
Mathematics Opportunities

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 US, 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 compose 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.

Pending renewal of funding from the National Science Foundation (NSF), the AMS intends to award five scholarships in the amount of US\$9,800 for the spring 2016 semester and five scholarships in the amount of US\$10,200 for the fall 2016 semester to US students to attend the Math in Moscow program. To be eligible for the scholarships, students must be either US citizens or enrolled at a US 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, 2015** for the spring 2016 semester and **April 15, 2016** for the fall 2016 semester. Information and application forms for Math in Moscow are available on the Web at www.mccme.ru/mathinmoscow or by writing to: Math in Moscow, P.O. Box 524, Wynnewood, PA 19096; fax: +7095-291-65-01; email: mim@mccme.ru.

Information and application forms for the AMS scholarships are available on the AMS website at 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.

—AMS Membership and Programs Department

Call for Nominations for Abel Prize

The Norwegian Academy of Science and Letters awards the Abel Prize each year to recognize outstanding scientific work in the field of mathematics, including mathematical aspects of computer science, mathematical physics, probability, numerical analysis and scientific computing, statistics, and also applications of mathematics in the sciences. The prize carries a cash award of 6 million NOK (approximately US\$786,000). The deadline for nominations is **September 15, 2015**. For more information see www.abel-prize.no/c53676/artikkel/vis.html?tid=53705.

—From a Norwegian Academy announcement

Applications for Adams Prize 2015–2016

Applications are being accepted for the 2015–2016 Adams Prize, which will be awarded for achievements in the field of applied analysis. The prize is open to any person under the age of forty who will hold an appointment in the United Kingdom either in a university or in some other institution as of October 31, 2015. (In exceptional circumstances the age limit may be relaxed.) The value of the prize is expected to be approximately £15,000 (approximately US\$23,000), of which one-third is awarded to the prizewinner on announcement of the prize, one-third is provided to the prizewinner's institution (for research expenses of the prizewinner), and one-third is awarded to the prizewinner on acceptance for publication in an internationally recognized journal of a substantial (normally at least twenty-five printed pages) original article of which the prizewinner is an author, surveying a significant part of the winner's field.

The deadline for receipt of applications is **October 31, 2015**. For more information see the website www.maths.cam.ac.uk/news/4.html.

—*From a University of Cambridge announcement*

Call for Nominations for 2016 Sunyer Prize

The Ferran Sunyer i Balaguer Foundation seeks nominations for the 2016 Ferran Sunyer i Balaguer Prize. The prize is awarded for a mathematical monograph of an expository nature presenting the latest developments in an active area of research in mathematics. The prize consists of 15,000 euros (approximately US\$16,700), and the winning monograph will be published in Birkhäuser Verlag's series Progress in Mathematics. The deadline for nominations is **December 3, 2015**. For more information see the website ffsb.iec.cat.

—*Fundació Ferran Sunyer i Balaguer announcement*

Call for Nominations for 2016 IBC Prize

This annual prize is for outstanding achievement in information-based complexity. The prize consists of US\$3,000 and a plaque. The award can be based on work done in a single year, in a number of years, or over a lifetime. The work can be published in any journal, number of journals, or monographs. Nominations may be sent to Joseph F. Traub at traub@cs.columbia.edu. However, a person does not have to be nominated to win the award. The deadline for nominations is **March 31, 2016**.

—*Joseph F. Traub, Columbia University*

NSF Focused Research Groups

The Focused Research Groups (FRG) activity of the Division of Mathematical Sciences (DMS) of the National Science Foundation (NSF) supports projects for which the collective effort by a group of researchers in the mathematical sciences is necessary to reach the scientific goals. The deadline date for full proposals is **September 18, 2015**. The FRG program page may be found at www.nsf.gov/funding/pgm_summ.jsp?pims_id=5671.

