
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 2008. Please refer to the program announcement or contact the program director for more information.

December 24, 2007 (preliminary proposal): Center for Research at the Interface of the Mathematical and Biological Sciences (CIMBS)

January 13, 2008 (full proposal): Mathematical Biology

January 24, 2008 (full proposal): Scientific Computing Research Environments for the Mathematical Sciences (SCREMS)

February 19, 2008 (full proposal): Interdisciplinary Grants in the Mathematical Sciences (IGMS)

April 2, 2008 (full proposal): Center for Research at the Interface of the Mathematical and Biological Sciences (CIMBS)

June 2, 2008 (full proposal): University-Industry Cooperative Research Programs in the Mathematical Sciences

June 3, 2008 (full proposal): Enhancing the Mathematical Sciences Workforce in the Twenty-First Century

June 6, 2008 (full proposal): Research Experiences for Undergraduates (REU) site proposals to the Antarctic program

August 15, 2008 (letter of intent): Focused Research Groups (FRG) in the Mathematical Sciences

August 18, 2008 (full proposal): Research Experiences for Undergraduates (REU) site proposals (except to the Antarctic program)

August 28, 2008 (full proposal): Conferences, Workshops, and Special Meetings in the Mathematical Sciences

September 19, 2008 (full proposal): Focused Research Groups (FRG) in the Mathematical Sciences

October 7, 2008 (full proposal): Algebra, Number Theory and Combinatorics; Analysis; Foundations

November 7, 2008 (full proposal): Probability

For further information see the DMS website <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 the DMS website

Call for Nominations for Computer-Aided Verification Award

A new annual award targets significant contributions in the area of computer-aided verification (CAV). It will be presented at the International Conference on Computer-Aided Verification (CAV 2008), to be held at Princeton University July 7-13, 2008. The award will be given for a specific fundamental contribution or a series of outstanding contributions to the field of computer-aided verification. Cited contributions must not have been made more recently than five years ago or longer than twenty years ago. In addition, the contributions should not yet have received recognition with a major award, such as the Association for Computing Machinery (ACM) Turing or Kanellakis Awards. The award of US\$10,000 will be granted to an individual or a group of individuals chosen by the award committee, although the committee may choose to make no award in a given year.

Nominations must clearly state the contribution, explain why the contribution is fundamental or the series of contributions outstanding, and be accompanied by supporting letters and other evidence of worthiness. Nominations should include a proposed citation (up to 25 words), a succinct (100-250 words) description of the contribution, and a detailed statement to justify the nomination.

The deadline for nominations is **January 28, 2008**. For more information, see <http://www.princeton.edu/cav2008>.

—From a CAV Committee 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 2008 is **January 15, 2008**. 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, Director, Mass Media Program, AAAS Mass Media Science and Engineering Fellows Program, 1200 New York Avenue, NW, Washington, DC 20005; telephone 202-326-6641; 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.

—AMS Washington office

National Academies Research Associateship Programs

The Policy and Global Affairs Division of the National Academies is sponsoring the 2008 Postdoctoral and Senior Research Associateship Programs. The programs are meant to provide opportunities for Ph.D., Sc.D., or M.D. scientists and engineers of unusual promise and ability to perform research at more than 100 research laboratories throughout the United States and overseas.

Full-time associateships will be awarded for research in the fields of mathematics, chemistry, earth and

atmospheric sciences, engineering, applied sciences, life sciences, space sciences, and physics. Most of the laboratories are open to both U.S. and non-U.S. nationals and to both recent doctoral recipients and senior investigators. Amounts of stipends depend on the sponsoring laboratory. Support is also provided for allowable relocation expenses and for limited professional travel during the period of the award.

Awards will be made four times during the year, in February, May, August, and November. The deadline for application materials to be postmarked or for electronic submissions for the February 2008 review is **February 15, 2008**. Materials for the May review are due **May 15, 2008**; for the August review, **August 15, 2008**; and for the November review, **November 15, 2008**.

For further information and application materials, see the National Academies website at <http://www7.nationalacademies.org/rap/> or contact Research Associateship Programs, National Research Council, Keck 568, 500 Fifth Street, NW, Washington, DC 20001; telephone 202-334-2760; fax 202-334-2759; email: rap@nas.edu.

—From an NRC announcement

News from the CRM Montreal

The Centre de Recherches Mathématiques (CRM) in Montreal, Canada, has announced its thematic program for the semester running from January to June 2008. It will be devoted to dynamical systems and evolution equations.

The semester will begin January 18–19, 2008, with a Young Mathematicians' Conference, organized by W. Craig (McMaster), A. Nachman (Toronto), D. Pelinovsky (McMaster), M. Pugh (Toronto), and C. Sulem (Toronto). It will be followed by five workshops:

January 24–26, 2008: Initial Conditions. Organizers: W. Craig (McMaster), P. Guan (McGill), and C. Rousseau (Montreal).

