Mathematics Opportunities

Humboldt Foundation Offers Fellowships

The Alexander von Humboldt Foundation awards annual fellowships to foreign scholars holding doctorates to support research projects of their own choosing in Germany. The fellowships are offered for research visits of between six and twelve months. Applicants from all countries and in all academic disciplines may apply. The fellowships are awarded to scholars under forty years of age. Approximately 500 research fellowships are available each year. Decisions are based primarily on the quality and feasibility of the proposed research projects and on the applicants' international publications.

For more information on application requirements and procedure, consult the foundation's website at `http://www.avh.de/en/programme/stip_aus/index.htm`.

—From a Humboldt Foundation announcement

Call for Applications for AMS Epsilon Fund

The AMS Epsilon Fund awards grants to summer mathematics programs that support and nurture mathematically talented high school students in the United States. The deadline for application for funding for summer 2004 programs is **December 15, 2003**. Application materials are available at `http://www.ams.org/careers-edu/epsilon.html` or by mail: Membership and Programs Department, AMS, 201 Charles Street, Providence, RI 02904; telephone 800-321-4267, ext. 4105; email: `prof-serv@ams.org`.

—Diane M. Boumenot, AMS Membership and Programs Department

AWM Collaborative Research Grants for Women

The Association for Women in Mathematics (AWM), with the support of the University of North Texas and the National Science Foundation (NSF), announces a short-term program of Collaborative Research Grants (pending final approval) to enable tenured women to carry out collaborative research at other institutions. The length of stay may vary from one week to several months. Partial support will be provided for longer stays. Each grant will fund travel, accommodations, and other required expenses for a tenured woman mathematician to travel to an institute or a department to do research with a specified individual. Typical grants will be under $4,000, although higher amounts may be awarded in exceptional cases. All travel must be completed by August 31, 2004.

Applicants must be women who have tenure or equivalent experience and have a work address in the United States. The applicant's research must be in a field that is supported by the NSF's Division of Mathematical Sciences. The deadline for applications is **October 10, 2003**.

For more information, see the website `http://www.awm-math.org/news/collab.html`.

—From an AWM announcement

Call for Nominations for Popov Prize

The Fourth Vasil A. Popov Prize will be awarded at the Eleventh International Conference on Approximation Theory to be held May 18–22, 2004, in Gatlinburg, Tennessee. The prize has been established in memory of Vasil A. Popov and his contributions to approximation theory and related areas of mathematics.

The prize is awarded every three years for outstanding research contributions in fields related to Vasil Popov's work. Eligibility for this prize is restricted to young mathematicians (defined as a person who is six years beyond the Ph.D.) who did not have their terminal degree on June 1, 1997. The winner of the prize will be asked to deliver a plenary lecture at the conference.

The first prize in 1995 was awarded to Albert Cohen (University of Paris, Jussieu); the second prize in 1998 to Arno Kuijlaars (Katholieke Universiteit, Leuven, Belgium); and the third prize in 2001 to Emmanuel Candes (California Institute of Technology).

The selection committee for the Fourth Vasil A. Popov Prize consists of Charles Chui, Ronald DeVore, Paul Nevai, Allan Pinkus, Pencho Petrushev, and Edward Saff.

Nominations for the award and any supporting material should be sent by **January 15, 2004,** to: Ronald A. DeVore, Director, Industrial Mathematics Institute, Department of Mathematics, University of South Carolina, Columbia, SC 29208, USA.

Nominations must include a brief description of the research related to the nomination and a vita of the nominee. Other supporting material may also be submitted.

—Announcement of Popov Prize Committee

Call for Nominations for EMS Prizes

The European Mathematical Society (EMS) will award ten EMS Prizes at the Fourth European Congress of Mathematicians (4ECM), to be held in Stockholm, Sweden, June 27 to July 2, 2004. The award is comprised of a certificate and a cash prize of 5,000 euros (about US$5,600).

Any European mathematician who has not reached his or her thirty-fifth birthday on June 30, 2004, and who has not previously received the prize is eligible for an EMS Prize. Mathematicians are defined to be "European" if they are of European nationality or their normal place of work is within Europe. Prizes are to be awarded for the best work published before December 31, 2003.

The prize committee, headed by Nina Uraltseva (St. Petersburg), is responsible for solicitation and evaluation of nominations. Nominations for the prize must reach the office in Stockholm no later than **February 1, 2004**. For further information, visit the website `http://www.math.kth.se/4ecm/nomination.html`, or write to: 4ECM Organizing Committee, Ari Laptev, Department of Mathematics, Royal Institute of Technology, SE-100 44 Stockholm, Sweden; email: `laptev@math.kth.se` or `uunur@nur.usr.pu.ru`.

—From an EMS announcement

AWM Essay Contest

To increase awareness of women's ongoing contributions to the mathematical sciences, the Association for Women in Mathematics (AWM) is holding an essay contest for biographies of contemporary women mathematicians and statisticians in academic, industrial, and government careers. The 2003 contest is sponsored by the Simulation Enabled Product Realization Program at Sandia National Laboratories.

The essays will be based primarily on interviews with women who are currently working in mathematical sciences careers. The contest is open to students in the following categories: 6th–8th grade, 9th–12th grade, undergraduate, and graduate. At least one winning submission will be chosen from each category. Winners will receive a prize, and their essays will be published online at the AWM website. A grand prize winner will have his or her submission published in the *AWM Newsletter* as well. The deadline for entries is **October 31, 2003**.

