Focused Research Groups in the Mathematical Sciences (FRG)

Program Solicitation
NSF 06-580

Replaces Document(s):
NSF 02-129

National Science Foundation

Directorate for Mathematical & Physical Sciences
Division of Mathematical Sciences

Letter of Intent Due Date(s) ***(required):***

August 18, 2006

Third Friday in August, Annually Thereafter

August 17, 2007

Third Friday in August, Annually Thereafter

Full Proposal Deadline(s) (due by 5 p.m. proposer's local time):

September 22, 2006

September 21, 2007

Third Friday in September, Annually Thereafter

REVISION NOTES

In furtherance of the President's Management Agenda, NSF has identified programs that will offer proposers the option to utilize Grants.gov to prepare and submit proposals, or will require that proposers utilize Grants.gov to prepare and submit proposals. Grants.gov provides a single Government-wide portal for finding and applying for Federal grants online.

In response to this program solicitation, proposers may opt to submit proposals via Grants.gov or via the NSF FastLane system. In determining which method to utilize in the electronic preparation and submission of the proposal, please note the following:

Collaborative Proposals. All collaborative proposals submitted as separate submissions from multiple organizations must be submitted via the NSF FastLane system. Chapter II, Section D.3 of the Grant Proposal Guide provides additional information on collaborative proposals.

- The maximum award size has been increased to $500,000 per year to accommodate exceptional projects of large scope; however, neither the program's anticipated funding amount nor the estimated number of awards has been

changed.
- Information is now requested regarding the commitment of senior personnel to the project.
- Instructions for submission of letters of intent and proposals have been clarified. Letters of intent are to be submitted via FastLane.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Focused Research Groups in the Mathematical Sciences (FRG)

Synopsis of Program:

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. Groups may include, in addition to mathematical scientists, researchers from other science and engineering disciplines appropriate to the proposed research. The activity supports projects for which the collective effort by a group of researchers is necessary to reach the scientific goals. Projects should be scientifically focused and well-delineated. It is not the intent of this activity to provide general support for infrastructure. Projects should also be timely, limited in duration to up to three years, and substantial in their scope and impact.

Cognizant Program Officer(s):

- Henry Warchall, Program Director, 1025 N, telephone: (703) 292-4861, fax: (703) 292-9032, email: hwarchal@nsf.gov
- Tie Luo, Program Director, 1025 N, telephone: (703) 292-8448, fax: (703) 292-9032, email: tluo@nsf.gov
- Mary Ann Horn, Program Director, 1025 N, telephone: (703) 292-4879, email: mhorn@nsf.gov

Applicable Catalog of Federal Domestic Assistance (CFDA) Number(s):

- 47.049 --- Mathematical and Physical Sciences

Award Information

Anticipated Type of Award: Standard Grant or Continuing Grant

Estimated Number of Awards: 10 to 15 Approximately 10-15 awards annually. The anticipated typical award type is a Standard Grant.

Anticipated Funding Amount: $12,000,000 Approximately $12,000,000 will be available for this activity annually, subject to availability of funds.

Eligibility Information

Organization Limit:

Proposals may only be submitted by the following:

- The categories of proposers identified in the NSF Grant Proposal Guide (GPG) are eligible to submit proposals under this program solicitation. Proposals involving investigators from more than

one institution are allowed and should be submitted as collaborative proposals.

PI Limit:

None Specified

Limit on Number of Proposals per Organization:

None Specified

Limit on Number of Proposals per PI:

None Specified

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **Letters of Intent:** Submission of Letters of Intent is required. Please see the full text of this solicitation for further information.
- **Full Proposals:**
  - Full Proposals submitted via FastLane: Grant Proposal Guide (GPG) Guidelines apply. The complete text of the GPG is available electronically on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg.
  - Full Proposals submitted via Grants.gov: NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov Guidelines apply (Note: The NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at: http://www.nsf.gov/bfa/dias/policy/docs/grantsgovguide.pdf/)

B. Budgetary Information

- **Cost Sharing Requirements:** Cost Sharing is not required by NSF.
- **Indirect Cost (F&A) Limitations:** None
- **Other Budgetary Limitations:** Other budgetary limitations apply. Please see the full text of this solicitation for further information.

