

# Focused Research Groups in the Mathematical Sciences

*Proposal Solicitation*

***NSF 99-156***

DIRECTORATE FOR MATHEMATICAL AND  
PHYSICAL SCIENCES  
DIVISION OF MATHEMATICAL SCIENCES

***LETTER OF INTENT:      NOVEMBER 1, 1999***  
***PROPOSAL DEADLINE:    DECEMBER 1, 1999***



NATIONAL SCIENCE FOUNDATION



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# Summary of Activity Requirements

## General Information

**Name of Activity:** Focused Research Groups in the Mathematical Sciences

### Short Description/Synopsis of Activity:

The purpose of the FRG activity is to allow groups of researchers to respond to recognized scientific needs of pressing importance, to take advantage of current scientific opportunities, or to prepare the ground for anticipated significant scientific developments in the mathematical sciences. It is expected that some of these groups will include, in addition to mathematical scientists, researchers from other science and engineering disciplines appropriate to the proposed research. The activity will support projects for which the collective effort by a group of researchers is necessary to reach the scientific goals. Projects should also be timely, limited in duration to up to three years, and substantial in their scope and impact.

### Cognizant Program Officers:

Dr. Hans P. Engler, Program Officer, Room 1025, Division of Mathematical Sciences, telephone (703) 306-1991, e-mail: [hengler@nsf.gov](mailto:hengler@nsf.gov) or

Dr. Deborah F. Lockhart, Program Officer, Room 1025, Division of Mathematical Sciences, telephone (703) 306-1882, e-mail: [dlockhar@nsf.gov](mailto:dlockhar@nsf.gov) or

Dr. Joe W. Jenkins, Program Officer, Room 1025, Division of Mathematical Sciences, telephone (703) 306-1879, e-mail: [jjenkins@nsf.gov](mailto:jjenkins@nsf.gov)

**Applicable Catalog of Federal Domestic Assistance (CFDA) No.:** 47.049 — Mathematical and Physical Sciences

## Eligibility

- **Limitation on the categories of organizations that are eligible to submit proposals:** Proposals may be submitted by US academic institutions and other US non-profit organizations in support of small groups.
- **PI eligibility limitations:** None
- **Limitation on the number of proposals that may be submitted by an organization:** None

## Award Information

- **Type of award anticipated:** Continuing or Standard Grant
- **Number of awards anticipated in FY 2000:** Approximately 8 awards
- **Amount of funds available:** Approximately \$2.4 million will be available for this activity in FY 2000
- **Anticipated date of award:** July 2000

## Proposal Preparation & Submission Instructions

- **Proposal Preparation Instructions**
  - **Letter of Intent requirements:** An e-mail letter of intent (email [dms-frg@nsf.gov](mailto:dms-frg@nsf.gov)) is required
  - **Preproposal requirements:** None
  - **Proposal preparation instructions:** Standard NSF Grant Proposal Guide instructions, with exceptions as noted below.
  - **Supplemental proposal preparation instructions:** None
  - **Deviations from standard (GPG) proposal preparation instructions:** Specific page limitations are provided in the body of the solicitation.
- **Budgetary Information**
  - **Cost sharing/matching requirements:** None
  - **Indirect cost (F&A) limitations:** None
  - **Other budgetary limitations:** Award amounts between \$150,000 and \$350,000 per year for proposals submitted in response to this solicitation.
- **FastLane Requirements**
  - **FastLane proposal preparation requirements:** FastLane use required
  - **FastLane point of contact:** Florence Rabanal, (703) 306-1998, email: [dmsfl@nsf.gov](mailto:dmsfl@nsf.gov)
- **Deadline/Target Dates**
  - **Letter of Intent:** 5:00 PM, proposer's local time, November 1, 1999
  - **Full Proposal Deadline:** 5:00 PM, proposer's local time, December 1, 1999

### **Proposal Review Information**

- **Merit Review Criteria:** Standard National Science Board approved criteria; additional criteria specific to this solicitation are provided in the body of the solicitation.

### **Award Administration Information**

- **Grant Award Conditions:** GC-1 or FDP III
- **Special grant conditions anticipated:** None anticipated
- **Special reporting requirements anticipated:** None

## INTRODUCTION

The Division of Mathematical Sciences (DMS) of the National Science Foundation (NSF) expects to make a small number of awards in FY 2000 that will support the activities of groups of investigators. Proposals for these Focused Research Groups (FRG) in the Mathematical Sciences should provide a plan for making significant progress in areas of recognized or emerging importance to the mathematical sciences and explain that the success of the proposed research project depends in a crucial way upon a group effort.

