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# Mathematics Opportunities

## AMS Travel Grants for ICM 2014

The American Mathematical Society has applied to the National Science Foundation (NSF) for funds to permit partial travel support for U.S. mathematicians attending the 2014 International Congress of Mathematicians (ICM 2014), August 13–21, 2014, in Seoul, Korea. Subject to the award decision by the NSF, the Society is preparing to administer the selection process, which would be similar to previous programs funded in 1990, 1994, 1998, 2002, 2006, and 2010.

Instructions on how to apply for support will be available on the AMS website at <http://www.ams.org/programs/travel-grants/icm>. The application period will be **September 1–November 15, 2013**. This travel grants program, if funded, will be administered by the Membership and Programs Department, AMS, 201 Charles Street, Providence, RI 02904-2294. You can contact us at [ICM2014@ams.org](mailto:ICM2014@ams.org); 800-321-4267, ext. 4113; or 401-455-4113.

This program is open to U.S. mathematicians (those who are currently affiliated with a U.S. institution). Early-career mathematicians (those within six years of their doctorate), women, and members of U.S. groups underrepresented in mathematics are especially encouraged to apply. ICM 2014 Invited Speakers from U.S. institutions should submit applications if funding is desired.

Applications will be evaluated by a panel of mathematical scientists under the terms of a proposal submitted to the National Science Foundation by the Society.

Should the proposal to the NSF be funded, the following conditions will apply: mathematicians accepting grants for partial support of the travel to ICM 2014 may not supplement them with any other NSF funds. Currently, it is the intention of the NSF's Division of Mathematical Sciences to provide no additional funds on its other regular research grants for travel to ICM in 2014. However, an individual mathematician who does not receive a travel grant may use regular NSF grant funds, subject to the usual restrictions and prior approval requirements.

Visit <http://www.ams.org/programs/travel-grants/icm> for more details. All information currently available about the ICM 2014 program, organization, and registration procedure is located on the ICM 2014 website, <http://www.icm2014.org/>.

—AMS Membership and Programs Department

## Committee on Education Launches New Award

At its January 2013 meeting, the AMS Council gave final approval to a new award proposed by the Committee on Education. The award recognizes outstanding contributions by mathematicians to education in mathematics at the pre-college level and during the first two years of college.

### Award for Impact on the Teaching and Learning of Mathematics

The Award for Impact on the Teaching and Learning of Mathematics was established by the AMS Committee on Education in 2013. The award is given annually to a mathematician (or group of mathematicians) who has made significant contributions of lasting value to mathematics education. Priorities of the award include recognition of (a) accomplished mathematicians who have worked directly with pre-college teachers to enhance teachers' impact on mathematics achievement for all students, or (b) sustainable and replicable contributions by mathematicians to improving the mathematics education of students in the first two years of college.

The endowment fund that supports the award was established by a contribution from Kenneth I. and Mary Lou Gross in honor of their daughters Laura and Karen.

The US\$1,000 award is given annually. The recipient is selected by the Committee on Education.

Nominations for the first award are now open online at [ams.org/profession/prizes-awards/prizes](http://ams.org/profession/prizes-awards/prizes). The nomination deadline is **September 15, 2013**.

The Society gratefully acknowledges Professor and Mrs. Gross for their generosity in creating the endowed fund. Their gift demonstrates their steadfast commitment to mathematics and to preparing our nation's educators to teach it. The Kenneth I. and Mary Lou Gross Fund will provide a perpetual source of support for the new award.

—AMS Committee on Education

## AMS Scholarships for “Math in Moscow”

The Math in Moscow program at the Independent University of Moscow (IUM) was created in 2001 to provide foreign students (primarily from the United States, Canada, and Europe) with a semester-long, mathematically intensive program of study in the Russian tradition of teaching mathematics, the main feature of which has always been the development of a creative approach to studying mathematics from the outset—the emphasis being on problem solving rather than memorizing theorems.