C. Due Dates

- **Letter of Intent Due Date(s)** ***(required):***

  August 18, 2006

  Third Friday in August, Annually Thereafter

  August 17, 2007

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- **Full Proposal Deadline(s)** (due by 5 p.m. proposer's local time):

  September 22, 2006

September 21, 2007

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Proposal Review Information Criteria

Merit Review Criteria: National Science Board approved criteria. Additional merit review considerations apply. Please see the full text of this solicitation for further information.

Award Administration Information

Award Conditions: Standard NSF award conditions apply

Reporting Requirements: Standard NSF reporting requirements apply

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I. INTRODUCTION

The Division of Mathematical Sciences (DMS) of the National Science Foundation (NSF) expects to make a small number of awards annually 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 scientifically focused 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. DMS employs 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, and there are research needs that 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. A dedicated mode of support for such scientifically focused multi-investigator projects is provided by the FRG activity.

II. PROGRAM DESCRIPTION

The purpose of the FRG activity is to support work by groups of three or more 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. Groups may include, in addition to mathematical scientists, researchers from other scientific and engineering disciplines appropriate to the proposed research. Projects supported under this activity should be essentially collaborative in nature and depend for their advancement on the interaction of a group of researchers. Projects should be scientifically focused and well-delineated. It is not the intent of this activity to provide general support for infrastructure. 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, by no means exhaustive, 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 created new possibilities for significant progress.
- An existing important scientifically focused research agenda needs close cooperation of several researchers to be advanced or can be significantly accelerated through such cooperation.
- Significant opportunities for productive mutual exchange 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 a specific 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 in a timely manner. Thus, proposals must explain that interaction and group effort are critical to the success of the project. The research group should include at least three senior personnel or other professionals. The group members can, but are not required to, 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 project on a well-delineated topic. At the same time, the impact and promise of supported projects should be broad, significant, and long-term. Examples of possible outcomes for FRG projects include the following:

- Substantial progress is made toward solution of a set of major open questions.
- 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 scientifically focused research agenda is advanced significantly.
- Significant new opportunities for productive mutual exchange between different areas in the mathematical sciences are identified 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 important emerging area.
- Graduate students, postdoctoral researchers, and undergraduates are trained in new ways. This could include, but is not limited to, 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.

III. AWARD INFORMATION

Under this solicitation, proposals may be submitted for any funding amount from $150,000 up to $500,000 per year, for up to three years. The budget must be commensurate with the project and thoroughly justified in the proposal. Typical total 3-year award size is expected to be in the range from $800,000 to $1,000,000. Budget requests exceeding a 3-year total of $1,000,000 will be granted only in exceptional cases. NSF expects to fund approximately ten to fifteen awards annually, depending on the quality of submissions and the availability of funds. The anticipated date of awards is April of each year.

IV. ELIGIBILITY INFORMATION

Organization Limit:

Proposals may only be submitted by the following:

- The categories of proposers identified in the NSF Grant Proposal Guide (GPG) are eligible to submit proposals under this program solicitation. Proposals involving investigators from more than one institution are allowed and should be submitted as collaborative proposals.

PI Limit:

None Specified

Limit on Number of Proposals per Organization:

None Specified

Limit on Number of Proposals per PI:

None Specified

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

Letters of Intent *(required):* To expedite the review process for FRG proposals, a letter of intent to submit a proposal must be submitted via FastLane by 5:00 PM, proposer's local time, on the due date. This letter of intent should contain the following information:

- the title of the project,
- a brief project description,
- the names and affiliations of the principal investigators and other senior personnel and professionals,
- the names of any other participating institutions, and
- the name(s) of the DMS program(s) to which the proposal will be submitted for review.