Dating back to the mid-1980s, DMS has explored innovative award models that nurture and encourage group activities at all levels. Examples of such activities and support modes include the *Regional Geometry Institutes (RGI)*, *Collaborative Research in Geosciences, Geography, and the Mathematical Sciences*, the opportunity for *Mathematical Research Groups*, and, more recently, the *Regional Institutes in the Mathematical Sciences (RIMS)* and the *Group Infrastructure Grants (GIG)*. DMS uses the individual investigator award as the principal mechanism for supporting fundamental research in the mathematical sciences. On the other hand, the mathematical sciences thrive on the sharing of ideas among researchers from various fields and disciplines. Indeed, there are research needs which can only be met appropriately by teams of researchers. The advantages of pooled insights, complementary expertise, diverse points of view, and shared tasks make a successful research team more than the sum of its parts. It is therefore appropriate and essential that DMS continue to support excellent multi-investigator projects in a variety of modes to promote research collaboration, the exploration of multidisciplinary projects, and the exploitation of unique opportunities for progress on significant problems. A dedicated mode of support for such projects currently does not exist and will be provided by the FRG activity.

## ACTIVITY DESCRIPTION

The purpose of the FRG activity is to allow groups of researchers to respond to recognized scientific needs of pressing importance, to take advantage of current scientific opportunities, or to prepare and solidify the ground for anticipated scientific developments in the mathematical sciences. It is expected that some of these groups will include, in addition to mathematical scientists, researchers from other science and engineering disciplines as appropriate to the proposed research. Projects supported under this activity should depend for their advancement on the interaction of a group of researchers. Projects should also be timely, limited in duration to up to three years, and substantial in both their scope and likely impact.

Here is a list, but by no means an exhaustive one, of indicators suggesting that an FRG approach might be appropriate.

- Accumulated scientific results point to the possibility of a major breakthrough.
- A major recent breakthrough has opened up new possibilities for significant progress.
- An existing important research agenda needs the close cooperation of several researchers to be advanced or can be significantly accelerated through such a cooperation.
- Significant opportunities for cross-fertilization between areas within the mathematical sciences or between mathematical and other scientific areas have recently become apparent.
- A substantial mathematical research agenda is waiting to be formulated and exploited, because an area in science or engineering is ready for closer interaction with the mathematical sciences.

The aim of the activity is to support projects for which the collective effort by a group of researchers is necessary to reach the scientific goals. Thus, proposals must explain that interaction and the group effort are critical to the success of the project. The scientific personnel involved in the project should consist of at least three researchers. The group members can come from more than one institution or discipline. Awards made under the FRG activity are intended to foster a crucial and unusual synergy between the group members that cannot be achieved with individual grants. In particular, researchers supported by this activity are expected to collaborate closely and intensely during the length of the project. At the same time, the impact and promise of supported projects should extend significantly beyond their immediate scientific area and would be expected to have long-term impact.

Examples of possible outcome for FRG projects include the following:

- Substantial progress is made towards a set of major open questions that are ripe for a solution.
- New research directions that have become possible due to recent advances are identified, and significant progress is achieved.
- As a direct result of the group effort, an important research agenda is advanced significantly.
- Significant new opportunities for cross-fertilization between different areas in the mathematical sciences are identified or defined more broadly, and progress is made towards exploiting these opportunities.
- Significant new opportunities for the mathematical sciences in areas of science and engineering are identified, and exemplary evidence of how to seize and exploit these opportunities is produced.

Additional possible outcomes include the following:

- Graduate students and postdoctoral researchers are trained in an area of emerging importance.
- Graduate students, postdoctoral researchers, and undergraduates are trained in new ways. This could include interdisciplinary training or training in team-based research.
- New and exemplary modes of collaborations are established.

FRG projects should take advantage of opportunities and resources at or near the institutions at which the research will be performed. Research groups are expected to remain open to the broader scientific community from which they are drawn and to disseminate the results of their work in a timely and effective fashion.

The section above lists just a few examples of projects and outcomes for FRGs. Proposers are strongly urged to discuss their ideas for an FRG project with one of the program officers listed at the end of this document.

