Mathematics Opportunities

NSF Programs to Support Research Equipment

The National Science Foundation has issued solicitations for proposals for funding of research equipment through two programs: SCREMS (Grants for Scientific Computing Research Environments for the Mathematical Sciences) and MRI (Major Research Instrumentation).

The SCREMS program plans to make a limited number of grants for the purchase and support of computing equipment dedicated to research in the mathematical sciences. If equipment is requested, the total discounted cost of the equipment portion should be at least $40,000. Some awards may be as high as $200,000, provided a case is made for substantial impact and cost effectiveness. The Division of Mathematical Sciences expects to provide about $1 million for this activity in fiscal year 2001, pending availability of funds. The most recent program solicitation for SCREMS is available on the World Wide Web, NSF Publication NSF 01-16, `http://www.nsf.gov/cgi-bin/getpub?nsf0116/`.

Information about the fiscal year 2001 MRI competition, including the new MRI solicitation, is available at `http://www.nsf.gov/od/oia/programs/mri/start.htm`. The MRI program assists in the acquisition or development of major research instrumentation by U.S. institutions. The maintenance and technical support associated with these instruments is also supported. Proposals may be for a single instrument, a large system of instruments, or multiple instruments that share a common or specific research focus. Approximately $75 million, pending availability of funds, will be available for the MRI program in FY 2001, distributed across all NSF directorates.

MRI is an NSF-wide program, whereas SCREMS is restricted to proposals from mathematical sciences departments. An institution may submit *only two* proposals for instrument acquisition in response to the MRI solicitation, plus a *third* for instrument development. Accordingly, groups of mathematical scientists might find it useful to communicate with related groups or other departments or schools in their respective institutions for preparation and submission of such joint proposals or proposals in which mathematical scientists might participate.

Proposers and institutions are urged to apply through the MRI program if possible; the NSF's Division of Mathematical Sciences will have all equipment proposals (SCREMS and MRI) reviewed together, and there will be no disadvantage to proposals that apply through the MRI. Identical proposals may *not* be sent to both programs. Nevertheless, proposals that do not receive MRI funding may still receive SCREMS funding in the current competition.

Questions can be sent to `screms@nsf.gov`. The deadline for SCREMS is **January 18, 2001**, and the deadline for MRI is **February 7, 2001**.

—From a DMS announcement

Travel Grants for Euler Institute Summer School

The Euler International Mathematical Institute in St. Petersburg, Russia, will host a European Summer School July 9–22, 2001. Sponsored by the European Mathematical Society, the summer school will focus on asymptotic combinatorics, with applications to mathematical physics. The AMS has received a grant from the National Science Foundation to provide travel and subsistence for approximately eight U.S. mathematics graduate students.

The program will be devoted to asymptotic combinatorics and its applications in the theory of integrable systems, random matrices, free probability, and quantum field theory. Attention will also be given to other related topics, including low-dimensional topology, new approaches in Riemann-Hilbert problems, asymptotics of orthogonal polynomials, symmetric functions, representation theory, and random Young diagrams.

The scientific committee for the summer school consists of: A. Vershik, St. Petersburg (chair); O. Bohigas, Paris; and R. Stanley, Cambridge, Massachusetts. The core of the program will be a series of lectures at the predoctoral level held Monday through Saturday mornings. The afternoons will be used for a limited number of talks and informal problem sessions.

To be eligible to apply for the travel grants, a candidate must be a graduate student in a mathematics doctoral program in the U.S. Awardees will be selected by a panel of mathematicians with expertise in the area of the summer school. Instructions for applying for the travel grants may be found at `http://www.ams.org/employment/Euler.html`.

The deadline for applications is **February 15, 2001**. Those with questions may call 800-321-4267, extension 4105.

