Mathematics Opportunities

Proposal Due Dates at the DMS

The Division of Mathematical Sciences (DMS) of the National Science Foundation (NSF) has a number of programs in support of mathematical sciences research and education. Listed below are some of the programs and their proposal due dates for the year 2006. Please refer to the program announcement or contact the DMS staff for more information.

December 13, 2005 (full proposal): East Asia and Pacific Summer Institutes for U.S. Graduate Students

December 20, 2005 (full proposals): Mathematical Sciences: Innovations at the Interface with the Physical and Computer Sciences and Engineering: Interactions between Mathematical Sciences and Physical Sciences (Astronomy; Materials Research)

January 5, 2006 (full proposal): Collaborative Research in Computational Neuroscience

January 13, 2006 (full proposal): Mathematical Sciences: Innovations at the Interface with the Physical and Computer Sciences and Engineering: Interactions between Mathematical Sciences and Physical Sciences (Chemistry)

January 26, 2006 (full proposal): Scientific Computing Research Environments for the Mathematical Sciences (SCREMS)

January 27, 2006 (full proposal): ADVANCE: Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers: Partnerships for Adaptation, Implementation, and Dissemination

February 1, 2006 (full proposal): Collaboration in Mathematical Geosciences

February 19, 2006 (full proposal): Interdisciplinary Grants in the Mathematical Sciences (IGMS)

March 1, 2006 (full proposal): Mathematical Sciences: Innovations at the Interface with the Physical and Computer Sciences and Engineering: Interactions between Mathematical Sciences and Computer Science

March 29, 2006 (full proposal): Interdisciplinary Training for Undergraduates in Biological and Mathematical Sciences

June 2, 2006 (full proposal): University-Industry Cooperative Research Programs in the Mathematical Sciences **June 7, 2006 (full proposal):** Research Experiences for Undergraduates: REU site proposals to the Antarctic Program

July 20, 2006 (full proposal): Faculty Early Career Development (CAREER) Program

August 17, 2006 (full proposal): Research Experiences for Undergraduates: REU site proposals

August 18, 2006 (letter of intent): Focused Research Groups in the Mathematical Sciences

August 24, 2006 (full proposal): Conferences, Workshops, and Special Meetings in the Mathematical Sciences: Special meetings only

September 15, 2006 (full proposal): Focused Research Groups (FRG) in the Mathematical Sciences

September 27, 2006 (full proposal): Education and Interdisciplinary Research

October 3, 2006 (full proposals):Algebra, Number Theory and Combinatorics; Analysis; Foundations

October 18, 2006 (full proposals): Mathematical Sciences Postdoctoral Research Fellowships

November 7, 2006 (full proposals): Geometric Analysis, Probability, Statistics, Topology, Applied Mathematics

November 7, 2006 (full proposal): Quantitative Environmental and Integrative Biology

December 7, 2006 (full proposal): Computational Mathematics

December 18, 2005–January 13, 2006 (full proposal): Mathematical Biology

For further information consult the DMS website at http://www.nsf.gov/div/index.jsp?div=DMS. The mailing address is Division of Mathematical Sciences, National Science Foundation, Room 1025, 4201 Wilson Boulevard, Arlington, VA 22230. The telephone number is 703-292-5111.

-From a DMS announcement

NDSEG Fellowships

As a means of increasing the number of U.S. citizens trained in disciplines of military importance in science and engineering, the Department of Defense (DoD) awards National Defense Science and Engineering Graduate (NDSEG) Fellowships each year to individuals who have demonstrated ability and special aptitude for advanced training in science and engineering. The fellowships are awarded for a period of three years for study and research leading to doctoral degrees in mathematical, physical, biological, ocean, and engineering sciences. The number of fellowships awarded depends on available funding.

The NDSEG Fellowship Program is open only to applicants who are citizens or nationals of the United States. NDSEG Fellowships are intended for students at or near the beginning of their graduate studies in science or engineering. Applicants must have received or be on track to receive their bachelor's degrees by fall of 2006. Applications are encouraged from women, persons with disabilities, and minorities, including members of ethnic minority groups such as African American, American Indian and Alaska Native, Asian, Native Hawaiian and other Pacific Islander, Hispanic, or Latino.