## **ELIGIBILITY**

Universities and four-year colleges in the United States and its territories are eligible to submit proposals. Nonprofit, nonacademic organizations in the United States and its territories that are directly associated with research activities are also eligible. Unaffiliated scientists are not eligible to submit a proposal, but may be eligible for support. The GPG guidelines (chapter I.D) apply in this case. Proposals involving investigators from more than one institution are allowed and should be submitted as collaborative proposals (see instructions below). Prospective applicants are strongly urged to contact [one of] the program officer[s] listed at the end of this document for guidance.

## **AWARD INFORMATION**

Under this solicitation, proposals may be submitted for any funding amount from \$150,000 up to \$350,000 per year, for up to three years. Grants may be awarded in a variety of sizes and durations. NSF expects to fund approximately eight awards depending on the quality of submissions and the availability of funds. Approximately \$2.4 million will be available for this activity in FY 2000. The anticipated date of awards is July 2000.

## **PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS**

### **A. Proposal Preparation Instructions.**

Proposals submitted in response to this proposal solicitation should be prepared and submitted in

accordance with the general guidelines contained in the *Grant Proposal Guide* (GPG). The current version of the complete text of the GPG (including electronic forms) is available electronically on the NSF Web site at: <http://www.nsf.gov/cgi-bin/getpub?gpg>. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone (301) 947-2722 or by e-mail from [pubs@nsf.gov](mailto:pubs@nsf.gov).

All proposals must be submitted via FastLane. Proposers are reminded to identify the program announcement number (NSF 99-156) in the program solicitation block on the NSF Form 1207, "*Cover Sheet for Proposal to the National Science Foundation*." The cover sheet should also identify the DIVISION OF MATHEMATICAL SCIENCES as the organizational unit to receive the proposal. This can be done by clicking the "Add Organizational Unit" button, which can be found on the Cover Sheet Screen within the FastLane Proposal Preparation Module, and selecting the item from the pull-down menu. Compliance with this requirement is critical to determining the relevant proposal processing guidelines. Failure to submit this information may delay processing.

Proposals involving investigators from more than one institution should be submitted as collaborative proposals. Proposers should consult the GPG section on simultaneous submission of collaborative proposals, specifically the submission of proposals from different organizations using electronic submission.

Proposals from lead institutions must contain the following elements in the order indicated. The general requirements given in the GPG apply, unless specified differently below. Proposers are reminded that a complete proposal must in addition contain single-copy documents as specified in the GPG, chapter II.B.

- (a) Cover page– NSF Standard FastLane Form 1207.
- (b) Project Summary, up to 250 words – NSF Standard FastLane Form
- (c) Table of Contents – NSF Standard FastLane Form 1359. This form will be generated automatically by FastLane.
- (d) Project Description, consisting of the following items:
  - (i) An explanation of the scientific context and timeliness of the proposed project.
  - (ii) A description of the proposed research.
  - (iii) A justification for why a group effort is necessary to carry out the proposed project.
  - (iv) A timeline for the planned work and a justification for the duration.
  - (v) Plans for disseminating the results.
  - (vi) Results from prior NSF support, if applicable and related to the proposal.

The following components are optional and can be included if appropriate:

- (vii) A description of new modes of collaboration.
- (vii) A description of new modes of training graduate students, postdoctoral researchers, or undergraduates.
- (viii) A description of planned workshops and a list of tentative participants.

Items (i) – (vi) of the project description may not exceed a total of twenty pages. Items (vii) – (ix) together may not exceed five pages.

- (e) Management Plan. Provide a management plan, describing how the group effort will be coordinated and how decisions will be made regarding the conduct of the project. This section may not exceed one page.
- (f) References Cited
- (g) Biographical sketches. For all key personnel, please provide a brief biographical sketch, using the

standard FastLane form. Do not exceed two pages per person for the sketch. Up to five publications most closely related to the proposal and up to five other significant publications may be included, including those accepted for publication. For each individual, include up to one additional page describing how that individual will contribute to the project.

- (h) Budget. Include a proposed budget using NSF Standard FastLane Form 1030 (10/98), separate annual budgets for each year, and a detailed budget justification/explanation (up to 3 pages). A cumulative budget will be automatically generated by the FastLane system.
- (i) A full description of the total level of current and pending support from all sources for the key personnel using NSF Standard FastLane Form 1239 (10/98).
- (j) A description of the facilities (including laboratories and computational facilities) that will be made available to the project. Use NSF Standard FastLane Form 1363 (7/95).

