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# Mathematics Opportunities

## Special Year in Mathematical Biology, University of Utah

The Department of Mathematics at the University of Utah is pleased to announce a Special Year in Mathematical Biology. This year is funded by the National Science Foundation with support from the University of Utah. The object of the Special Year is to train scientists in mathematical modeling applied to biological problems. The educational program will comprise a full-year course entitled "Mathematical Modeling in Biology", a weekly seminar series, one three-day minisymposium per quarter, and an informal student/postdoc seminar. The pool of visitors will include principal lecturers, postdoctoral fellows, visiting graduate students, short-term visitors, and minisymposium participants. The Special Year will be run in cooperation with Departments of Biology, Bioengineering, and Human Genetics, and the Cardiovascular Research and Training Institute at the University of Utah.

The topics for the year are: fall quarter, Ecology and Evolution; winter quarter, Physiology and Cell Biology; spring quarter, Cardiovascular Physiology and Biofluids.

The application deadline for graduate student and postdoctoral support has now passed. However, those interested in visiting with other funding or attending the minisymposia should send enquiries to [mathbio@math.utah.edu](mailto:mathbio@math.utah.edu).

As information is updated it will be available via anonymous ftp from [ftp.math.utah.edu](ftp://ftp.math.utah.edu) in the directory <pub/mathbio>. One may also check the World Wide Web site <http://www.math.utah.edu>, or contact: Mark Lewis, Special Year in Mathematical Biology, Department of Mathematics, University of Utah, Salt Lake City, UT, 84112; e-mail

[mlewis@math.utah.edu](mailto:mlewis@math.utah.edu); telephone 801-581-6195; fax 801-581-4148.

—Mark Lewis

Note: Institutions wishing to place announcements about upcoming special years in mathematics should send information (including date, place, research areas, and a contact for more information) to [notices@math.ams.org](mailto:notices@math.ams.org) or to Editor, Notices of the AMS, American Mathematical Society, P.O. Box 6248, Providence, RI 02940-6248; fax 401-331-3842. Information received by November 15, 1995, will appear in the February 1996 issue of the *Notices*.

## New Research Institute in Bristol, UK

The Basic Research Institute in the Mathematical Sciences (BRIMS) is a joint venture between Hewlett-Packard and the Isaac Newton Institute. Established in Bristol, United Kingdom, in 1994 as part of an initiative to widen Hewlett-Packard's research base, BRIMS focuses on basic, public domain research in areas of long-term relevance to Hewlett-Packard. It is an experiment in creating an environment for basic research in an industrial setting, based on the philosophy that science and engineering should stimulate and influence each other.

BRIMS consists of a core of resident researchers who undertake their own research programs. Resources are provided for them to travel, invite visitors, organize meetings, and work with research students and postdoctoral assistants. There is regular exchange of scientific visitors with the Newton Institute and scientific connections to Bristol

University, where BRIMS is an affiliated institution. Areas of interest include geometric phases in Hamiltonian dynamics, soliton propagation in optical fibers, quantum chaos, statistical mechanics and information theory, stochastic modeling of large networks, dynamical systems, and idempotent algebra and analysis.

The Scientific Board of BRIMS consists of Sir Michael Atiyah, director of the Newton Institute; John Ball, Heriot-Watt University; Michael Berry, Bristol University; and Frank Kelly, University of Cambridge. The scientific director is Jeremy Gunawardena.

Financial support is available for visits of varying durations, including postdoctoral fellowships. Where appropriate, joint appointments with other institutions or full-time employment with Hewlett-Packard may be considered.

For further information, contact: Jeremy Gunawardena, BRIMS, Hewlett-Packard Labs, Filton Road, Stoke Gifford, Bristol BS12 6QZ, United Kingdom; telephone 44-(0)117-922-8216; e-mail [jhcg@hp1b.hp1.hp.com](mailto:jhcg@hp1b.hp1.hp.com). BRIMS has a Web site at <http://www-uk.hp1.hp.com/brims/>.

— from *BRIMS Announcement*

## NSF Institution-wide Reform Program in Undergraduate Education

In 1994, the National Science Foundation (NSF) established a new program called Institution-wide Reform Of Undergraduate Education in Science, Mathematics, Engineering and Technology: Progress Based on Performance.

The aim of the program is to stimulate comprehensive reform of science, mathematics, engineering, and technology education and to provide national models of excellence. The NSF expects to make 10-15 awards of up to \$200,000 to colleges and universities that have demonstrated success in revitalizing undergraduate education in several of their units and now wish to infuse the institution with these gains.

Because the grants are intended to catalyze reform, an award does not commit the NSF to fund implementation of reform plans. The aim of an award is to motivate changes in priorities and allocation of resources that will enable institutions themselves to support their reform initiatives.

This effort to promote institutional reform of undergraduate education is an extension of the NSF's Course and Curriculum Development Program (CCD) (which has supported many calculus reform projects). Proposals emphasizing smaller, more focused changes should continue to be submitted to other components of the CCD Program.

Proposals to the Institution-wide Reform program must be submitted by the institution's president. The closing date for submissions is **December 4, 1995**. Interested institutions should send a letter expressing intent to submit a proposal by November 3, 1995. For more information contact: Division of Undergraduate Education, Room 835, Box PBOP, National Science Foundation, 4201 Wilson Boulevard, Ar-

lington, VA 22230; telephone 703-306-1666; e-mail [Undergrad@nsf.gov](mailto:Undergrad@nsf.gov). Check the NSF's Web site at <http://www.nsf.gov> for more information about this and other NSF programs.

