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# 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.

For more information see the website <http://www.nsf.gov/pubs/2007/nsf07502/nsf07502.htm>. The deadline for proposals is **January 28, 2010**.

—From an NSF announcement

## 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 fall session for 2010 will run August 30–November 19, 2010; there will be no summer session in 2010. The stipend for the 12-week session is US\$8,000. Deadline for receipt of materials for the fall program is **May 1, 2010**. More information and application forms and instructions can be found on the website <http://sites.nationalacademies.org/PGA/policyfellows/index.htm> 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](mailto:policyfellows@nas.edu).

—From a National Academies announcement

## EDGE for Women Summer Program

The Enhancing Diversity in Graduate Education (EDGE) Program is a postbaccalaureate summer enrichment program designed to strengthen the ability of women and minority students to successfully complete graduate programs in the mathematical sciences.

The summer program consists of two core courses in analysis and algebra/linear algebra. There will also

be minicourses in vital areas of mathematical research in pure and applied mathematics, short-term visitors from academia and industry, guest lectures, graduate student mentors, and problem sessions. In addition, a follow-up mentoring program and support network will be established with the participants' respective graduate programs.

Applicants to the program should be women who are (1) graduating seniors who have applied to graduate programs in the mathematical sciences, (2) recent recipients of undergraduate degrees who are now entering graduate programs, or (3) first-year graduate students. All applicants should have completed standard junior- or senior-level undergraduate courses in analysis and abstract algebra and have a desire to earn the doctorate degree. Women from minority groups who fit one of the above three categories are especially encouraged to apply. A stipend of US\$2,000 plus travel, room, and board will be provided to participants. Final acceptance to the program is contingent on acceptance to a graduate program in the mathematical sciences.

The EDGE Program will be held in the summer of 2010 at North Carolina State University in Raleigh. The application deadline is **February 15, 2010**. See the website [http://www.edgeforwomen.org/?page\\_id=5](http://www.edgeforwomen.org/?page_id=5) for further information as it becomes available.

—EDGE Program 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; Washington, DC; 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 or teacher credentialing 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 new to teaching and able to demonstrate a strong interest in teaching. Candidates must be U.S. citizens or permanent residents of the United States. The deadline for applications is **February 5, 2010**. For more detailed information, see the website at <http://www.mathforamerica.org/>.

—From an MfA announcement

## ETS Visiting Scholars Program

The Educational Testing Service (ETS) established the ETS Visiting Scholar Program to further its commitment to creating a corporate environment that reflects the culture of its test takers. Each summer, visiting scholars from underrepresented groups spend four weeks at ETS studying issues of test design and learning to develop test

questions and related materials for a variety of assessment programs. Participants may also work on educational measurement and policy issues related to assessment equity and may attend seminars on fairness in testing from question conception through test administration and research.

Each visiting scholar will be in residence at ETS June 7–July 2, 2010. Applicants should be teachers at universities or community colleges, should be members of underrepresented groups, and should have at least three years of teaching experience in U.S. schools. The teaching experience can be in one of nine academic areas, including mathematics and statistics. Visiting scholars receive a US\$3,500 honorarium plus transportation and accommodations.

Further information is available at <http://www.ets.org/visitingscholars>. The deadline for applications is **December 4, 2009**.

—From an ETS announcement

## 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. See the website <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.

**Public Lecture Series.** David Gross (University of California Santa Barbara), 2004 Nobel Laureate in physics, will give a public lecture on Monday, February 22, 2010.

**Winter 2010 Short Programs.** You may apply for support or register for each workshop online.

- *New Directions in Financial Mathematics.* January 5–9, 2010. Includes a short course on environmental markets by Rene Carmona (Princeton University) and on agent-based models by Pierre-Louis Lions (Université de Paris IX).

- *Metamaterials: Applications, Analysis and Modeling.* January 25–29, 2010.

- *Mathematical Problems, Models, and Methods in Biomedical Imaging.* February 8–12, 2010.