Only one letter of intent per group should be submitted. Failure to meet the letter of intent deadline will disqualify an FRG proposal from consideration. Letters of intent are not evaluated for scientific merit; rather, they are used to assemble review panels with appropriate expertise. Please direct any questions about the letter of intent to one of the Cognizant Program Officers listed as Contacts for Additional Information.

Letter of Intent Preparation Instructions:

When submitting a Letter of Intent through FastLane in response to this Program Solicitation please note the conditions outlined below:

- SPO Submission is Not Required when submitting Letters of Intent
- A Minimum of 0 and Maximum of 4 Other Senior Project Personnel are allowed
- A Minimum of 0 and Maximum of 4 Other Participating Organizations are allowed
- Submission of multiple Letters of Intent are allowed

Full Proposal Preparation Instructions: Proposers may opt to submit proposals in response to this Program Solicitation via Grants.gov or via the NSF FastLane system.

- Full proposals submitted via FastLane: Proposals submitted in response to this program solicitation should be prepared and submitted in accordance with the general guidelines contained in the NSF Grant Proposal Guide (GPG). The complete text of the GPG is available electronically on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from pubs@nsf.gov. Proposers are reminded to identify this program solicitation number in the program solicitation block on the NSF Cover Sheet For Proposal to the National Science Foundation. Compliance with this requirement is critical to determining the relevant proposal processing guidelines. Failure to submit this information may delay processing.

- Full proposals submitted via Grants.gov: Proposals submitted in response to this program solicitation via Grants.gov should be prepared and submitted in accordance with the NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov. The complete text of the NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at: (http://www.nsf.gov/bfa/dias/policy/docs/grantsgovguide.pdf). To obtain copies of the Application Guide and Application Forms Package, click on the Apply tab on the Grants.gov site, then click on the Apply Step 1: Download a Grant Application Package and Application Instructions link and enter the funding opportunity number, (the program solicitation number without the NSF prefix) and press the Download Package button. Paper copies of the Grants.gov Application Guide also may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from pubs@nsf.gov.

In determining which method to utilize in the electronic preparation and submission of the proposal, please note the following:

Collaborative Proposals. All collaborative proposals submitted as separate submissions from multiple organizations must be submitted via the NSF FastLane system. Chapter II, Section D.3 of the Grant Proposal Guide provides additional information on collaborative proposals.

The following instructions supplement or deviate from the GPG and the NSF Grants.gov Application Guide:

a. Cover sheet. To facilitate timely processing, the title of the proposed project should begin with the four characters "FRG:" The title of a collaborative FRG proposal should begin with the designation "FRG: Collaborative Research:" All proposals in a collaborative group should have the same title and should be submitted to the same DMS program (s).

b. Project Description.
    - Proposed Research. Narrative, not to exceed twenty pages, consisting of the following items:
        - An explanation of the scientific context and timeliness of the proposed project.
        - A description of the proposed research.
        - A justification for why a group effort is necessary to carry out the proposed project.
        - A timeline for the planned work and a justification for the duration.
        - Plans for disseminating the results.
        - Results from prior NSF support, if applicable and related to the proposal.
    - Modes of Collaboration and Training. The following components, not to exceed an additional five pages total, are optional and can be included if appropriate:
        - A description of new modes of collaboration.
        - A description of new modes of training graduate students, postdoctoral researchers, or

undergraduates.
- A description of planned workshops and a list of tentative participants.

- 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.

c. Biographical Sketches. For all key personnel, please provide a brief biographical sketch. 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. For senior personnel and other professionals, this additional page should provide an estimate of the amount of time to be committed to the project. For investigators with other supported research, this additional page should explain how the investigator will allocate time and effort among the projects.

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 without review.

B. Budgetary Information

Cost Sharing: Cost sharing is not required by NSF in proposals submitted to the National Science Foundation.