**The page limits and the limits on listed publications in the biographical sketches will be strictly enforced. Proposals not adhering to these limitations will be returned.**

## **B. Proposal Due Dates.**

*Letter of Intent:* To help expedite the review process for FRG proposals, a one-page e-mail letter of intent to submit a proposal must be sent by the PI to [dms-frg@nsf.gov](mailto:dms-frg@nsf.gov) by 5:00 PM, proposer's local time, on November 1, 1999. This letter of intent should contain the following information: the title of the project, a brief project description, the names of the principal investigators and other senior personnel, and the name of the submitting institution. Failure to meet the letter of intent deadline will disqualify an FRG proposal from consideration.

All proposals must be submitted via FastLane. The proposals **MUST** be submitted electronically by 5:00 PM, proposer's local time, December 1, 1999. Copies of the signed proposal cover sheet must be submitted in accordance with the instructions identified below.

*Submission of Signed Cover Sheets.* For proposals submitted electronically via FastLane, the signed proposal Cover Sheet (NSF Form 1207) should be forwarded to the following address and received by NSF by December 8, 1999:

National Science Foundation  
DIS-FastLane Cover Sheet  
4201 Wilson Blvd.  
Arlington, VA 22230

A proposal may not be processed until NSF has received the complete proposal (including signed Cover Sheet).

## **C. FastLane Requirements.**

The NSF FastLane system is available for electronic preparation and submission of a proposal through the Web at the FastLane Web site at <http://www.fastlane.nsf.gov>. The Sponsored Research Office (SRO or equivalent) must provide a FastLane Personal Identification Number (PIN) to each Principal Investigator (PI) to gain access to the FastLane "Proposal Preparation" application. PIs that have not submitted a proposal to NSF in the past must contact their SRO to be added to the NSF PI database. This should be done as soon as the decision to prepare a proposal is made.

In order to use NSF FastLane to prepare and submit a proposal, the following are required:

Browser (must support multiple buttons and file upload)

- Netscape 3.01 or greater

- Microsoft Internet Explorer 4.01 or greater

PDF Reader (needed to view/print forms)

- Adobe Reader 3.0 or greater

PDF Generator (needed to create project description)

- Adobe Acrobat 3.01 or greater
- Aladdin Ghostscript 5.10 or greater

A list of registered institutions and the FastLane registration form are located on the FastLane Web page.

## **PROPOSAL REVIEW INFORMATION**

### **A. Merit Review Criteria.**

Reviews of proposals submitted to NSF are solicited from peers with expertise in the substantive area of the proposed research or education project. These reviewers are selected by Program Officers charged with the oversight of the review process. NSF invites the proposer to suggest, at the time of submission, the names of appropriate or inappropriate reviewers. Care is taken to ensure that reviewers have no conflicts with the proposer. Special efforts are made to recruit reviewers from non-academic institutions, minority serving institutions, adjacent disciplines to that principally addressed in the proposal, etc.

Proposals will be reviewed against the following general merit review criteria established by the National Science Board. Following each criterion are potential considerations that the reviewer may employ in the evaluation. These are suggestions and not all will apply to any given proposal. Each reviewer will be asked to address only those that are relevant to the proposal and for which he/she is qualified to make judgments.

#### **Criterion 1: What is the intellectual merit of the proposed activity?**

How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields? How well qualified is the proposer (individual or team) to conduct the project? (If appropriate, the reviewer will comment on the quality of prior work.) To what extent does the proposed activity suggest and explore creative and original concepts? How well conceived and organized is the proposed activity? Is there sufficient access to resources?

#### **Criterion 2: What are the broader impacts of the proposed activity?**

How well does the activity advance discovery and understanding while promoting teaching, training, and learning? How well does the proposed activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)? To what extent will it enhance the infrastructure for research and education, such as facilities, instrumentation, networks, and partnerships? Will the results be disseminated broadly to enhance scientific and technological understanding? What may be the benefits of the proposed activity to society?

PIs should address the following elements in their proposal to provide reviewers with the information necessary to respond fully to the above-described NSF merit review criteria. NSF staff will give these elements careful consideration in making funding decisions.