Indeed, discovering mathematics under the guidance of an experienced teacher is the central principle of the IUM, and the Math in Moscow program emphasizes in-depth understanding of carefully selected material rather than broad surveys of large quantities of material. Even in the treatment of the most traditional subjects, students are helped to explore significant connections with contemporary research topics. The IUM is a small, elite institution of higher learning focusing primarily on mathematics and was founded in 1991 at the initiative of a group of well-known Russian research mathematicians, who now make up the Academic Council of the university. Today, the IUM is one of the leading mathematical centers in Russia. Most of the Math in Moscow program’s teachers are internationally recognized research mathematicians, and all of them have considerable teaching experience in English, typically in the United States or Canada. All instruction is in English.

With funding from the National Science Foundation (NSF), the AMS awards five US\$9,000 scholarships each semester to U.S. students to attend the Math in Moscow program. To be eligible for the scholarships, students must be either U.S. citizens or enrolled at a U.S. institution at the time they attend the Math in Moscow program. Students must apply separately to the IUM’s Math in Moscow program and to the AMS Math in Moscow Scholarship program. Undergraduate or graduate mathematics or computer science majors may apply. The deadlines for applications for the scholarship program are **September 15, 2013**, for the spring 2014 semester and **April 15, 2014**, for the fall 2014 semester.

Information and application forms for Math in Moscow are available on the Web at <http://www.mccme.ru/mathinmoscow> or by writing to: Math in Moscow, P.O. Box 524, Wynnwood, PA 19096; fax: +7095-291-65-01; email: [mim@mccme.ru](mailto:mim@mccme.ru). Information and application forms for the AMS scholarships are available on the AMS website at <http://www.ams.org/programs/travel-grants/mimoscow> or by writing to: Math in Moscow Program, Membership and Programs Department, American Mathematical Society, 201 Charles Street, Providence, RI 02904-2294; email: [student-serv@ams.org](mailto:student-serv@ams.org).

—AMS Membership and Programs Department

## Call for Nominations for AWM-Birman Research Prize in Topology and Geometry

The Executive Committee of the Association for Women in Mathematics (AWM) has established the AWM-Joan & Joseph Birman Research Prize in Topology and Geometry to highlight exceptional research in some area of topology/geometry by a woman early in her career. The prize will be awarded every other year, with the first prize presented at the AWM reception at the Joint Mathematics Meetings in San Antonio, Texas, in January 2015.

The prize is made possible by a generous contribution from Joan Birman, whose work has been in low-dimensional topology, and her husband, Joseph, who is a theoretical physicist whose specialty is applications of group theory to solid state physics. Dr. Birman says, “Mathematical research has played a central role in my own life and has been a source of deep personal satisfaction. In addition, some of my closest friendships have come about through joint work. Finally, as a teacher I felt privileged to be there when my students had their own ‘aha’ moments. From my own life I know that creative research in mathematics can present special difficulties when women have young children. I felt the conflict personally when my young children were pulling at my clothing to get my attention, but I was in ‘math mode’. Everything I know suggests that women have greater difficulty handling this particular conflict than men. I also know that children grow up and develop interests of their own, and when that happens the conflict slowly diminishes. Also, if you have experienced the rich satisfaction of creative research at an early career time, you never forget it. Moreover, the math community will almost certainly be welcoming if you have taken a break but then start to have good research ideas again. Those are the reasons why it was an easy decision for us to use money that we’d set aside to encourage research by talented young women through this AWM early career prize. What better use could we find for our money?”

When reviewing nominations for this award, the field will be broadly interpreted to include topology, geometry, geometric group theory, and related areas. Candidates should be women within ten years of receiving their Ph.D.’s or having not yet received tenure. Nominations should be submitted by **February 15, 2014**.

For further information on the AWM-Joan & Joseph Birman Research Prize and nomination materials, please visit <http://www.awm-math.org>.

—AWM announcement

## Call for Nominations for Sloan Fellowships

Nominations for candidates for Sloan Research Fellowships, sponsored by the Alfred P. Sloan Foundation, are due by **September 16, 2013**. A candidate must be a

member of the regular faculty at a college or university in the United States or Canada and must have received the Ph.D. or equivalent within the six years prior to the nomination. For information write to: Sloan Research Fellowships, Alfred P. Sloan Foundation, 630 Fifth Avenue, Suite 2550, New York, New York 10111-0242; or consult the foundation's website: <http://www.sloan.org/fellowships>.