—*From an NSF announcement*

Joint DMS/NIGMS Initiative to Support Research at the Interface of the Biological and Mathematical Sciences

The Division of Mathematical Sciences (DMS) in the Directorate for Mathematical and Physical Sciences (MPS) at the National Science Foundation (NSF) and the National Institute of General Medical Sciences (NIGMS) at the National Institutes of Health support research in mathematics and statistics on questions in the biological and biomedical sciences. Both agencies recognize the need and urgency for promoting research at the interface between the mathematical sciences and the life sciences. This program is designed to encourage new collaborations, as well as to support existing ones. The deadline date for full proposals is **September 15, 2015**. For more information see the website www.nsf.gov/funding/pgm_summ.jsp?pims_id=5300&org=NSF&se1_org=NSF&from=fund.

—*From an NSF announcement*

NSA Mathematical Sciences Grants 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 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. This year, following a policy announced on our website last year, the Research Grants program will accept proposals for Young Investigator Grants and proposals to support Conferences/Workshops/Special Situations (including Research Experiences for Undergraduates, as well as other innovative programs at a university in one of the five designated areas). The Young Investigator Grant is open to individuals who have completed the PhD

within the last ten years. The program does not entertain research or conference proposals that involve cryptology. In particular, the MSP is committed to 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 US citizens or permanent residents of the United States at the time of the proposal submission. Proposals should be submitted electronically by **October 15, 2015**, via the program website: www.nsa.gov/research/math_research/index.shtml.

For more information about the Grants Program, please contact the program office at 443-634-4304. You may also send email to mspgrants@nsa.gov.

—From an NSA 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 may offer interdisciplinary or multidepartment research opportunities with a coherent intellectual theme. Proposals with an international dimension are welcome. Undergraduate student participants supported with NSF funds in either supplements or sites must be US citizens, US nationals, or permanent residents of the United States or its possessions.

Students may not apply to NSF to participate in REU activities. Students should apply directly to REU sites and should consult the directory of active REU sites on the Web at www.nsf.gov/crssprgm/reu/reu_search.cfm. The deadline for full proposals for REU sites is **August 26, 2015**. 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 www.nsf.gov/funding/pgm_summ.jsp?pims_id=5517.

—From an NSF announcement

Call for Nominations for Gerald Sacks Prize

The Association for Symbolic Logic (ASL) invites nominations for the Gerald 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. The deadline for nominations is **September 30, 2015**, and dissertations must have been defended by that date. General information about the prize is available at www.aslonline.org/info-prizes.html. For details about nomination procedures, see www.aslonline.org/Sacks_nominations.html.

—From an ASL announcement

Call for Nominations for AWM Falconer Lectureship

The Association for Women in Mathematics (AWM) and the Mathematical Association of America (MAA) annually present the Etta Z. Falconer Lecture to honor women who have made distinguished contributions to the mathematical sciences or mathematics education. These one-hour expository lectures are presented at MAA MathFest each summer. The deadline for nominations is **September 1, 2015**. For more information see the website <https://sites.google.com/site/awmmath/programs/falconer-lectures>.

—From an AWM announcement

Call for Nominations for AWM Schafer Prize

The Association for Women in Mathematics (AWM) calls for nominations for the Alice T. Schafer Mathematics Prize to be awarded to an undergraduate woman for excellence in mathematics. The nominee may be at any level in her undergraduate career but must be an undergraduate when nominated. The deadline for nominations is **September 15, 2015**. For more information, see the website <https://sites.google.com/site/awmmath/programs/schafer-prize>.