— from *NSF Announcement*

## New Funding Opportunity at the NSF

The Division of Mathematical Sciences (DMS) at the National Science Foundation (NSF) has established a program designed to support infrastructure needs in the mathematical sciences. Intended for groups of three or more researchers, the Group Infrastructure Grant (GIG) will support virtually any kind of research-related activity or equipment that enhances the ability of the group to contribute to mathematical sciences research. The only item expressly prohibited on the grant is senior investigator salaries. Proposals may request support for graduate and undergraduate students, postdoctoral investigators, computing equipment and support personnel, visitors and consulting services, and so on. Funds may also be requested for support of educational activities connected to research, as well as for multidisciplinary research.

The DMS is encouraging the community to come forward with innovative ideas for GIGs that will strengthen the infrastructure that supports mathematical sciences research. Because they would like the ideas to emerge from the community, the Division is proceeding without preconceived ideas for what could be funded under the GIG program. DMS staff are urging proposers to think as "creatively and unboundedly" as they can in developing ideas for supporting mathematical sciences research, including its connections to other areas and to education and training. In launching the GIG program, the DMS is hoping to test a wide variety of new ways to advance the discipline.

The DMS announced the GIG program last year, and a small number of GIG awards resulted. Now that the community has had some experience with this kind of support mechanism, the DMS is hoping that proposers will think more expansively about the kinds of activities that could be funded under such a program.

A GIG could involve individuals in a single department (including the whole department), in different departments, and even in different institutions. The funds should help to fill important nonsalary needs of researchers, such as enhancing computing capability, improving graduate training, establishing connections with other departments or with industry, or developing new types of conferences and workshops. The composition of the group—in terms of geographical proximity, closeness of research area, and so on—should be dictated by the project the group is proposing.

Awards in the GIG program will be about \$50,000 to \$250,000 per year, for durations of up to five years. The funds available to support this activity in fiscal year 1996

are limited (approximately \$2 million), and about fifteen awards are anticipated. Proposals should include three or more investigators with complementary activities in research or in research-related educational activities.

Among the evaluation criteria will be the degree to which a GIG would add value to and have an impact on the activity and productivity of the group. A full description of the total level of current and pending support from all sources must appear in the proposal, and the question of added value and impact, in the context of existing or pending funding, must be addressed. Investigators are encouraged to think of the GIG as a mechanism by which traditional research grants can be replaced as well as augmented.

The program solicitation for last year's GIG (NSF94-132) is being revised and some changes are expected. The deadline for this year's competition is expected to be **January 16, 1996**. For additional information, consult the update to publication NSF94-132.

Questions about the GIG program may be directed to Alvin Thaler, Program Director for Strategic Activities and Special Projects; by telephone (703-306-1870) or by e-mail (thaler@nsf.gov). The mailing address is Division of Mathematical Sciences, Room 1025, National Science Foundation, 4201 Wilson Boulevard, Arlington, VA 22230.

The GIG program announcement is posted on the NSF's World Wide Web page, <http://www.nsf.gov>. One can also use STIS, NSF's online publications dissemination system: telnet to [stis.nsf.gov](http://stis.nsf.gov) and log in as "public". The NSF gopher is available through the AMS online information service, e-MATH: telnet to [e-math.ams.org](http://e-math.ams.org) and use "e-math.ams.org" as login name and password.

—Allyn Jackson

## News from the Fields Institute

From August 1996 to June 1997, the Fields Institute for Research in Mathematical Sciences will be sponsoring an emphasis year in Algebraic Model Theory. The organizing committee for the program consists of B. Hart (McMaster University), A. Lachlan (Simon Fraser University), A. Macintyre (University of Oxford), M. Makkai (McGill University), R. McKenzie (Vanderbilt University), and M. Valeriote (McMaster University). Support is available for short- and long-term visitors, postdoctoral fellowships (including the Jerrold E. Marsden Distinguished Postdoctoral Fellowship), and graduate student fellowships. The deadline for applying for support is **January 19, 1996**.

For further information, send e-mail to [model@fields.utoronto.ca](mailto:model@fields.utoronto.ca), or contact: Algebraic Model Theory Program, The Fields Institute for Research in Mathematical Sciences, 222 College Street, Toronto, Ontario, Canada, M5T 3J1.

— Fields Institute Announcement

## AMS Centennial Fellowship Program Deadline: December 1, 1995

The AMS Centennial Research Fellowship program makes awards annually to outstanding mathematicians to help further their careers in research. Recently, the AMS Council approved changes in the rules for the fellowships. Previously, the program was aimed at mathematicians who were several years beyond the Ph.D. The changes adopted have the effect of redirecting the fellowship program toward recent Ph.D.s. The stipend for fellowships awarded for 1996-1997 is expected to be approximately \$36,000, with an additional expense allowance of about \$1,400.

The number of fellowships to be awarded is small and depends on the amount of money contributed to the program. The trustees have arranged a matching program from general funds in such a way that funds for at least one fellowship are guaranteed. Because of the generosity of the AMS membership, it has been possible to award two or three fellowships a year for the past eight years.

The deadline for receipt of applications is **December 1, 1995**. Awards will be announced in February 1996 or earlier if possible.

For information on application eligibility, please consult the October 1995 issue of the *Notices*, page 1155. For application forms, write to the Executive Director, American Mathematical Society, P.O. Box 6248, Providence, RI 02940-6248, or electronic mail [ams@ams.org](mailto:ams@ams.org). *Please note that completed applications and references should not be sent to this address, but to the address given on the application form.*

—AMS Announcement