Indirect Cost (F&A) Limitations: None

Other Budgetary Limitations: Award size is limited to between $150,000 and $500,000 per year for up to three years duration

C. Due Dates

- **Letter of Intent Due Date(s)** ***(required):***

  August 18, 2006

  Third Friday in August, Annually Thereafter

  August 17, 2007

  Third Friday in August, Annually Thereafter

- **Full Proposal Deadline(s)** (due by 5 p.m. proposer's local time):

  September 22, 2006

  September 21, 2007

  Third Friday in September, Annually Thereafter

Letters of intent in response to this solicitation must be submitted via FastLane by 5:00 PM local time on the due date.

D. FastLane / Grants.gov Requirements

- **For Proposals Submitted Via FastLane:**

Detailed technical instructions regarding the technical aspects of preparation and submission via FastLane are available at: https://www.fastlane.nsf.gov/a1/newstan.htm. For FastLane user support, call the FastLane Help Desk at 1-800-673-6188 or e-mail fastlane@nsf.gov. The FastLane Help Desk answers general technical questions related to the use of the FastLane system. Specific questions related to this program solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this funding opportunity.

Submission of Electronically Signed Cover Sheets. The Authorized Organizational Representative (AOR) must

electronically sign the proposal Cover Sheet to submit the required proposal certifications (see Chapter II, Section C of the Grant Proposal Guide for a listing of the certifications). The AOR must provide the required electronic certifications within five working days following the electronic submission of the proposal. Further instructions regarding this process are available on the FastLane Website at: https://www.fastlane.nsf.gov/fastlane.jsp.

- **For Proposals Submitted Via Grants.gov:**

Before using Grants.gov for the first time, each organization must register to create an institutional profile. Once registered, the applicant's organization can then apply for any federal grant on the Grants.gov website. The Grants.gov's Grant Community User Guide is a comprehensive reference document that provides technical information about Grants.gov. Proposers can download the User Guide as a Microsoft Word document or as a PDF document. The Grants.gov User Guide is available at: http://www.grants.gov/CustomerSupport. In addition, the NSF Grants.gov Application Guide provides additional technical guidance regarding preparation of proposals via Grants.gov. For Grants.gov user support, contact the Grants.gov Contact Center at 1-800-518-4726 or by email: support@grants.gov. The Grants.gov Contact Center answers general technical questions related to the use of Grants.gov. Specific questions related to this program solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this solicitation.

Submitting the Proposal: Once all documents have been completed, the Authorized Organizational Representative (AOR) must submit the application to Grants.gov and verify the desired funding opportunity and agency to which the application is submitted. The AOR must then sign and submit the application to Grants.gov. The completed application will be transferred to the NSF FastLane system for further processing.

VI. NSF PROPOSAL PROCESSING AND REVIEW PROCEDURES

Proposals received by NSF are assigned to the appropriate NSF program and, if they meet NSF proposal preparation requirements, for review. All proposals are carefully reviewed by a scientist, engineer, or educator serving as an NSF Program Officer, and usually by three to ten other persons outside NSF who are experts in the particular fields represented by the proposal. These reviewers are selected by Program Officers charged with the oversight of the review process. Proposers are invited to suggest names of persons they believe are especially well qualified to review the proposal and/or persons they would prefer not review the proposal. These suggestions may serve as one source in the reviewer selection process at the Program Officer's discretion. Submission of such names, however, is optional. Care is taken to ensure that reviewers have no conflicts with the proposer.

A. NSF Merit Review Criteria

All NSF proposals are evaluated through use of the two National Science Board (NSB)-approved merit review criteria: intellectual merit and the broader impacts of the proposed effort. In some instances, however, NSF will employ additional criteria as required to highlight the specific objectives of certain programs and activities.

The two NSB-approved merit review criteria are listed below. The criteria include considerations that help define them. These considerations are suggestions and not all will apply to any given proposal. While proposers must address both merit review criteria, reviewers will be asked to address only those considerations that are relevant to the proposal being considered and for which the reviewer is qualified to make judgements.

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 the 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?

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?

NSF staff will give careful consideration to the following 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 learning perspectives.

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 -- is 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.