—From an AWM announcement

Mathematical Sciences Research Institute, Berkeley, CA

MSRI invites applications for forty Research Professors, two hundred Research Members, and thirty semester-long Postdoctoral Fellows in the following programs:

Geometric Group Theory (August 15–December 16, 2016), **Analytic Number Theory** (January 17–May 26, 2017), and **Harmonic Analysis** (January 17–May 26, 2017). Research Professorships are intended for senior researchers who will be making key contributions to a program, including the mentoring of postdoctoral fellows, and who will be in residence for three or more months. Research Memberships are intended for researchers who will be making contributions to a program and who will be in residence for one or more months. Postdoctoral Fellowships are intended for recent PhDs. Interested individuals should carefully describe the purpose of their proposed visit and indicate why a residency at MSRI will advance their research program. To receive full consideration, application must be complete, including all letters of support, by the following deadlines: Research Professorships, **October 1, 2015**; Research Memberships, **December 1, 2015**; Postdoctoral Fellowships, **December 1, 2015**. Application information can be found at <https://www.msri.org/web/msri/scientific/member-application>.

It is the policy of MSRI actively to seek to achieve diversity in its programs and workshops. Thus, a strong effort is made to remove barriers that hinder equal opportunity, particularly for those groups that have been historically underrepresented in the mathematical sciences.

Programs funded by the National Science Foundation.

—From an MSRI announcement

Modern Math Workshop 2015, Washington, DC

The nine NSF-funded US-based math institutes present the annual Modern Math Workshop (MMW) on **October 28–29 (Wednesday–Thursday)** in the Washington DC area. The MMW is part of the institutes' Mathematical Sciences Diversity Initiatives, and the workshop is a pre-conference activity of the SACNAS National Conference (Society for Advancement of Hispanics/Chicanos and Native Americans in Science; see sacnas.org/events/national-conf). The MMW includes two mini-courses for undergraduates and talks related to the research programs at the math institutes that would be of interest to graduate students and early-career researchers. The workshop is intended to encourage minority undergraduates to pursue careers in the mathematical sciences and to assist undergrads, graduate students, and recent PhDs in building their research networks. The MMW culminates on October 29 with a plenary lecture by Dr. Freeman Hrabowski, president of UMBC (The University of Maryland, Baltimore County). Minority undergraduates, graduate students, and postdocs are encouraged to attend the workshop. For more information and to register, please see www.msri.org/e/MMW2015.

—From an MSRI announcement

Call for Nominations for PIMS Postdoctoral Fellowship Competition

The Pacific Institute for the Mathematical Sciences (PIMS) invites nominations of outstanding young researchers in the mathematical sciences for Postdoctoral Fellowships for the year 2016–2017.

Candidates must be nominated by a scientist or department affiliated with PIMS; please note that **application is by nomination only**.

The fellowships are intended to supplement support provided by the sponsor and are tenable at any of the PIMS Canadian member universities. Complete applications must be uploaded to MathJobs at: mathjobs.org/jobs/PIMS by **December 1, 2015**. For further information, visit: www.pims.math.ca/scientific/postdoctoral or contact: assistant.director@pims.math.ca.

—From a PIMS announcement

Clay Research Conference and Workshops

The 2015 Clay Research Conference will be held **September 30** at the Mathematical Institute of the University of Oxford. The plenary speakers are:

Charles Fefferman (Princeton); Mike Hopkins (Harvard); Maryam Mirzakhani (Stanford); Andrei Okounkov (Columbia); Peter Scholze (Bonn).

The 2014 Clay Research Award will be presented to Maryam Mirzakhani for her many significant contributions to geometry and ergodic theory. The recipient of the 2015 Clay Research Award will also be announced.

Associated workshops will be held throughout the week of the conference, **September 28–October 2**:

Algebraic Topology: Manifolds unlocking higher structures (Mike Hopkins and Ulrike Tillmann)

- Geometry and Dynamics of Moduli Spaces (Alex Eskin, Giovanni Forni, and Anton Zorich)
- Motives and Automorphic Forms (Minhyong Kim and Peter Scholze)
- Water Waves and Related Fluid Models (Alexandru Ionescu and Steve Shkoller)

Registration for the Clay Research Conference is free, but required. Participation in the workshops is by invitation. Limited accommodation is available for PhD students and early career researchers. For more information email Naomi Kraker at admin@claymath.org. For full details, see www.claymath.org.

—From an MSRI announcement