Mathematics Opportunities

NSF Computing Equipment and Instrumentation Programs

The Division of Mathematical Sciences (DMS) of the National Science Foundation (NSF) plans a limited number of awards for the support of computing environments for research in the mathematical sciences. SCREMS (Scientific Computing Research Environments for the Mathematical Sciences) supports computing environments dedicated to research in the mathematical sciences. Proposals may request support for the purchase of computing equipment and limited support for professional systems administrators or programmer personnel for research computing needs. These grants are intended to support research projects of high quality that require access to advanced computing resources. Requests for routine upgrades of standard desk-environment workstations or laptop computers are not appropriate for this program. Awards are made to provide support for specific research projects rather than to provide general computing capacity. Proposers are encouraged to include projects involving symbolic and algebraic computations, numerical computations and simulations, and graphical representations (visualization) in aid of the research.

Please see `http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5616` for details. The deadline for proposals is **January 22, 2009**.

—From an NSF 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 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 communities; professional scientific societies; and the U.S. Department of State. The deadline for applications is **January 15, 2009**. For further information, email `jsf@nas.edu`, telephone 202-334-2643, or see the website `http://www7.nationalacademies.org/jefferson/`.

—From a National Academies announcement

MfA Fellowship Program

The Math for America Foundation (MfA) sponsors the MfA Fellowship Program, which trains mathematically talented individuals to become high school mathematics teachers in New York City, Los Angeles, or San Diego. The fellowship provides an aggregate stipend of up to US$100,000 over five years, a full-tuition scholarship for a master's-level teaching program at one of MfA's partner universities, and ongoing support mechanisms, including mentoring and professional development.

Candidates should hold a bachelor's degree with substantial coursework in mathematics and should be able to demonstrate a strong interest in teaching. Applicants must be willing to commit to a five-year fellowship term in the chosen city. Individuals who are currently teaching or who are certified to teach are not eligible. Candidates must be U.S. citizens or permanent residents of the United States. The deadline for applications for New York City and Los Angeles is **February 13, 2009**; the deadline for

applications for San Diego is **June 1, 2009**. For more detailed information, see the website at `http://www.mathforamerica.org/`.

CMI Liftoff Program for Summer 2009

The Clay Mathematics Institute (CMI) is currently accepting nominations for the 2009 Liftoff program. Through this program, CMI will employ recent Ph.D. recipients as Liftoff Fellows to carry out mathematics research for one month during the summer of 2009. This program provides a transition for young mathematicians from student to faculty member or to a postdoctoral position. Funds for travel to conferences or to visit collaborators are also available to Liftoff Fellows.

Nominations should be made by university mathematics departments; candidates may not apply directly. Criteria for selection are the quality and significance of mathematical research already achieved by the candidate and the potential of the candidate to become a leader in mathematical research.

Nomination packets should include: (1) a cover letter signed by the department chair; (2) two letters of recommendation, including one from the thesis supervisor (existing letters of recommendation already written for job applications can be used); (3) a CV from the nominee, including name, address, telephone, email, date of birth, citizenship, education, thesis title, honors, previous employment, reference to published work or submitted articles, and proposed research; and (4) a one-sentence signed statement from a mathematician agreeing to supervise the nominee on behalf of CMI, with the proposed dates of employment.

Nominations can be sent electronically to the attention of Amanda Battese at `liftoff@claymath.org` or by mail to Clay Mathematics Institute, One Bow Street, Cambridge, MA 02138. The deadline for nominations to be received is **February 15, 2009**. For more information, see the website `http://claymath.org/fas/liftoff`; telephone: 617-995-2600.

National Academies Christine Mirzayan Graduate Fellowship Program

The Christine Mirzayan Science and Technology Policy Graduate Fellowship Program of the National Academies is designed to engage graduate science, engineering, medical, veterinary, business, and law students in the analysis and creation of science and technology policy and to familiarize them with the interactions of science, technology, and government. As a result, students develop essential skills different from those attained in academia and make the transition from graduate student to professional.

Applications for the fellowships are invited from scholars from graduate through postdoctoral levels in any physical, biological, or social science field or any field of engineering, medicine and health, or veterinary medicine, as well as business, law, education, and other graduate and professional programs. Postdoctoral scholars should have received their Ph.D.'s within the past five years.

The stipend for each 10-week program is US$5,300. The fellowship stipend is intended to cover all living expenses for the period.

Deadlines for receipt of materials for the June program is **March 1, 2009**; for the September program, **June 1, 2009**; and for the January program, **November 1, 2009**. More information and application forms and instructions can be found on the website `http://www7.nationalacademies.org/policyfellows` or by contacting The National Academies Christine Mirzayan Science and Technology Policy Graduate Fellowship Program, 500 Fifth Street, NW, Room 508, Washington, DC 20001; telephone: 202-334-2455; fax: 202-334-1667; email: `policyfellows@nas.edu`.

