens. Because a complete background investigation is required, applications should be submitted at least eight months in advance of the requested starting date. To apply, send a cover letter and curriculum vitae with a list of publications. The cover letter should contain a description of research interests, how the applicant could contribute to NSA's mission, and how doing a sabbatical at NSA would affect teaching and research upon returning to academia.

More information on these programs may be obtained from the Mathematical Sciences Program website (<http://www.nsa.gov/msp/index.cfm>) or by contacting the director, Michelle D. Wagner (mdwagn4@nsa.gov), or the program administrator, Rosalie (Jackie) Smith (rjsmit2@nsa.gov). To obtain brochures or to mail forms, please call 301-688-0400 or write to: Michelle D. Wagner, Director, Mathematical Sciences Program, National Security Agency, Suite 6557, Fort Meade, MD 20755-6557.

—Mathematical Sciences Program 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, 2006**: (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 sending email to nominations@claymath.org.

—From a CMI announcement

Jefferson Science Fellows Program

The Jefferson Science Fellows (JSF) program at the U.S. Department of State is intended to involve the American academic science, technology, and engineering communities in the formulation and implementation of U.S. foreign policy.

Each fellow will spend one year at the U.S. Department of State for an on-site assignment in Washington, D.C., that may also involve extended stays at U.S. foreign embassies and/or missions. Each fellow will receive a stipend of US\$50,000. Following the fellowship year, the Jefferson Science Fellow will return to his or her academic career but will remain available to the U.S. Department of State for short-term projects over the following five years.

The three-year pilot JSF program is administered by the National Academies and supported through a partnership among the MacArthur Foundation; the Carnegie Corporation; the U.S. science, technology, and academic community; professional scientific societies; and the U.S. Department of State. The application deadline is **December 1, 2006**. For further information, send email to jsf@nas.edu, call 202-334-2643, or visit the website <http://www7.nationalacademies.org/jefferson/>.

—From a National Academies announcement

Fermat Prize 2007

The Fermat Prize rewards research works in fields where the contributions of Pierre de Fermat have been decisive: statements of variational principles, foundations of probability and analytical geometry, and number theory. The spirit of the prize is focused on rewarding the results of research accessible to the greatest number of professional mathematicians within these fields. The amount of the Fermat Prize has been fixed at €20,000 (approximately US\$25,000).

The Fermat Prize is awarded once every two years in Toulouse; the tenth award will be announced in October 2007. Previous winners are: A. Bahri, K.A. Ribet (1989), J.-L. Colliot-Thélène (1991), J.-M. Coron (1993), A. J. Wiles (1995), M. Talagrand (1997), F. Bethuel, F. Hélein (1999), R. L. Taylor, W. Werner (2001), L. Ambrosio (2003), P. Colmez, J.-F. Le Gall (2005).

Rules governing the award, candidacy formalities, etc., are available from the organizing secretariat of the Fermat Prize or on the Web at <http://www.math.ups-tlse.fr/Fermat/>. The closing date for applications and nominations is **June 30, 2007**. The postal address is: Prix

Fermat de Recherche en Mathématiques, Service Communication Université Paul Sabatier, 31062 Toulouse Cedex 9, France.

—From a Paul Sabatier University announcement

AWM Essay Contest

To increase awareness of women's ongoing contributions to the mathematical sciences, the Association for Women in Mathematics (AWM) is holding an essay contest for biographies of contemporary women mathematicians and statisticians in academic, industrial, and government careers.

The essays will be based primarily on interviews with women who are currently working in mathematical sciences careers. The contest is open to students in the following categories: 6th–8th grades, 9th–12th grades, and college undergraduates. At least one winning submission will be chosen from each category. Winners will receive a prize, and their essays will be published online at the AWM website. A grand prize winner will have his or her submission published in the *AWM Newsletter* as well. The deadline for entries is **November 3, 2006**.

In addition to student entries, organizers are currently seeking women mathematicians to volunteer as the subjects of these essays. For more information, see <http://www.awm-math.org/biographies/contest.html>.

—From an AWM announcement

News from AIM

Call for Proposals: The American Institute of Mathematics (AIM) Research Conference Center (ARCC) seeks proposals for week-long focused workshops in all areas of the mathematical sciences.

Proposals should emphasize a specific mathematical goal, such as making progress in a significant unsolved problem, understanding an important new result, or examining the convergence of two distinct areas of the mathematical sciences.

Detailed information about AIM programs, upcoming workshops, and application forms for proposing an ARCC workshop can be found at <http://www.aimath.org>.