—From a Sloan Foundation announcement

## NSF Focused Research Groups

The Focused Research Groups (FRG) activity of the Division of Mathematical Sciences (DMS) of the National Science Foundation (NSF) supports small groups of researchers in the mathematical sciences.

The deadline date for full proposals is **September 20, 2013**. The FRG solicitation may be found on the Web at [http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5671](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5671).

—From an NSF announcement

## NSF Mathematical Sciences Postdoctoral Research Fellowships

The Mathematical Sciences Postdoctoral Research Fellowship program of the Division of Mathematical Sciences (DMS) of the National Science Foundation (NSF) awards fellowships each year that are designed to permit awardees to choose research environments that will have maximal impact on their future scientific development. Awards of these fellowships are made for appropriate research in areas of the mathematical sciences, including applications to other disciplines. Fellows may opt to choose either a research fellowship or a research instructorship. The deadline for this year's applications is **October 16, 2013**. Applications must be submitted via FastLane on the World Wide Web. For more information see the website [http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5301](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5301).

—From an NSF announcement

## NSA Mathematical Sciences Grants and Sabbaticals Program

As the nation's largest employer of mathematicians, the National Security Agency (NSA) is a strong supporter of the academic mathematics community in the United States. Through the Mathematical Sciences Program, the NSA provides research funding and sabbatical opportunities for eligible faculty members in the mathematical sciences.

*Grants for Research in Mathematics.* The Mathematical Sciences Program (MSP) supports self-directed, unclassified research in the following areas of mathematics: algebra, number theory, discrete mathematics, probability, and statistics. The Research Grants program offers three types of grants: the Young Investigators Grant, the Standard Grant, and the Senior Investigators Grant. The program also supports conferences and workshops (typically in the range of US\$15,000–\$20,000) in these five mathematical areas. The program does not entertain research or conference proposals that involve cryptology. A Special Situation Proposal category is for research experience for undergraduates or events that do not fall within the typical “research” conference format. In particular, MSP is interested in supporting efforts that increase broader participation in the mathematical sciences, promote wide dissemination of mathematics, and promote the education and training of undergraduates and graduate students. Principal investigators, graduate students, and all other personnel supported by NSA grants must be U.S. citizens or permanent residents of the United States at the time of proposal submission. Proposals should be submitted **electronically** by **October 15, 2013**, via the program website: [http://www.nsa.gov/research/math\\_research/index.shtml](http://www.nsa.gov/research/math_research/index.shtml).

*Sabbatical Program.* NSA's Mathematics Sabbatical Program offers mathematicians, statisticians, and computer scientists the unique opportunity to develop skills in directions that would be nearly impossible anywhere else. Sabbatical employees work side by side with other NSA scientists on projects that involve cryptanalysis, coding theory, number theory, discrete mathematics, statistics and probability, and many other subjects. Visitors spend 9–24 months at NSA, and most find that within a very short period of time they are able to make significant contributions.

NSA pays 50 percent of salary and benefits during academic months and 100 percent of salary and benefits during summer months of the sabbatical detail. A housing supplement is available to help offset the cost of local lodging.

Applicants must be U.S. citizens and must be able to obtain a security clearance. A complete application includes a cover letter and curriculum vitae with list of significant publications. The cover letter should describe the applicant's research interests, programming experience and level of fluency, and how an NSA sabbatical would affect teaching and research upon return to academia. Additional information about the Sabbatical Program is available at [http://www.nsa.gov/research/math\\_research/sabbaticals/index.shtml](http://www.nsa.gov/research/math_research/sabbaticals/index.shtml).

For more information about the Grants or Sabbaticals Program, please contact the program office at 301-688-0400. You may also send email to [mspgrants@nsa.gov](mailto:mspgrants@nsa.gov).