Complete applications must be submitted electronically or postmarked by **January 6, 2006**. Application materials are available from, and completed applications should be returned to, the American Society for Engineering Education (ASEE) at NDSEG Fellowship Program, c/o American Society for Engineering Education, 1818 N Street, N.W., #600, Washington, DC 20036; telephone 202-331-3516; fax 202-265-8504; email: ndseg@asee.org. For further information see the website http://www.asee. org/ndseg/preface.cfm.

-From an NDSEG 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 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 2006 is January 15, 2006. Further information about the fellowship program and application procedures is available online at http://www.aaas.org/programs/education/ MassMedia/index.shtml, 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. 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.

-AMS-AAAS announcement

CMI Liftoff Program for Summer 2006

The Clay Mathematics Institute (CMI) is currently accepting nominations for the 2006 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 2006. 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 Elizabeth Abraham at nominations@claymath.org or by post to Clay Mathematics Institute, One Bow Street, 4th Floor, Cambridge, MA 02138. The deadline for nominations to be received is **February 15, 2006**. For more information see the website http://claymath.org/fas/ liftoff_fellows/; telephone: 617-995-2600; email: nominations@claymath.org.

-From a CMI announcement

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 deskenvironment 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/publications/ pub_summ.jsp?ods_key=nsf05627 for details. The deadline for proposals is January 26, 2006.

-From an NSF announcement

NSF Support for Interactions with Physical and Computer Sciences and Engineering

The National Science Foundation (NSF) offers opportunities for support through its Mathematical Sciences Priority Area (MSPA) program for research involving interactions between mathematical sciences and computer science (MSPA-MCS), engineering (MSPA-ENG), and physical sciences (MSPA-MPS). The goal of MSPA is to advance research in three interlinked areas: fundamental mathematical and statistical sciences, interdisciplinary research involving the mathematical and statistical sciences with science and engineering, and critical investments in mathematical and statistical sciences that embed training in research activities. Investments in interdisciplinary research will focus primarily on mathematical and statistical challenges posed by large data sets, managing and modeling uncertainty, and modeling complex nonlinear systems. Innovative educational activities that foster closer connections between research

and education in the mathematical sciences will also be supported.

For details on each of these areas and application procedures, see the website http://www.nsf.gov/pubs/ 2005/nsf05622/nsf05622.htm. Due dates for proposals are: **December 20, 2005**, for interactions between mathematical sciences and physical sciences pertaining to interactions with astronomy and with materials research; **January 13, 2006**, for interactions between mathematical sciences and physical sciences pertaining to interactions with chemistry; and **March 1, 2006**, for interactions between mathematical sciences and computer science.

-From an NSF announcement

Departments Coordinate Job Offer Deadlines

A group of mathematical sciences departments has adopted an agreement to coordinate deadlines for acceptance of postdoctoral job offers. The purpose is to ensure that applicants do not have to make decisions about job offers before the results of the National Science Foundation (NSF) postdoctoral fellowship competition are announced. The agreement applies only to offers of postdoctoral positions and not tenure-track positions and only to applicants who are less than two years past the Ph.D. The departments have agreed not to require these applicants to decide about a job offer before Monday, February 13, 2006. The NSF has agreed to notify postdoctoral fellowship recipients no later than Wednesday, February 8, 2006. The list of participating departments, together with additional information, may be found on the Web at http://www. ams.org/employment/postdoc-offers.html.

—Allyn Jackson

Call for Contributions for ICMI Study

The International Commission on Mathematical Instruction (ICMI) has announced the seventeenth ICMI study, "Digital technologies and mathematics teaching and learning: Rethinking the terrain". The study will be concerned with the use of digital technologies in mathematics teaching and learning in countries across the world. Participants in the study will be invited on the basis of a submission of between six and eight pages. The deadline for submissions is January 15, 2006. For further information, download the "Discussion Document" and a detailed call for contributions from the webpage http://www.math.msu. edu/~nathsinc/ICMI/. The study conference will take place December 3-8, 2006, at the Hanoi Institute of Technology. Proposals will be reviewed and decisions about invitations to the conference will be sent by the middle of May 2006.

-From an ICMI announcement