—Allyn Jackson

IAS/Park City Mathematics Institute

The Institute for Advanced Study (IAS)/Park City Mathematics Institute (PCMI) will hold its 2001 summer session from July 8–28, 2001, in Park City, Utah. The topics are quantum field theory, supersymmetry, and enumerative geometry. The organizers are Daniel S. Freed (University of Texas, Austin), David R. Morrison (Duke University), and Isadore Singer (Massachusetts Institute of Technology). There will be courses on classical field theory, quantum field theory, general relativity, mirror symmetry, and enumerative geometry.

The IAS/PCMI began in 1991 at the University of Utah as a National Science Foundation Regional Geometry Institute. In 1993 the Institute for Advanced Study assumed sponsorship of the program. Each summer the PCMI offers an integrated set of programs for researchers, postdoctorates, graduate and undergraduate students, and teachers.

Further information on the summer program and other IAS/PCMI activities, as well as on application procedures, is available at the Web site `http://www.admin.ias.edu/ma/SummerSession2001.htm`.

—From an IAS/PCMI announcement

Career Awards for Research Addressing Biological Questions

In recognition of the vital role mathematical and physical scientists will play in furthering biomedical research, the Burroughs Wellcome Fund announces a new award program, Career Awards at the Scientific Interface. These awards are intended to foster the early career development of researchers with backgrounds in the physical, mathematical, and computational sciences whose work addresses biological questions and who are dedicated to pursuing a career in academic research.

Applicants are expected to draw from their training in a scientific field other than biology to propose innovative approaches to answer important questions in the biological sciences. Examples of approaches include, but are not limited to, physical measurement of biological phenomena, computer simulation of complex processes in physiological systems, mathematical modeling of self-organizing behavior, building probabilistic tools for medical diagnosis, developing novel imaging tools or biosensors, applying nanotechnology to manipulate cellular systems, predicting cellular responses to topological clues and mechanical forces, and developing a new conceptual understanding of the complexity of living organisms. Proposals that include experimental validation of theoretical models are particularly encouraged.

The awards provide up to $538,000 over five years to support up to two years of advanced postdoctoral training and the first three years of a faculty appointment. During both the postdoctoral and the faculty periods, awards must be taken at degree-granting institutions in the United States or Canada. Up to ten awards will be made.

Candidates must hold a Ph.D. degree in the fields of mathematics, physics, chemistry (physical, theoretical, or computational), computer science, statistics, or engineering. Exceptions will be made only if the applicant can demonstrate significant expertise in one of these areas, evidenced by publications or advanced coursework. Candidates who are not citizens of the United States or Canada must provide documentation of their visa status at the time of application. Permanent residents must provide a copy of their Alien Registration card (green card) for the United States or their Landed Immigrant Status form for Canada. Temporary residents must, at the time of application, present evidence (a copy of their I-797A approval notice and I-94 form) that lawful immigration status has been granted and that it will extend for the duration of the award.

The application deadline is **May 1, 2001**. For more information and complete application materials, visit the Web site `http://www.bwfund.org/interfaces_in_science.htm`. Additional questions about the program may be directed to Debi Linkous, program associate, at 919-991-5116.

—Burroughs Wellcome Fund announcement

Massachusetts Teacher Recruitment Program

Massachusetts has initiated a multi-faceted program to recruit, train, and retain high quality educators. The Massachusetts Signing Bonus program is open to qualified college seniors, recent graduates, and mid-career professionals in all academic areas, including mathematics, who have never been full-time public school teachers.

The program provides a $20,000 signing bonus. In addition, recipients will receive a scholarship for the Massachusetts Institute for New Teachers (MINT), an intensive seven-week teacher training program that includes 100 hours of student teaching and course work including methods of instruction, classroom management, and the use of technology.

The application deadline is **January 31, 2001**. For further information visit the Web site `www.doe.mass.edu/tqe/`, or contact the Massachusetts Department of Education by telephone at 781-338-3232 or by e-mail at `eq@doe.mass.edu`.

—From a Massachusetts Department of Education announcement