
Mathematics Opportunities

Guggenheim Memorial Foundation Fellowships

The John Simon Guggenheim Memorial Foundation provides fellowships to individuals in the natural sciences who have demonstrated exceptional capacity for productive scholarship. The purpose of the fellowships is to further the development of scholars by allowing them to engage in research under the freest possible conditions and irrespective of race, color, or creed.

Fellowships are awarded through two annual competitions. One competition is open to citizens and permanent residents of the United States and Canada, the other to citizens and permanent residents of Latin America and the Caribbean. They are awarded to advanced professionals only and are not intended to be used for training or immediate postgraduate work.

Grants are made for a minimum of six months, although one year is the most common length of appointments. Amounts of the grants are dependent on the needs of the recipients; other available resources and the purpose and scope of the fellows' plans are taken into consideration. The average grant amount in 1998 was approximately \$31,000. The purpose of the program is to provide fellows with blocks of time in which they can work with as much creative freedom as possible; therefore, grants are made without special conditions, and recipients may spend their grant funds in any way that is necessary to their work.

Scholars must apply directly to the Guggenheim Foundation for both the United States and Canada competition and the Latin America and Caribbean competition. Applicants are compared with others working in their fields and with all others in the competition. Each application is

reviewed by advisers who work in the same field as the applicant. A final Committee of Selection for each competition determines the number of awards made in each field.

Application forms for the 1999 fellowship competitions are available from the John Simon Guggenheim Memorial Foundation, 90 Park Avenue, New York, NY 10016; telephone 212-687-4470; fax 212-697-3248; e-mail: fellowships@gf.org. When requesting an application by mail, applicants should use their institutional letterhead, include their academic title, and indicate their field of scholarship. The deadline for receipt of applications for the United States and Canada competition is **October 1, 1998**. The deadline for receipt of applications for the Latin America and Caribbean competition is **December 1, 1998**. Application forms may also be requested and further information obtained through the Foundation's Web site, <http://www.gf.org/>.

—*Elaine Kehoe*

Quantitative Approaches to Complex Biological Problems

The National Institute of General Medical Sciences (NIGMS) of the National Institutes of Health (NIH) is looking to support research projects that develop quantitative approaches to describe, analyze, and predict the behavior of complex biological systems. The projects are expected to be of a collaborative and cross-disciplinary nature, involving individuals with diverse expertise who can work in research areas in which systems approaches are likely to make significant contributions.

Five related initiatives have been formulated in part from recommendations made at workshops held in late 1997 on "New Approaches to the Study of Complex Biological Processes" and "The Genetic Architecture of Complex Traits". The reports of these workshops can be found on the NIGMS Web site at <http://www.nih.gov/nigms/news/reports/>, <http://www.nih.gov/nigms/news/reports/complexbio.html>, and http://www.nih.gov/nigms/news/reports/genetic_arch.html.

The workshop participants recommended three classes of initiatives: (1) the support of interdisciplinary research with the specific objective of attracting investigators trained in the mathematically based disciplines (physics, engineering, computer science, applied mathematics, and chemistry) to the study of biomedical problems; (2) the development of workshops and other vehicles to train established biomedical scientists in new, quantitative approaches to their fields of study and, reciprocally, to acquaint established, mathematically expert nonbiologists with biological problems; and (3) the promotion of interdisciplinary training for scientists at the pre- and post-doctoral levels.

The initiatives and the Web sites where the full text of each program announcement can be found are the following: Supplements for the Study of Complex Biological Systems, PA-98-024, January 16, 1998, <http://www.nih.gov/grants/guide/pa-files/PA-98-024.html>; Quantitative Approaches to the Analysis of Complex Biological Systems, PA-98-077, June 4, 1998 (cosponsored with the National Institute of Mental Health [NIMH]), <http://www.nih.gov/grants/guide/pa-files/PA-98-077.html>; Genetic Architecture of Complex Phenotypes, PA-98-078, June 9, 1998 (cosponsored with NIEHS, NIAMS, NIA, NIMH, NIDA, NIAAA, NICHD, NHGRI, NHLBI), <http://www.nih.gov/grants/guide/pa-files/PA-98-078.html>; Fellowships in Quantitative Biology, PA-98-082, June 23, 1998, <http://www.nih.gov/grants/guide/pa-files/PA-98-082.html>; Short Courses on Mathematical and Statistical Tools for the Study of Complex Phenotypes and Complex Systems, PA-98-083, June 23, 1998 (cosponsored with NIMH, NIDA, NIDDK, NHGRI), <http://www.nih.gov/grants/guide/pa-files/PA-98-083.html>.

Eligibility requirements and more information about each initiative, as well as application procedures and award criteria, can be found on the individual program announcement Web pages. Inquiries are welcome and should be directed to the contact people listed in the program announcements.

—from an NIGMS announcement

NCTM 2001 Yearbook

Students express mathematical concepts in a variety of ways. How do these expressions, or representations, affect their understanding of mathematics? To provide a forum for sharing research, thoughts, and anecdotes, the National Council of Teachers of Mathematics (NCTM) will

publish the *2001 Yearbook, the Roles of Representation in School Mathematics*. The NCTM's Educational Materials Committee is now inviting manuscripts for this volume, which will be edited by Al Cuoco, senior scientist and codirector of the Mathematics Initiative at Education Development Center, Newton, Massachusetts.

The goal of this yearbook is to create a forum for current thinking and practice related to the representations (such as graphs, tables, diagrams, manipulatives, equations, and so forth) used to record and communicate mathematical ideas and for developing mathematical thinking throughout the grades K-14. In particular, the yearbook editorial panel is interested in papers addressing instructional implications for using various representations of mathematical ideas and contexts, the use and construction of symbol systems in school mathematics, and the tools students use for thinking mathematically. The panel also welcomes brief articles on classroom experiences with representations that reflect cultural, affective, and linguistic influences.

Author guidelines are now available and include a complete description of topics to be addressed and instructions for preparing manuscripts. For a copy of the guidelines, write to General Editor Frances R. Curcio, Department of Teaching and Learning, School of Education, New York University, 239 Greene Street, Mail Code 4741, Washington Square, New York, NY 10003, USA; e-mail: frc1@is2.nyu.edu. The guidelines may also be obtained from NCTM's Fax on Demand service, 800-220-8483, document #852; or from NCTM's Web site (www.nctm.org/) under "Publications". The deadline for receiving manuscripts is March 1, 1999.

—Frances R. Curcio

Correction

The August 1998 issue of the *Notices* contained an error in the news item on deadlines and target dates for programs in the Division of Mathematical Sciences (DMS) of the National Science Foundation. The corrected dates are as follows:

October 9, 1998 (target date): Foundations

November 4 (target date): Topology

Both target dates were incorrectly listed as November 7.

All DMS deadlines and target dates are listed on the DMS Web site, www.nsf.gov/mps/dms/.