- *Statistical and Learning-Theoretic Challenges in Data Privacy.* February 22–26, 2010.

- *Infinite Possibilities Conference (with Building Diversity in Science).* March 19–20, 2010.

**Model and Data Hierarchies for Simulating and Understanding Climate.** March 8–June 11, 2010. 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 9–12, 2010.

- *Workshop I: Equation Hierarchies for Climate Modeling*. March 22–26, 2010.

- *Workshop II: Numerical Hierarchies for Climate Modeling*. April 12–16, 2010.

- *Workshop III: Simulation Hierarchies for Climate Modeling*. May 3–7, 2010.

- *Workshop IV: Data Hierarchies for Climate Modeling*. May 24–28, 2010.

**Research in Industrial Projects for Students (RIPS)**. June 20–August 20, 2010. This undergraduate summer research program matches student teams with projects sponsored by industry. We are expecting to offer programs in Los Angeles, Beijing, and Berlin. Applications are due **February 15, 2010**.

**Networks and Network Analysis for the Humanities: An NEH Institute for Advanced Topics in Digital Humanities**. August 15–27, 2010. A main goal of this institute is to teach humanities scholars some of the most accessible computational tools for the discovery and analysis of networks.

**Modern Trends in Optimization and Its Application**. September 13–December 17, 2010. 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 14–17, 2010.

- *Workshop I: Convex Optimization and Algebraic Geometry*. September 28–October 1, 2010.

- *Workshop II: Numerical Methods for Continuous Optimization*. October 11–15, 2010.

- *Workshop III: Discrete Optimization*. October 26–29, 2010.

- *Workshop IV: Robust Optimization*. November 16–19, 2010.

- *Workshop V: Applications of Optimization in Science and Engineering*. November 29–December 3, 2010.

**Navigating Chemical Compound Space for Materials and Bio Design**. March 14–June 17, 2011. 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 15–18, 2011.

- *Workshop I: Design of Drugs and Chemicals That Influence Biology*. April 4–8, 2011.

- *Workshop II: Optimization, Search and Graph-Theoretical Algorithms for Chemical Compound Space*. April 11–15, 2011.

- *Workshop III: Materials Design in Chemical Compound Space*. May 2–6, 2011.

- *Workshop IV: Physical Frameworks for Sampling Chemical Compound Space*. May 16–20, 2011.

—IPAM announcement

## News from the Mathematical Biosciences Institute

The Mathematical Biosciences Institute (MBI) at the Ohio State University is accepting applications for Early Career Visitors during the 2010–11 year on *Evolution, Synchronization, and Environmental Interactions: Insights from Plants and Insects*. In addition, the MBI is accepting applications for Postdoctoral Fellows to start September 2010.

Early Career Visitors are hired for a term of up to one year. They are engaged in the integrated program of tutorials, working seminars, and workshops tied to the scientific theme of the year, and are expected to interact with local and visiting researchers. More information about the 2010–11 program may be found at <http://mbi.osu.edu/2010/scientific2010.html>. Early Career visiting positions are aimed at non-tenured scientists who currently have continuing employment.

Postdoctoral Fellows are immersed in the topics of the MBI emphasis year programs (see <http://mbi.osu.edu>). The MBI Postdoctoral Fellows engage in a three-year integrated program of tutorials, working seminars or journal clubs, and workshops, and in interactions with their mathematical and bioscience mentors. These activities are geared toward providing the tools to pursue an independent research program with an emphasis on collaborative research in the mathematical biosciences. MBI-facilitated activities for Postdoctoral Fellows are tailored to the needs of each young scientist.

Applications for the Early Career Visitor and Postdoctoral Fellow positions should be submitted online at <http://www.mathjobs.org/jobs/MBI>. Applicants should provide a curriculum vita and a research statement, and arrange for three letters of recommendation. For additional information please contact Rebecca Martin ([rebecca@mbi.osu.edu](mailto:rebecca@mbi.osu.edu) or 614-292-3648). Applications completed before December 16, 2009, will receive full consideration.

—MBI Announcement