April 7–11, 2008: Spectrum and Dynamics. Organizers: D. Jakobson (McGill) and I. Polterovich (Montreal).

April 16–27, 2008: Geometric Evolution. Organizers: V. Apostolov (UQAM), P. Guan (McGill), and A. Stancu (Concordia).

May 12–16, 2008: Singularities, Hamiltonian and Gradient Flows. Organizers: W. Craig (McMaster), C. Rousseau (Montreal), and A. Shnirelman (Concordia).

May 19–24, 2008: Floer Theory and Symplectic Dynamics. Organizers: O. Cornea (Montreal), L. Polterovich (Tel-Aviv), and F. Schlenk (Bruxelles).

The Aisenstadt Lectures will be delivered by Gerhard Huisken from the Max-Planck-Institut für Gravitationsphysik (April 18–22, 2008) and Jean-Christophe Yoccoz from the Collège de France (May 5–9, 2008).

Besides the thematic program, a number of activities will take place at the CRM.

May 5–9, 2008: First CRM-INRIA meeting, organized by M. Thiriet (INRIA), M. Delfour (Montreal), and Y. Bourgault (Ottawa).

June 9–13, 2008: A Celebration of Raoul Bott's Legacy in Mathematics, organized by R. Kotiuga (Boston).

June 22–28, 2008: Eighth International Conference on Symmetries and Integrability of Difference Equations (SIDE8), organized by P. Winternitz (Montreal), D. Levi (Rome), and P. J. Olver (Minnesota).

July 6–11, 2008: Eighth International Conference on Monte Carlo and Quasi-Monte Carlo Methods in Scientific Computing, organized by P. L'Écuyer (Montreal).

Moreover, the CRM will support a colloquium on non-commutative algebra, organized by I. Assem (Sherbrooke), at Sherbrooke University (June 9–14, 2008).

For more information on the lecturers at various events and on the support available for visitors, graduate students, and postdoctoral fellows, see <http://www.crm.umontreal.ca>.

—From a CRM announcement

News from the Fields Institute

The 2008 Winter/Spring thematic program at the Fields Institute will be New Trends in Harmonic Analysis, organized by Alex Iosevich (University of Missouri-Columbia), Izabella Laba (UBC, lead organizer), Michael Lacey (Georgia Institute of Technology), and Eric Sawyer (McMaster University). Information: thematic@fields.utoronto.ca, http://www.fields.utoronto.ca/programs/scientific/07-08/harmonic_analysis/.

The Coxeter Lecture Series will be given by Jill Pipher (Brown) on February 25–27, and Tim Gowers (Cambridge) will deliver the Distinguished Lecture Series in the latter half of March.

Workshops in the program:

January 7–11: Recent Advances in Operator Theory and Function Theory, http://www.fields.utoronto.ca/programs/scientific/07-08/harmonic_analysis/advances/

February 18–24: Harmonic Analysis, http://www.fields.utoronto.ca/programs/scientific/07-08/harmonic_analysis/harmonic/

April 5–13: Clay-Fields Conference on Additive Combinatorics, Number Theory, and Harmonic Analysis (co-organized with the Clay Mathematics Institute), http://www.fields.utoronto.ca/programs/scientific/07-08/harmonic_analysis/combinatorics/

Other events:

January 14–17: Harmonic Mathematical Physics and Geometric Analysis, <http://www.fields.utoronto.ca/programs/scientific/07-08/geomanalysis/>

May 11–13: Carleton Graph Theory Workshop (at Carleton University), http://www.fields.utoronto.ca/programs/scientific/07-08/graph_theory/

May 20–23: Workshop on Taylor Model Methods, <http://www.fields.utoronto.ca/programs/scientific/07-08/taylor-model/>

May 21–23: Symposium on Dependent Data Structures (at Carleton University), <http://www.fields.utoronto.ca/programs/index.html?2008-05>

June 30–July 11: Summer School in Analytic Number Theory and Diophantine Approximation (at the University of Ottawa), <http://www.fields.utoronto.ca/programs/scientific/07-08/analytic/>

July 1–August 31: Thematic Program on Mathematical and Quantitative Oncology, <http://www.fields.utoronto.ca/programs/scientific/08-09/mathoncology>

July 13–18: Canadian Number Theory Association X Meeting (at the University of Waterloo), <http://www.fields.utoronto.ca/programs/scientific/08-09/CNTAX/>

July–August, 2008: Mathematical and Quantitative Oncology, information: thematic@fields.utoronto.ca, <http://www.fields.utoronto.ca/programs/scientific/08-09/mathoncology/>. Workshops in this program: *July 30–August 2:* Society for Mathematical Biology (SMB) Conference (Hosted by the Centre for Mathematical Medicine (CMM) at the Institute), <http://www.fields.utoronto.ca/programs/scientific/08-09/mathoncology/>; *August 2–6:* VICBC Summer School on Integrative Cancer Biology, <http://www.fields.utoronto.ca/programs/scientific/08-09/mathoncology/>