### **Integration of Research and Education**

One of the principal strategies in support of NSF's goals is to foster integration of research and education through the programs, projects and activities it supports at academic and research institutions. These institutions provide abundant opportunities where individuals may concurrently assume responsibilities as

researchers, educators, and students and where all can engage in joint efforts that infuse education with the excitement of discovery and enrich research through the diversity of learner perspectives. PIs should address this issue in their proposal to provide reviewers with the information necessary to respond fully to both NSF merit review criteria. NSF staff will give it careful consideration in making funding decisions.

### **Integrating Diversity into NSF Programs, Projects, and Activities**

Broadening opportunities and enabling the participation of all citizens -- women and men, underrepresented minorities, and persons with disabilities -- are essential to the health and vitality of science and engineering. NSF is committed to this principle of diversity and deems it central to the programs, projects, and activities it considers and supports. PIs should address this issue in their proposal to provide reviewers with the information necessary to respond fully to both NSF merit review criteria. NSF staff will give it careful consideration in making funding decisions.

In addition to the National Science Board merit review criteria, reviewers will be asked to apply several specific criteria when reviewing FRG proposals. These criteria include:

- Extent to which the whole of the proposed group effort project will be greater than the sum of its parts
- Timeliness of the planned work
- Likelihood of substantial progress
- Long-term scientific impact of the proposed activity
- Appropriateness of the group members and group structure for the task
- Appropriateness of the proposed modes of collaboration
- Adequacy of the management plan
- Adequacy and appropriateness of the proposed timeline
- Adequacy of the plans for dissemination
- Adequacy and appropriateness of the budget
- Effectiveness, adequacy, and innovation of training plans

FRG proposals are likely to be read by non-specialists at some stage of the review process. It is therefore particularly important that they be written in a form that makes a case for impact in a broad mathematical context.

### **B. Merit Review Process.**

Most of the proposals submitted to NSF are reviewed by mail review, panel review, or some combination of mail and panel review. Proposals submitted in response to this announcement will be reviewed by mail and/or panel review.

All proposals are carefully reviewed by at least three persons outside NSF who are experts in the particular field represented by the proposal. Reviewers will be asked to formulate a recommendation to either support or decline each proposal. A program officer assigned to manage the proposal's review will consider the advice of reviewers and will formulate a recommendation. In most cases, proposers will be contacted by the program officer after his or her recommendation to award or decline funding has been approved by his or her supervisor, the division director. This informal notification is not a guarantee of an

eventual award. NSF will be able to tell applicants whether their proposals have been declined or recommended for funding within six months for 95 percent of proposals in this category. The time interval begins on the proposal deadline or target date or from the date of receipt, if deadlines or target dates are not used by the program. The interval ends when the division director accepts the program officer's recommendation.

In all cases, after final programmatic approval has been obtained, award recommendations are then forwarded to the Division of Grants and Agreements for review of business, financial and policy implications and the processing and issuance of a grant or other agreement. Proposers are cautioned that only a Grants Officer may make commitments, obligations or awards on behalf of NSF or authorize the expenditure of funds. No commitment on the part of NSF should be inferred from technical or budgetary discussions with an NSF program officer. A Principal Investigator or organization that makes financial or personnel commitments in the absence of a grant or cooperative agreement signed by the NSF Grants Officer does so at its own risk.

## **AWARD ADMINISTRATION INFORMATION**

### **A. Notification of the Award.**

Notification of the award is made *to the submitting organization* by a Grants Officer in the Division of Grants and Agreements (DGA). Organizations whose proposals are declined will be advised as promptly as possible by the cognizant NSF Program Division administering the program. Verbatim copies of reviews, not including the identity of the reviewer, will be provided automatically to the Principal Investigator.

### **B. Grant Award Conditions.**

An NSF grant consists of: (1) the award letter, which includes any special provisions applicable to the grant and any numbered amendments thereto; (2) the budget, which indicates the amounts, by categories of expense, on which NSF has based its support (or otherwise communicates any specific approvals or disapprovals of proposed expenditures); (3) the proposal referenced in the award letter; (4) the applicable grant conditions, such as Grant General Conditions (NSF GC-1)\* or Federal Demonstration Partnership Phase III (FDP) Terms and Conditions\* and (5) any NSF brochure, program guide, announcement or other NSF issuance that may be incorporated by reference in the award letter. Electronic mail notification is the preferred way to transmit NSF grants to organizations that have electronic mail capabilities and have requested such notification from the Division of Grants and Agreements.

