
Mathematics Opportunities

NSF-CBMS Regional Conferences for 1997

Contingent upon funding from the National Science Foundation (NSF), the Conference Board of the Mathematical Sciences will hold six NSF-CBMS Regional Conferences in the summer of 1997. These conferences are intended to stimulate interest and activity in mathematical research.

Each five-day conference features a distinguished lecturer who speaks on a topic of current research. Support for about thirty participants is provided for each conference. The conference organizers invite both established researchers and interested newcomers, including postdoctoral researchers and graduate students.

The title of each conference appears below, followed by the name of the principal speaker, the date, the location, and the names of the organizers, who can be contacted for more information.

Numerical Analysis of Hamiltonian Differential Equations, J. M. Sanz-Serna. June 2-6, Colorado School of Mines. Contact Erik S. Van Vleck, 303-273-3553, evanvlec@mines.edu; or Graeme Fairweather, 303-273-3502, gfairwea@mines.edu; World Wide Web <http://www.mines.edu/Academic/macnsfcbms/>.

Dynamical Systems in Structured Population Dynamics, J. M. Cushing. June 3-8, North Carolina State University. Contact John E. Franke, 919-515-2381, franke@math.ncsu.edu; or Abdul-Aziz Yakubu, 202-806-6830, aziz@scs.howard.edu; World Wide Web <http://www2.ncsu.edu/math/Announcements/DSSPD/>.

Shock Wave Theory, Tai-Ping Liu. June 9-13, Georgia Institute of Technology. Contact Shi Jin, 404-894-5463, jin@math.gatech.edu.

Longitudinal Data Analysis, Nan M. Laird. June 10-14, University of Missouri-Columbia. Contact Paul L. Speckman, 573-882-6376, speckman@stat.missouri.edu; World Wide Web <http://www.stat.missouri.edu/longitudinal.html>.

The Monge-Ampère Equation: Applications to Geometry and Optimization, Luis Caffarelli. July 9-13, Florida Atlantic University. Contact Mario Milman, 561-367-3352, milman@acc.fau.edu; World Wide Web <http://www.math.fau.edu/htmlfile/CBMS.htm>.

Spectral Problems in Geometry and Arithmetic, Peter Sarnak. August 18-22, University of Iowa. Contact Thomas P. Branson, 319-335-0744, branson@math.uiowa.edu; Palle E. T. Jorgensen, 319-335-0782, jorgen@math.uiowa.edu; Florin Radulescu, 319-335-0775, radulesc@math.uiowa.edu; World Wide Web <http://www.math.uiowa.edu/faculty/cbms.html>.

Those interested in submitting proposals for future NSF-CBMS conferences should consult the announcement describing the call for proposals in this section of the *Notices*.

—CBMS Announcement

NSF Opens Competition for Mathematics Institutes

For the past fifteen years, the Division of Mathematical Sciences (DMS) of the National Science Foundation (NSF) has supported two institutes: the Mathematical Sciences Research Institute in Berkeley, and the Institute for Math-

ematics and its Applications in Minneapolis. The purpose of the Institutes was to stimulate research in diverse problem areas among both able mature mathematical scientists and promising younger researchers. Initially, the awards were on a five-year trial basis. Since then there have been periodic reviews and evaluations, and annual renewal funding for these institutes continues through the present. However, periodic reevaluation of all such awards is desirable, and in that light the institutes activity of DMS is being recomputed.

DMS anticipates supporting several institutes. These institutes may have different missions but will allow scholars and researchers to come together and share ideas, thus contributing to the identification and solution of important problems in the mathematical sciences. Several possible models and variations may be considered, including the traditional and existing institutes, regional institutes or consortia of such, conference centers, or distributed institutes ("centers without walls"). Such an institute should provide an environment in which mathematical scientists, and perhaps other scientists, from different disciplines, locations, and career stages, can interact. Proposals may be submitted by colleges, universities, and other nonprofit institutions in the United States. It is expected that any awards made will be NSF grants of at least \$1 million per year for five years, to support the activities of the institutes, with the initial award starting in fall 1999.

The deadline for submission of proposals is **February 2, 1998**. The program solicitation is available on the DMS Web site, <http://www.nsf.gov/mps/dms>, or by contacting the DMS at: Division of Mathematical Sciences, Room 1025, National Science Foundation, 4201 Wilson Boulevard, Arlington, VA 22230; telephone 703-306-1870.