Call for Nominations for Waterman Award

Congress established the Alan T. Waterman Award in August 1975 to mark the twenty-fifth anniversary of the National Science Foundation (NSF) and to honor its first director. The annual award recognizes an outstanding young researcher in any field of science or engineering supported by the NSF. In addition to a medal, the awardee receives a grant of US$500,000 over a three-year period for scientific research or advanced study in the mathematical, physical, medical, biological, engineering, social, or other sciences at the institution of the recipient's choice.

Candidates must be U.S. citizens or permanent residents and must be thirty-five years of age or younger or not more than seven years beyond receipt of the Ph.D. degree by December 31 of the year in which they are nominated. Candidates should have demonstrated exceptional individual achievements in scientific or engineering research of sufficient quality to place them at the forefront of their peers. Criteria include originality, innovation, and significant impact on the field.

The deadline for nominations and all supporting material for the award is **December 5, 2008**. For more information, see the website `http://www.nsf.gov/od/waterman/waterman.jsp`.

Call for Nominations for Ostrowski Prize

The aim of the Ostrowski Foundation is to promote the science of mathematics by periodically awarding an international prize for the best performances in the field of pure mathematics and of the theoretical foundations of numerical mathematics. As a rule, the prize is awarded every two years to the scientist, or group of scientists, who, during the preceding five years, has achieved the highest scientific accomplishments in these fields. It is awarded independently of politics, race, religion, domicile, nationality, or age. The prize in 2007 amounted to 100,000 Swiss francs (approximately US$92,000).

The foundation awards at the same time a scholarship for a talented young mathematician, whose name is to be suggested by the current prizewinners. The scholarship will enable the winner to spend a year of further education (as a postdoctoral fellow) at a university of his or her own choice.

The previous prizewinners are, in chronological order: L. de Branges; J. Bourgain; M. Ratner and M. Laczkovich; A. Wiles; Y. Nesterenko and G. Pisier; A. Beilinson and H. Hofer; H. Iwaniec, P. Sarnak and R. Taylor; P. Seymour; B. Green and T. Tao; and O. Schramm.

The jury invites proposals for candidates for the Ostrowski Prize 2009. The proposals, including a short justification, should be sent to `David.Masser@unibas.ch` before **February 1, 2009**.

—David Masser, University of Basel

News from IPAM

The Institute for Pure and Applied Mathematics (IPAM), located at the University of California, Los Angeles, holds long- and short-term research programs and workshops throughout the academic year for junior and senior mathematicians and scientists who work in academia, the national laboratories, and industry. IPAM also sponsors two summer programs. IPAM's upcoming programs are listed below. Please go to `http://www.ipam.ucla.edu` for detailed information and to find online application and registration forms. IPAM's Science Advisory Board meets in November, when it considers program proposals. Program proposals from the community are encouraged; instructions are available at our website.

IPAM is seeking a new associate director to begin in July 2009. Information about the position and how to apply is available on our website.

Winter 2009 Short Programs. You may apply for support or register for each workshop online.

• *Quantitative and Computational Aspects of Metric Geometry*. January 12–16, 2009.

• *Numerical Approaches to Quantum Many-Body Systems*. January 22–30, 2009.

• *Laplacian Eigenvalues and Eigenfunctions: Theory, Computation, Application*. February 9–13, 2009.

• *Rare Events in High-Dimensional Systems*. February 23–27, 2009.

Quantum and Kinetic Transport Equations: Analysis, Computations, and New Applications, March 9–June 12, 2009. This long program includes the following workshops that are also open for participation. You may apply online for support to be a core participant for the entire program or to attend individual workshops.

• *Tutorials*. March 10–13, 2009.

• *Workshop I: Computational Kinetic Transport and Hybrid Methods*. March 30–April 3, 2009.

• *Workshop II: The Boltzmann Equation: DiPerna-Lions Plus 20 Years*. April 15–17, 2009.

• *Workshop III: Flows and Networks in Complex Media*. April 27–May 1, 2009.

• *Workshop IV: Asymptotic Methods for Dissipative Particle Systems*. May 18–22, 2009.

Research in Industrial Projects for Students (RIPS) 2009. June 21–August 21, 2009. This undergraduate summer research program matches student teams with industrial projects sponsored by industry. Applications are due **February 15, 2009**.

Combinatorics: Methods and Applications in Mathematics and Computer Science. September 8–December 11, 2009. This long program includes the following workshops that are also open for participation. You may apply online for support to be a core participant for the entire program or to attend individual workshops.

• *Tutorials*. September 9–16, 2009.

• *Workshop I: Probabilistic Techniques and Applications*. October 5–9, 2009.

• *Workshop II: Combinatorial Geometry*. October 19–23, 2009.

• *Workshop III: Topics in Graphs and Hypergraphs*. November 2–6, 2009.

• *Workshop IV: Analytical Methods in Combinatorics, Additive Number Theory, and Computer Science*. November 16–20, 2009.

Model and Data Hierarchies for Simulating and Understanding Climate, March 8–June 11, 2010. This long program includes tutorials and four workshops that are also open for participation. You may apply online for support to be a core participant for the entire program or to attend individual workshops.

—From an IPAM announcement