- These documents may be accessed electronically on NSF's Web site at: <<http://www.nsf.gov/>>. Paper copies may be obtained from the NSF Publications Clearinghouse, telephone (301) 947-2722 or by e-mail from [pubs@nsf.gov](mailto:pubs@nsf.gov).

More comprehensive information on NSF Award Conditions is contained in the NSF *Grant Policy Manual* (GPM) Chapter II, (NSF 95-26) available electronically on the NSF Web site. The GPM also is available in paper copy by subscription from the Superintendent of Documents, Government Printing Office, Washington, DC 20402. The GPM may be ordered through the GPO Web site at: <<http://www.gpo.gov/>>.

### **C. Reporting Requirements.**

For all multi-year grants (including both standard and continuing grants), the PI must submit an annual project report to the cognizant Program Officer at least 90 days before the end of the current budget period. The annual reports should give detailed assessments of the progress towards the scientific goals of the project.

Within 90 days after expiration of a grant, the PI also is required to submit a final project report.

Approximately 30 days before expiration, NSF will send a notice to remind the PI of the requirement to file the final project report. Failure to provide final technical reports delays NSF review and processing of pending proposals for that PI. PIs should examine the formats of the required reports in advance to assure availability of required data.

NSF has implemented a new electronic project reporting system, available through FastLane, which permits electronic submission and updating of project reports, including information on: project participants (individual and organizational); activities and findings; publications; and, other specific products and contributions. Reports will continue to be required annually and after the expiration of the grant, but PIs will not need to re-enter information previously provided, either with the proposal or in earlier updates using the electronic system.

Effective October 1, 1998, PIs are required to use the new reporting format for annual and final project reports. PIs are strongly encouraged to submit reports electronically via FastLane. For those PIs who cannot access FastLane, paper copies of the new report formats may be obtained from the NSF Clearinghouse as specified above. NSF expects to require electronic submission of all annual and final project reports via FastLane beginning in October, 1999.

#### **D. New Awardee Information.**

If the submitting organization has never received an NSF award, it is recommended that the organization's appropriate administrative officials become familiar with the policies and procedures in the NSF *Grant Policy Manual* which are applicable to most NSF awards. The "Prospective New Awardee Guide" (NSF 97-100) includes information on: Administration and Management Information; Accounting System Requirements and Auditing Information; and Payments to Organizations with Awards. This information will assist an organization in preparing documents that NSF requires to conduct administrative and financial reviews of an organization. The guide also serves as a means of highlighting the accountability requirements associated with Federal awards. This document is available electronically on NSF's Web site at: <<http://www.nsf.gov/cgi-bin/getpub?nsf97100>>.

## **CONTACTS FOR ADDITIONAL INFORMATION**

General inquiries should be made to the **Focused Research Groups in the Mathematical Sciences Activity**,

Dr. Hans P. Engler, Program Officer, Room 1025, Division of Mathematical Sciences, National Science Foundation, Arlington, VA 22230, telephone (703) 306-1991, e-mail: [hengler@nsf.gov](mailto:hengler@nsf.gov) or

Dr. Deborah F. Lockhart, Program Officer, Room 1025, Division of Mathematical Sciences, National Science Foundation, Arlington, VA 22230, telephone (703) 306-1882, e-mail: [dlockhar@nsf.gov](mailto:dlockhar@nsf.gov) or

Dr. Joe W. Jenkins, Program Officer, Room 1025, Division of Mathematical Sciences, National Science Foundation, Arlington, VA 22230, telephone (703) 306-1879, e-mail: [jjenkins@nsf.gov](mailto:jjenkins@nsf.gov)

For questions related to use of FastLane, contact Florence Rabanal, (703) 306-1998, email: [dmsfl@nsf.gov](mailto:dmsfl@nsf.gov).

## **OTHER PROGRAMS OF INTEREST**

The NSF Guide to Programs is a compilation of funding opportunities for research and education in science, mathematics, and engineering. General descriptions of NSF programs, research areas, and eligibility information for proposal submission are provided in each chapter. Beginning in fiscal year 1999, the NSF Guide to Programs only will be available electronically, at <<http://www.nsf.gov/cgi->

bin/getpub?gp>. Many NSF programs offer announcements concerning specific proposal requirements. To obtain additional information about these requirements, contact the appropriate NSF program offices listed in Appendix A of the GPG.