—Mathematical Sciences Program announcement

## Research Experiences for Undergraduates

The Research Experiences for Undergraduates (REU) program supports active research participation by undergraduate students in any of the areas of research funded by the National Science Foundation (NSF). Student research may be supported in two forms: REU supplements and REU sites.

REU supplements may be requested for ongoing NSF-funded research projects or may be included in proposals for new or renewal NSF grants or cooperative agreements.

REU sites are based on independent proposals to initiate and conduct undergraduate research participation projects for a number of students. REU site projects may be based in a single discipline or academic department or on interdisciplinary or multidepartment research opportunities with a strong intellectual focus. Proposals with an international dimension are welcomed. A partnership with the Department of Defense supports REU sites in research areas relevant to defense. Undergraduate student participants supported with NSF funds in either supplements or sites must be citizens or permanent residents of the United States or its possessions.

Students may not apply to NSF to participate in REU activities. Students apply directly to REU sites and should consult the directory of active REU sites on the Web at [http://www.nsf.gov/crssprgm/reu/reu\\_search.cfm](http://www.nsf.gov/crssprgm/reu/reu_search.cfm). The deadline for full proposals for REU sites is **August 28, 2013**. Deadline dates for REU supplements vary with the research program; contact the program director for more information. The full program announcement can be found at the website <http://www.nsf.gov/pubs/2009/nsf09598/nsf09598.htm>.

—From an NSF announcement

## Call for Nominations for 2012 Sacks Prize

The Association for Symbolic Logic (ASL) invites nominations for the 2012 Sacks Prize for the most outstanding doctoral dissertation in mathematical logic. The Sacks Prize consists of a cash award and five years' free membership in the ASL. Dissertations must have been defended by September 30, 2013.

General information about the prize is available at <http://www.aslonline.org/info-prizes.html>. For details about nomination procedures, see [http://www.aslonline.org/Sacks\\_nominations.html](http://www.aslonline.org/Sacks_nominations.html).

—From an ASL announcement

## Call for Nominations for Otto Neugebauer Prize

The European Mathematical Society (EMS) is seeking nominations for the Otto Neugebauer Prize for the History of Mathematics. The prize will be awarded “for highly original and influential work in the field of history of mathematics that enhances our understanding of either the development of mathematics or a particular mathematical subject in any period and in any geographical region.” The award comprises a certificate including the citation and a cash prize of 5,000 euros (approximately US\$6,500). The deadline for nominations is **December 31, 2013**. For further information see the website [http://www.euro-math-soc.eu/otto\\_neugebauer\\_prize.html](http://www.euro-math-soc.eu/otto_neugebauer_prize.html).

—From an EMS announcement

## News from PIMS

The Pacific Institute for the Mathematical Sciences (PIMS) invites nominations of outstanding young researchers in the mathematical sciences for postdoctoral fellowships for the year 2014–2015.

Nominees must have a Ph.D. or equivalent (or expect to receive a Ph.D. by December 31, 2014) and must be within three years of receipt of the Ph.D. at the time of the nomination (i.e., Ph.D. received on or after January 1, 2011). The fellowship may be taken up at any time between September 1, 2014, and January 1, 2015. The fellowship is for one year and is renewable, contingent on satisfactory progress, for at most one additional year. PIMS postdoctoral fellows are expected to participate in all PIMS activities related to their areas of expertise and will be encouraged to spend time at more than one site.

Candidates must be nominated by at least one scientist or by a department (or departments) affiliated with PIMS. The fellowships are intended to supplement support provided by the sponsor and are tenable at any of the PIMS Canadian member universities: the University of Alberta, the University of British Columbia, the University of Calgary, the University of Lethbridge, the University of Regina, the University of Saskatchewan, Simon Fraser University, and the University of Victoria, as well as at the PIMS affiliate, the University of Northern British Columbia.

Complete applications must be uploaded to MathJobs by **December 1, 2013**. For further information, see the website <http://www.pims.math.ca/scientific/postdoctoral> or contact [assistant.director@pims.math.ca](mailto:assistant.director@pims.math.ca).

—From a PIMS announcement