—AIM announcement

News from the IMA

The 2006–2007 thematic program at the Institute for Mathematics and its Applications (IMA), University of Minnesota, is “Applications of Algebraic Geometry”. The program addresses new algorithms in algebraic geometry and advances in bioinformatics, coding, computational geometry, control, economics, optimization, and statistics.

The fall workshops emphasize algorithms and software with an eye toward applications. The two workshops are: *Algorithms in Algebraic Geometry*, September 18–22, 2006, and *Software for Algebraic Geometry*, October 23–27, 2006.

The winter and spring workshops focus on applications. They are as follows: *Optimization and Control*, January 16–20, 2007; *Applications in Biology, Dynamics, and Statistics*, March 3–9, 2007; *Complexity, Coding, and Communications*, April 16–20, 2007; and *Nonlinear Computational Geometry*, May 29–June 2, 2007.

Three 2-day tutorials will be held: *Algebraic Geometric Methods in Engineering*, September 15–16, 2006; *Algebraic Algorithms in Optimization*, January 12–13, 2007; and *What Is Algebraic Geometry?*, April 13–14, 2007.

The fourth Blackwell-Tapia Conference will be held November 3–4, 2006. This conference showcases mathematical excellence by minority researchers, recognizes successful efforts to address underrepresentation, informs students and mathematicians about career opportunities in mathematics—especially those outside academia—and provides networking opportunities for mathematical researchers at all stages of their careers. The 2006 Blackwell-Tapia Prize will be awarded at the conference.

In addition, two Hot Topics workshops will be offered during the fall on subjects of exceptional promise and interest outside the scope of the thematic program. The workshop on *Negative Index Materials (NIMs)*, to be held October 2–4, 2006, will discuss models of material response, fabrication, and the utilization of NIMs in imaging and lithography at subwavelength resolution. NIMs are characterized by oppositely directed photon current and momentum, resulting in negative refraction and the growth of evanescent waves. A workshop on the Evolution of Mathematical Communication in the Age of Digital Libraries will be held December 8–9, 2006, and will discuss special challenges for digital libraries in dealing with mathematical notation, figures, and tables and will highlight early successes, showcase promising research, and identify important problems.

The IMA is currently accepting applications for postdoctoral fellows, industrial postdoctoral fellows, New Directions Visiting Professors, and general members in connection with the 2007–2008 thematic program, “Mathematics of Molecular and Cellular Biology”. The deadline for applications for the postdoctoral and New Directions programs is **January 5, 2007**; applications for general membership are accepted at any time.

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

—From an IMA announcement

News from PIMS

The Pacific Institute for the Mathematical Sciences (PIMS) invites nominations of outstanding young researchers in the mathematical sciences for Postdoctoral Fellowships for the year 2007–2008. Candidates must be nominated by one or more scientists affiliated with PIMS or by a department (or departments) affiliated with PIMS. The fellowships are intended to supplement support made available through such a sponsor. The institute expects to support up to twenty fellowships tenable at any of its Canadian member universities: Simon Fraser University, the University of Alberta, the University of British Columbia, the University of Calgary, and the University of Victoria, as well as the affiliated universities: the University of Lethbridge and the University of Regina.

For the 2007–2008 competition, the amount of the award is C\$20,000, and the sponsor(s) is (are) required to provide additional funds to finance a minimum stipend of C\$40,000 (including benefits).

Award decisions are made by the PIMS PDF Review Panel based on excellence of the candidate, potential for participation in PIMS programs and potential for involvement with PIMS partners. PIMS Postdoctoral Fellows will be expected to participate in all PIMS activities related to the fellow’s area of expertise and will be encouraged to spend time at other sites. To ensure that PIMS Postdoctoral Fellows are able to participate fully in institute activities, they may not teach more than two single-term courses per year.

Nominees must have a Ph.D. or equivalent (or expect to receive a Ph.D. by December 31, 2007) and be within three years of their Ph.D. at the time of the nomination (i.e., the candidate must have received her or his Ph.D. on or after January 1, 2004). The fellowship may be taken up at any time between April 1, 2007, and January 1, 2008. The fellowship is for one year and is renewable for at most one additional year.

Nominations must include: (1) curriculum vitae, (2) statement of research interests, (3) three letters of reference (including one from a sponsoring professor), and (4) statement of anticipated support from the sponsor.

The sponsors should send the complete nomination package to: Attn: PIMS PDF Competition, Pacific Institute for the Mathematical Sciences, 1933 West Mall, University of British Columbia, Vancouver, BC V6T 1Z2, Canada; or hand deliver the package to any one of the Canadian PIMS site offices.

PIMS accepts no responsibility for incomplete packages or for individual components of a nomination package being sent to any of our offices.

Nominations must be received by **December 15, 2006**.

—From a PIMS announcement