—from DMS Announcement

News from the Euler Institute

From June 16 to 20, 1997, the Euler Institute in St. Petersburg, Russia, will hold the First International Conference on Problems of Dynamic Objects Logic—Linguistic Control. Chairing the program committee are Andrey E. Gorodetsky, Nikolai Lyashenko, and Leon Reznik. For those who wish to attend, abstracts and brief information about authors must be received by **March 1, 1997**, and the full text of papers and registration fees must be received by **May 1, 1997**. For further information, contact Prof. A. E. Gorodetsky, 61, Bolshoy Prospect V.O., St. Petersburg 199178, Russia; telephone 7-812-217-0963; fax 7-812-217-8614; e-mail dol1c@asdf.ipme.ru.

From June 30 to July 5, 1997, the Euler Institute will host the International Algebraic Conference dedicated to D. K. Faddeev. The conference will coincide with the 90th anniversary of the birth of the distinguished mathematician Dmitrii Konstantinovich Faddeev (1907–1989). The conference will focus on algebraic geometry, algebraic number theory, Galois theory, representation theory, rings and modules, the theory of groups and semigroups, and algo-

rithmic and numerical problems of algebra. Plans include a session dedicated to Vera Nikolaevna Faddeeva (1906–1983). For further information, contact the Chairman of Coordination Committee: A.V. Yakovlev, Department of Algebra and Number Theory, Bibliotechnaya Square, 2, Staryi Petergof, St. Petersburg 198904, Russia; e-mail Yakovlev@pdmi.ras.ru.

Information on both programs can be found at the Euler Institute Web site, <http://www.pdmi.ras.ru/EIMI/>.

—from Euler Institute Announcement

Group Infrastructure Grants

The Division of Mathematical Sciences (DMS) of the National Science Foundation (NSF) plans to make a small number of awards in fiscal year 1997 addressing infrastructure needs of research groups. Proposals for these Group Infrastructure Grants (GIGs) may include requests for any infrastructure or research-supportive needs, including but not limited to such needs as support for graduate and undergraduate students, postdoctoral investigators, computer support personnel and maintenance, visitors and consultant services; support for travel, workshops, conferences, special research years, and other budget items essential for the success of proposed activities, including indirect costs. Groups of researchers, possibly at different institutions, with related research goals are invited to submit proposals. GIG awards will contain no salary for senior faculty. Requests should be justified on the basis of enhanced activity, increased research productivity, and human resource development.

The deadline for proposals is **January 16, 1997**. The solicitation is now available via URL <http://www.nsf.gov/mps/dms/gig.htm>, and the unformatted text version will soon appear on the NSF Gopher server STIS.nsf.gov as publication number NSF97-8 (file name `nsf978.txt`). The mailing address for the DMS is: Division of Mathematical Sciences, National Science Foundation, 4201 Wilson Boulevard, Arlington, VA 22230. The telephone number is 703-306-1870.

—DMS Announcement

Call for Proposals for NSF-CBMS Regional Conferences

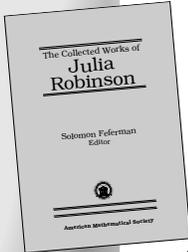
The National Science Foundation (NSF), with the sponsorship of the Conference Board of the Mathematical Sciences (CBMS), intends to support up to five NSF-CBMS Regional Research Conferences in 1998.

These five-day conferences feature a distinguished lecturer who delivers ten lectures on a sharply focused topic of current research in the mathematical sciences. The lecturer subsequently prepares a monograph which, depending on the topic, is published by the AMS, or the Society for

Logic and Foundations

The Collected Works of Julia Robinson

Solomon Feferman, *Stanford University, CA*



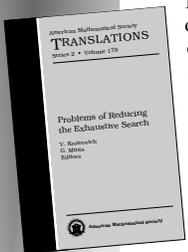
This volume presents all the published works—spanning more than thirty years—of Julia Bowman Robinson. These papers constitute important contributions to the theory of effectively calculable functions and to its applications. Outstanding among the latter are Robinson’s proof of the effective unsolvability of the decision problem for the rational number field (and, consequently of that for the first-order theory of all fields), and her work that provided the central step toward the negative solution of Hilbert’s Tenth Problem. These results provide upper bounds for what one can hope to obtain in the way of positive solutions to the decision problem for special classes of fields and for special classes of diophantine equations, respectively. Besides thematic unity, Robinson’s papers are distinguished by their clarity of purpose and accessibility to non-specialists as well as specialists.