Future thematic programs:

September–December, 2008: Arithmetic Geometry, Hyperbolic Geometry and Related Topics, information: thematic@fields.utoronto.ca, <http://www.fields.utoronto.ca/programs/scientific/08-09/arith-hypergeo/>

January–June, 2009: o-Minimal Structures and Real Analytic Geometry, information: thematic@fields.utoronto.ca, <http://www.fields.utoronto.ca/programs/scientific/08-09/o-minimal/>

January–June, 2010: Financial Mathematics

For more information on this program and any other thematic programs, contact us at thematic@fields.utoronto.ca. Complete and up-to-date information on all Fields Institute activities can be found at <http://www.fields.utoronto.ca>. You can subscribe to our mailing list of Fields Institute activities at <http://www.fields.utoronto.ca/maillist>.

—Fields Institute 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 11, 2008. The NSF has already agreed that it will complete its review of applications by January 31, 2008, at the latest, and that all awardees of NSF postdoctoral fellowships will receive notification electronically by February 7, 2008. The list of participating departments, together with additional information, may be found on the Web at <http://www.ams.org/employment/postdoc-offers.html>.

—Ellen Maycock, AMS Division of Meetings and Professional Services

Clay Institute 2008 Summer School

The Clay Mathematics Institute (CMI) Summer School on Evolution Equations will be held at the Swiss Federal Institute of Technology, ETH-Zurich, Switzerland, June 23–July 18, 2008. On the Scientific Committee are David Alexandre Ellwood, Igor Rodnianski, Gigliola Staffilani, and Jared Wunsch.

Designed for graduate students and postdocs, the program will focus on recent progress in the theory of evolution equations. Such equations lie at the heart of many areas of mathematical physics, arising not only in situations with a manifest time evolution (such as linear and nonlinear wave and Schrödinger equations) but also in the high-energy or semiclassical limits of elliptic problems. A remarkably unified set of techniques can treat mathematical problems as diverse as stability and singularity formation in relativity, mathematical theory of black holes, existence and blow-up of solutions to nonlinear Schrödinger equations, semiclassical asymptotics of quantum-mechanical energy states, and quantum many-body scattering theory. The first three weeks of the school will consist of three parallel courses introducing these techniques together with some applications. The fourth week will consist of minicourses focusing on more advanced topics.

Foundational courses and instructors are the following:

Microlocal Analysis, Spectral and Scattering Theory, Jared Wunsch, Rafe Mazzeo

The Theory of the Nonlinear Schrödinger Equation, Gigliola Staffilani, Pierre Raphaël

Wave Equation and Evolution Problems in General Relativity, Igor Rodnianski, Mihalis Dafermos

Minicourse lecturers include Benjamin Schlein, Michael Struwe, András Vasy, Monica Visan, and others.

Funding is available to graduate students and postdoctoral fellows who are within five years of receipt of the Ph.D. Standard support amounts will include funds for local expenses and accommodations plus economy travel.

The deadline for applications is **February 15, 2008**. For more information and an application form, see <http://www.claymath.org/summerschool> or contact

summerschool@claymath.org, telephone: 617-995-2600.

—Clay Mathematics Institute announcement

IMU Seeks Permanent Location

The Executive Committee of the International Mathematical Union (IMU) would like to find a sustainable location with associated suitable infrastructure at which the IMU secretarial staff could reside for a (long) period of time, and at which the costs of running the IMU operations is either low or covered by some long-term grant/subsidy or the like. The IMU is soliciting from all Adhering Organizations and major mathematical societies and institutions offers or suggestions for the location of such an office.

Since the creation of the (current) IMU in 1951, its legal domicile moved with the IMU secretary. This means that the IMU office has resided in Berlin, Princeton, Rio de Janeiro, Helsinki, Paris, Zurich, Rome, and Copenhagen during these 56 years.

Since IMU activity has considerably increased in recent years, “transition costs” have become a significant factor. Particularly important are knowledge transfer and the many legal problems that go along with moving bank accounts, obtaining non-profit status in a new host country, etc. It would be desirable that there be some place in the world where knowledge about IMU, its activities, and its history were sustained, and that routine activities become really routine and do not have to be learned anew with the change of the IMU officers.

The IMU Executive Committee asks all Adhering Organizations to check out possibilities to host the IMU office starting after 2010. Those countries interested in serving IMU in this respect are requested to contact the IMU secretary, Martin Grötschel (secretary@mathunion.org) for more detailed information. The IMU Circular Letter addressing this matter is available at <http://www.mathunion.org/Publications/CircularLetters.html>.

There is no decisive deadline for a response, but the IMU EC plans to start discussing proposals from interested Adhering Organizations, mathematical societies, or institutions in February 2008. So proposals arriving by the end of January 2008 will be considered in the first round.

—Martin Grötschel