Any changes in NSF's fiscal year programs occurring after press time for the Guide to Programs will be announced in the NSF E-Bulletin, available electronically on the NSF Web site. The direct URL for the most recent issue of the E-Bulletin is <<http://www.nsf.gov/home/ebulletin/>>. Subscribers can also sign up for NSF's Custom News Service to find out what funding opportunities are available.

## **ABOUT THE NATIONAL SCIENCE FOUNDATION**

The National Science Foundation (NSF) funds research and education in most fields of science and engineering. Grantees are wholly responsible for conducting their project activities and preparing the results for publication. Thus, the Foundation does not assume responsibility for such findings or their interpretation.

NSF welcomes proposals from all qualified scientists, engineers and educators. The Foundation strongly encourages women, minorities, and persons with disabilities to compete fully in its programs. In accordance with federal statutes, regulations, and NSF policies, no person on grounds of race, color, age, sex, national origin, or disability shall be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving financial assistance from NSF (unless otherwise specified in the eligibility requirements for a particular program).

Facilitation Awards for Scientists and Engineers with Disabilities (FASED) provide funding for special assistance or equipment to enable persons with disabilities (investigators and other staff, including student research assistants) to work on NSF-supported projects. See the program announcement or contact the program coordinator at (703) 306-1636.

The National Science Foundation has Telephonic Device for the Deaf (TDD) and Federal Information Relay Service (FIRS) capabilities that enable individuals with hearing impairments to communicate with the Foundation regarding NSF programs, employment, or general information. TDD may be accessed at (703) 306-0090 or through FIRS on 1-800-877-8339.

## **PRIVACY ACT AND PUBLIC BURDEN STATEMENTS**

The information requested on proposal forms and project reports is solicited under the authority of the National Science Foundation Act of 1950, as amended. The information on proposal forms will be used in connection with the selection of qualified proposals; project reports submitted by awardees will be used for program evaluation and reporting within the Executive Branch and to Congress. The information requested may be disclosed to qualified reviewers and staff assistants as part of the review process; to applicant institutions/grantees to provide or obtain data regarding the proposal review process, award decisions, or the administration of awards; to government contractors, experts, volunteers and researchers and educators as necessary to complete assigned work; to other government agencies needing information as part of the review process or in order to coordinate programs; and to another Federal agency, court or party in a court or Federal administrative proceeding if the government is a party. Information about Principal Investigators may be added to the Reviewer file and used to select potential candidates to serve as peer reviewers or advisory committee members. See Systems of Records, NSF-50, "Principal Investigator/Proposal File and Associated Records," 63 Federal Register 267 (January 5, 1998), and NSF-51, "Reviewer/Proposal File and Associated Records," 63 Federal Register 268 (January 5, 1998). Submission of the information is voluntary. Failure to provide full and complete information, however, may reduce the possibility of receiving an award.

Public reporting burden for this collection of information is estimated to average 120 hours per response, including the time for reviewing instructions. Send comments regarding this burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to: Reports

Clearance Officer; Information Dissemination Branch, DAS; National Science Foundation; Arlington, VA 22230.

### **YEAR 2000 REMINDER**

In accordance with Important Notice No. 120 dated June 27, 1997, Subject: Year 2000 Computer Problem, NSF awardees are reminded of their responsibility to take appropriate actions to ensure that the NSF activity being supported is not adversely affected by the Year 2000 problem. Potentially affected items include: computer systems, databases, and equipment. The National Science Foundation should be notified if an awardee concludes that the Year 2000 will have a significant impact on its ability to carry out an NSF funded activity. Information concerning Year 2000 activities can be found on the NSF web site at <http://www.nsf.gov/oirm/y2k/start.htm>.

The National Science Foundation is committed to making all of the information we publish easy to understand. If you have a suggestion about how to improve the clarity of this document or other NSF-published materials, please contact us at [plainlanguage@nsf.gov](mailto:plainlanguage@nsf.gov)

Catalogue of Federal Domestic Assistance (CFDA) No.: 47.049 – Mathematical and Physical Sciences  
OMB No.: 3145-0058  
NSF 99-156