The volume also includes an extensive biographical memoir on the life and work of Robinson, who will be remembered not only for her distinctive and vital contributions, but also as the first woman to be elected to the mathematical section of the National Academy of Sciences and as the first woman to be President of the American Mathematical Society.

Collected Works, Volume 6; 1997; 390 pages; Hardcover; ISBN 0-8218-0575-4; List \$69; Individual member \$41; Order code CWORKS/6NA

Problems of Reducing the Exhaustive Search

V. Kreinovich, *University of Texas at El Paso*, and G. Mints, *Stanford University, CA*



This collection contains translations of papers on propositional satisfiability and related logical problems which appeared in *Problemy Sokrashcheniya Perebora*, published in Russian in 1987 by the Scientific Council “Cybernetics” of the USSR Academy of Sciences. The problems form the nucleus of this intensively developing area. This translation is dedicated to the memory of two remarkable Russian mathematicians, Sergei Maslov and his wife, Nina Maslova.

Maslov is known as the originator of the inverse method in automated deduction, which was discovered at the same time as the resolution method of J. A. Robinson and has approximately the same range of applications. In 1981, Maslov proposed an iterative algorithm for propositional satisfiability based on some general ideas of search described in detail in his posthumously published book, *Theory of Deductive Systems and Its Applications* (1986; English 1987).

This collection contains translations of papers on propositional satisfiability and related logical problems. The papers related to Maslov’s iterative method of search reduction play a significant role.

American Mathematical Society Translations—Series 2, Volume 178; 1997; 189 pages; Hardcover; ISBN 0-8218-0386-7; List \$79; Individual member \$47; Order code TRANS2/178NA



All prices subject to change. Charges for delivery are \$3.00 per order. For air delivery outside of the continental U. S., please include \$6.50 per item. *Prepayment required.* Order from: **American Mathematical Society**, P. O. Box 5904, Boston, MA 02206-5904. For credit card orders, fax (401) 331-3842 or call toll free 800-321-4AMS (4267) in the U. S. and Canada, (401) 455-4000 worldwide. Or place your order through the AMS bookstore at <http://www.ams.org/bookstore/>. Residents of Canada, please include 7% GST.

Mathematics Opportunities

Industrial and Applied Mathematics, or jointly by the American Statistical Association and the Institute of Mathematical Statistics. Support is provided for about thirty conference participants, including postdoctoral researchers and graduate students.

Colleges and universities with at least some research competence in the field of the proposal are eligible to apply. Since a major goal of these conferences is to attract new researchers into the field of the conference and to stimulate new research activity, institutions that are interested in upgrading or improving their research efforts are especially encouraged to apply. Proposals should reach the NSF by **April 7, 1997**.

For further information on the NSF-CBMS Regional Conferences and guidelines for preparing proposals, contact: Conference Board of the Mathematical Sciences, 1529 18th Street, NW, Washington, DC 20036; telephone 202-293-1170; fax 202-265-2384. See also the announcement about the upcoming NSF-CBMS Regional Conferences, to be held in the summer of 1997, in this section of the *Notices*.

—CBMS Announcement

List of REU Programs Available

The Research Experiences for Undergraduates (REU) program of the National Science Foundation (NSF) provides opportunities for undergraduate students to participate in hands-on research projects. Each summer a number of REU sites around the country bring together groups of students for multiweek programs. Faculty members may wish to encourage their students to apply to participate in these programs. At the time of this writing the REU sites funded by the NSF’s Division of Mathematical Sciences had not been chosen, and the deadlines for students to apply had not been set. However, a list of mathematics REU sites for the summer of 1997 will be available in early January. Requests for the list may be sent by e-mail to reu.dms@nsf.gov. The list will also be available on the Division’s Web site, <http://www.nsf.gov/mps/dms/reulist.htm>.

—Allyn Jackson