In addition to student entries, organizers are currently seeking women mathematicians to volunteer as the subjects of these essays.

For more information, go to `http://www.awm-math.org/biographies/contest.html` or contact Victoria Howle, the contest organizer, by email at `vehowle@sandia.gov`.

—From an AWM announcement

Cryptology Paper Competitions

The journal *Cryptologia* has announced two paper competitions for undergraduate students: the Annual Undergraduate Paper Competition on Cryptology and the Annual Greg Mellen Memorial Cryptology Scholarship Prize. Papers may focus on any area of cryptology, including technical, historical, and literary subjects. Each competition offers a $300 prize and publication in *Cryptologia*.

Deadline for entries is **December 31, 2003**. Information may be obtained from *Cryptologia*, Department of Mathematical Sciences, United States Military Academy, West Point, NY 10996; email: `Cryptologia@usma.edu`; or from the Website `http://www.dean.usma.edu/math/pubs/cryptologia/`.

—Cryptologia announcement

AMS-AAAS Mass Media Summer Fellowships

The American Association for the Advancement of Science 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 the AMS-sponsored fellows have held positions at *Business Week*, National Geographic Television, *The Chicago Tribune*, and *Time* magazine.

Fellows receive a weekly stipend of $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, DC, 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 2004 is **January 15, 2004**. Further information about the fellowship program and application procedures is available online at `http://ehrweb.aaas.org/massmedia.htm`; or contact Katrina Malloy, Program Coordinator, AAAS Mass Media Science and Engineering Fellows Program, 1200 New York Avenue, NW, Washington, DC 20005; telephone: 202-326-6760; fax: 202-371-9849; or the AMS Washington Office, 1527 Eighteenth Street, NW, Washington, DC 20036; telephone: 202-588-1100; fax: 202-588-1853; email: `amsdc@ams.org`.

—Elaine Kehoe

News from the Isaac Newton Institute for Mathematical Sciences

The Isaac Newton Institute for Mathematical Sciences in Cambridge, United Kingdom, announces the following schedule of programs for 2004.

Statistical Mechanics of Molecular and Cellular Biological Systems, January 19–July 9, 2004.

Organizing Committee: T. Duke (Cambridge University), J. Molloy (York University), T. McLeish (Leeds University), W. Poon (Edinburgh University), P. Stockley (Leeds University), J. Trinick (Leeds University).

The distinctive issues of this program of four sub-themes arise at the sub-micron domain in which Brownian motion becomes important and where biochemical processes work with (or against) the tendency to approach thermodynamic equilibrium. Throughout is the creative tension between highly evolved and specific biological form and function on the one hand and the overarching statistical mechanics on the other. The program will be structured along four linked themes: (1) Single molecule biophysics (including protein dynamics, mechanical force spectroscopy); (2) Membrane/cortical dynamics and self-assembly (including lipid phase separation, motility and interaction with the extracellular matrix); (3) Molecular motors (including modeling of single-molecule motors in the presence of noise, cooperative behavior, etc.); and (4) Molecular and cellular aspects of gene expression (including DNA binding proteins and complexes, cell division, trans-membrane signalling, networks or polymerization and depolymerization).

A workshop on Soft Condensed Matter Physics in Molecular and Cell Biology will be held March 29 through April 8 in Edinburgh.

For more information contact T. McLeish, Department of Physics and Astronomy, University of Leeds; email: `t.c.b.mcleish@leeds.ac.uk`; or see `http://www.newton.cam.ac.uk/programs/SMC/smc.html`.

Random Matrix Approaches in Number Theory, January 26–July 16, 2004.

Organizing Committee: B. Conrey (American Institute of Mathematics); P. Diaconis (Stanford University); F. Mezzadri (Bristol University); P. Sarnak (Princeton University); N. C. Snaith (Bristol University).

The program will mainly focus on how random matrix theory can further contribute to unanswered questions in number theory and on how to put the connection between random matrices and number theory on a rigorous footing. However, both random matrix theory and number theory individually play significant roles in theoretical physics and probability: random matrix statistics appear in the spectra of quantum systems whose classical limit is chaotic, the problem of quantum unique ergodicity has connections with the theory of modular surfaces and algebraic number theory, many of the main results on the statistics of ensembles of random matrices have been the work of probabilists, the Riemann zeta function even shows up in the theory of Brownian motion—and this is just to name a few. These themes will also be developed through focused workshops. The main goal of this program is to draw on the expertise of these diverse groups to produce new ideas on how random matrix theory can tackle important problems in number theory.

Workshops will include: Ranks of Elliptic Curves and Random Matrix Theory, February 9–13; Recent Perspectives in Random Matrix Theory and Number Theory, March 29–April 8; Random Matrices and Probability, May 18–21, at the University of Warwick; Random Matrix Theory and Arithmetic Aspects of Quantum Chaos, June 28–July 2; and Matrix Ensembles and L-Functions, July 12–16.

For more information contact N. C. Snaith, School of Mathematics, University of Bristol: email: `N.C.Snaith@bristol.ac.uk`; or see `http://www.newton.cam.ac.uk/programs/RMA/rma.html`.

—From a Newton Institute announcement