Additional Review Criteria:

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 group effort is focused on a cohesive well-delineated goal
- Timeliness of the planned work
- Likelihood of substantial progress
- Long-term scientific impact of the proposed activity
- Extent to which the whole of the proposed group effort project will be greater than the sum of its parts
- Appropriateness of the group members, the group structure, and the proposed modes of collaboration
- The nature of involvement and extent of commitment of the senior personnel
- Adequacy and appropriateness of the proposed timeline and management plan
- Adequacy and appropriateness of the budget

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 to emphasize the impact of the projects in a broad mathematical context.

B. Review and Selection Process

Proposals submitted in response to this program solicitation will be reviewed by Ad hoc Review and/or Panel Review.

Reviewers will be asked to formulate a recommendation to either support or decline each proposal. The Program Officer assigned to manage the proposal's review will consider the advice of reviewers and will formulate a recommendation.

After scientific, technical and programmatic review and consideration of appropriate factors, the NSF Program Officer recommends to the cognizant Division Director whether the proposal should be declined or recommended for award. NSF is striving to be able to tell applicants whether their proposals have been declined or recommended for funding within six months. The time interval begins on the date of receipt. The interval ends when the Division Director accepts the Program Officer's recommendation.

A summary rating and accompanying narrative will be completed and submitted by each reviewer. In all cases, reviews are treated as confidential documents. Verbatim copies of reviews, excluding the names of the reviewers, are sent to the Principal Investigator/Project Director by the Program Officer. In addition, the proposer will receive an explanation of the decision to award or decline funding.

In all cases, after programmatic approval has been obtained, the proposals recommended for funding will be 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 and Agreements 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 a 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 and Agreements Officer does so at their own risk.

VII. 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. Organizations whose proposals are declined will be advised as promptly as possible by the cognizant NSF Program administering the program. Verbatim copies of reviews, not including the identity of the reviewer, will be provided automatically to the Principal Investigator. (See Section VI.B. for additional information on the review process.)

B. Award Conditions

An NSF award consists of: (1) the award letter, which includes any special provisions applicable to the award 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 award conditions, such as Grant General Conditions (GC-1); * or Federal Demonstration Partnership (FDP) Terms and Conditions * and (5) any announcement or other NSF issuance that may be incorporated by reference in the award letter. Cooperative agreements also are administered in accordance with NSF Cooperative Agreement Financial and Administrative Terms and Conditions (CA-FATC) and the applicable Programmatic Terms and Conditions. NSF awards are electronically signed by an NSF Grants and Agreements Officer and transmitted electronically to the organization via e-mail.

*These documents may be accessed electronically on NSF's Website at http://www.nsf.gov/awards/managing/general_conditions.jsp?org=NSF. Paper copies may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from pubs@nsf.gov.

More comprehensive information on NSF Award Conditions and other important information on the administration of NSF awards is contained in the NSF *Award & Administration Guide* (AAG) Chapter II, available electronically on the NSF Website at http://www.nsf.gov/publications/pub_summ.jsp?ods_key=aag.

C. Reporting Requirements

For all multi-year grants (including both standard and continuing grants), the Principal Investigator must submit an annual project report to the cognizant Program Officer at least 90 days before the end of the current budget period. (Some programs or awards require more frequent project reports). Within 90 days after expiration of a grant, the PI also is required to submit a final project report.

Failure to provide the required annual or final project reports will delay NSF review and processing of any future funding increments as well as any pending proposals for that PI. PIs should examine the formats of the required reports in advance to assure availability of required data.

PIs are required to use NSF's electronic project-reporting system, available through FastLane, for preparation and submission of annual and final project reports. Such reports provide information on activities and findings, project participants (individual and organizational) publications; and, other specific products and contributions. PIs will not be required to re-enter information previously provided, either with a proposal or in earlier updates using the electronic system. Submission of the report via FastLane constitutes certification by the PI that the contents of the report are accurate and complete.

VIII. AGENCY CONTACTS

General inquiries regarding this program should be made to:

- Henry Warchall, Program Director, 1025 N, telephone: (703) 292-4861, fax: (703) 292-9032, email: hwarchal@nsf.gov
- Tie Luo, Program Director, 1025 N, telephone: (703) 292-8448, fax: (703) 292-9032, email: tluo@nsf.gov
- Mary Ann Horn, Program Director, 1025 N, telephone: (703) 292-4879, email: mhorn@nsf.gov

For questions related to the use of FastLane, contact:

- FastLane Help Desk, telephone: 1-800-673-6188; e-mail: fastlane@nsf.gov.

For questions relating to Grants.gov contact:

- Grants.gov Contact Center: If the Authorized Organizational Representatives (AOR) has not received a confirmation message from Grants.gov within 48 hours of submission of application, please contact via telephone: 1-800-518-4726; e-mail: support@grants.gov.

IX. OTHER INFORMATION

The NSF Website provides the most comprehensive source of information on NSF Directorates (including contact information), programs and funding opportunities. Use of this Website by potential proposers is strongly encouraged. In addition, MyNSF (formerly the Custom News Service)is an information-delivery system designed to keep potential proposers and other interested parties apprised of new NSF funding opportunities and publications, important changes in proposal and award policies and procedures, and upcoming NSF Regional Grants Conferences. Subscribers are informed through e-mail or the user's Web browser each time new publications are issued that match their identified interests. MyNSF also is available on NSF's Website at http://www.nsf.gov/mynsf/.

Grants.gov provides an additional electronic capability to search for Federal government-wide grant opportunities. NSF funding opportunities may be accessed via this new mechanism. Further information on Grants.gov may be obtained at http://www.grants.gov.

The DMS Research Training Groups (RTG) program provides groups of mathematical sciences researchers having related research goals with funds to foster research-based training and education. See the EMSW21 Program Solicitation.

ABOUT THE NATIONAL SCIENCE FOUNDATION

The National Science Foundation (NSF) is an independent Federal agency created by the National Science Foundation Act of 1950, as amended (42 USC 1861-75). The Act states the purpose of the NSF is "to promote the progress of science; [and] to advance the national health, prosperity, and welfare by supporting research and education in all fields of science and engineering."

NSF funds research and education in most fields of science and engineering. It does this through grants and cooperative agreements to more than 2,000 colleges, universities, K-12 school systems, businesses, informal science organizations and other research organizations throughout the US. The Foundation accounts for about one-fourth of Federal support to academic institutions for basic research.

NSF receives approximately 40,000 proposals each year for research, education and training projects, of which approximately 11,000 are funded. In addition, the Foundation receives several thousand applications for graduate and postdoctoral fellowships. The agency operates no laboratories itself but does support National Research Centers, user facilities, certain oceanographic vessels and Antarctic research stations. The Foundation also supports cooperative research between universities and industry, US participation in international scientific and engineering efforts, and educational activities at every academic level.

Facilitation Awards for Scientists and Engineers with Disabilities provide funding for special assistance or equipment to enable persons with disabilities to work on NSF-supported projects. See Grant Proposal Guide Chapter II, Section D.2 for instructions regarding preparation of these types of proposals.

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 about NSF programs, employment or general information. TDD may be accessed at (703) 292-5090 and (800) 281-8749, FIRS at (800) 877-8339.

The National Science Foundation Information Center may be reached at (703) 292-5111.

The National Science Foundation promotes and advances scientific progress in the United States by competitively awarding grants and cooperative agreements for research and education in the sciences, mathematics, and engineering.

To get the latest information about program deadlines, to download copies of NSF publications, and to access abstracts of awards, visit the NSF Website at http://www.nsf.gov

- **Location:** 4201 Wilson Blvd. Arlington, VA 22230
- **For General Information** (NSF Information Center)**:** (703) 292-5111
- **TDD (for the hearing-impaired):** (703) 292-5090
- **To Order Publications or Forms:**

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  or telephone: (703) 292-7827
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