# Computing Community Consortium (CCC): Defining the Large-Scale Infrastructure Needs of the Computing Research Community

Program Solicitation NSF 06-551



## National Science Foundation

Directorate for Computer and Information Science and Engineering Division of Computer & Network Systems Division of Computing & Communication Foundations Division of Information and Intelligent Systems

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

June 10, 2006

## SUMMARY OF PROGRAM REQUIREMENTS

## General Information

## Program Title:

Computing Community Consortium (CCC): Defining the Large-Scale Infrastructure Needs of the Computing Research Community

## Synopsis of Program:

The availability of state-of-the-art research infrastructure is essential to advances in all science and engineering fields. For many years, NSF has supported the development and deployment of research instrumentation and facilities. Shared-use facilities in particular, including those funded through NSF's MREFC account, have been instrumental in allowing science and engineering communities to explore compelling research "grand challenges". With emerging systems-level challenges and opportunities in computer science and engineering, the time is right for the computing research community to identify the large-scale research infrastructure needs critical, not only to advances in the field, but to US competitiveness in IT overall.

The Directorate for Computer and Information Science and Engineering (CISE) is calling for the computing research community to unite in the establishment of a Computing Community Consortium (CCC). CISE will support the CCC as a community proxy responsible for facilitating the conceptualization and design of promising infrastructure-intensive projects identified by the computing research community to address compelling scientific "grand challenges" in computing. The CCC will ensure broad community engagement in the identification of compelling research agendas and in the subsequent identification and refinement of related shared use infrastructure requirements.

One of the first responsibilities of the CCC will be guiding the design of the Global Environment for Networking Innovations (GENI). GENI is a facility concept already being explored by the research community, including investigators from the disciplines supported by CISE. GENI will complement ongoing CISE research investments in networking, distributed systems and other areas. The GENI facility is expected to increase the quality and quantity of experimental research outcomes supported by CISE, and to accelerate the transition of these outcomes into products and services to enhance economic competitiveness and secure the Nation's future.

## Cognizant Program Officer(s):

 Cheryl F. Albus, Staff Associate, Directorate for Computer & Information Science & Engineering, 1105 N, telephone: (703) 292-7051, fax: (703) 292-9074, email: calbus@nsf.gov

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

• 47.070 --- Computer and Information Science and Engineering

## Eligibility Information

- Organization Limit: A CCC proposal must be submitted by an organization that is a consortium or that represents a consortium, with a stake in basic research and education in computing. Such an organization may submit only one CCC proposal. The consortium is expected to be broad-based, with members that are institutions of higher education many of whom will have a strong research track record in computer science and engineering as well as other private and public sector organizations, including industry. The submitting organization must be a legal entity eligible to receive federal funding.
- PI Eligibility Limit: None Specified.
- Limit on Number of Proposals: An organization may submit only one CCC proposal. An individual may appear as PI, co-PI, Senior Personnel or Consultant on no more than one CCC proposal.

## Award Information

- Anticipated Type of Award: Cooperative Agreement
- Estimated Number of Awards: 1
- Anticipated Funding Amount: \$6,000,000 for 36 months, subject to availability of funds

## **Proposal Preparation and Submission Instructions**

## A. Proposal Preparation Instructions

• Full Proposal Preparation Instructions: This solicitation contains information that deviates from the standard Grant Proposal Guide (GPG) proposal preparation guidelines. Please see the full text of this solicitation for further information.

## **B. Budgetary Information**

- Cost Sharing Requirements: Cost Sharing is not required by NSF.
- Indirect Cost (F&A) Limitations: Not Applicable.
- Other Budgetary Limitations: Not Applicable.

## C. Due Dates

• Full Proposal Deadline Date(s) (due by 5 p.m. submitter's local time): June 10, 2006

## **Proposal Review Information**

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:** Additional reporting requirements apply. Please see the full text of this solicitation for further information.

Summary of Program Requirements

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- **III. Eligibility Information**
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## I. INTRODUCTION

The availability of state-of-the-art research infrastructure is essential to advances in all science and engineering fields. For many years, NSF has supported the development and deployment of research instrumentation and facilities. Shared-use facilities in particular, including those funded through NSF's MREFC account, have been instrumental in allowing science and engineering communities to explore compelling research "grand challenges." With emerging systems-level challenges and opportunities in computer science and engineering, the time is right for the computing research community to identify the large-scale research infrastructure needs critical, not only to advances in the field, but to US competitiveness in IT overall.

## **II. PROGRAM DESCRIPTION**

The Directorate for Computer and Information Science and Engineering (CISE) is calling for the computing research community to unite in the establishment of a Computing Community Consortium (CCC). CISE will support the CCC as a community proxy responsible for facilitating the conceptualization and design of promising infrastructure-intensive projects identified by the computing research community to address compelling scientific "grand challenges" in computing. The CCC will ensure broad community engagement in the identification of compelling research agendas and in the subsequent identification and refinement of related shared use infrastructure requirements.

One of the first responsibilities of the CCC will be guiding the design of the Global Environment for Networking Innovations (GENI). As such, the process to be followed in maturing the GENI design might serve as a prototype for the identification and development of other infrastructure-intensive projects yet to be defined by the computing community. In fact, the CCC must play a broader role, serving a community proxy function that facilitates the conceptualization of other promising infrastructure-intensive projects designed to meet the computing community's broad research needs.

About GENI. GENI is a facility concept being explored by the research community, including investigators from the

disciplines supported by CISE. GENI is expected to complement ongoing CISE research investments in networking, distributed systems and other areas. It promises to increase the quality and quantity of experimental research outcomes supported by CISE, and to accelerate the transition of these outcomes into products and services to enhance economic competitiveness and secure the Nation's future.

With CISE support, the computing community is already engaged in the conceptual design of the facility. A number of workshops have taken place and, under the leadership of a planning group, an initial strawman design has been completed. This design is being shared broadly for comment and is available for review at www.geni.net. CISE will support a number of town hall meetings in the spring of 2006 to gather community input that further informs and refines the facility design. Assuming the concept proves to be as promising as currently anticipated, GENI construction may be considered for funding from NSF's MREFC account.

When funded, the CCC will assume responsibility for guiding evolution of the GENI design on behalf of the research community, ensuring broad community participation in the GENI design process and identifying necessary pre-construction development activities. It is anticipated that the GENI design will be finalized during 2007.

Through a complementary competition to be initiated during calendar year 2006, CISE anticipates establishing a GENI Project Office to prepare for and support GENI construction and subsequent operations.

**Supporting NSF's MREFC Process.** The design and development stages of large facility projects like GENI are described in NSF's *Guidelines for Planning and Managing the Major Research Equipment and Facilities Construction Account.* The CCC role in this process for GENI is summarized below.

Preliminary Design and Readiness Stage: The CCC will be responsible for defining the scientific grand challenges to be addressed with GENI and for identifying the necessary infrastructure requirements. The CCC will define the GENI research agenda, and provide scientific leadership and guidance to the GENI Project Office (to be established this year) to ensure that the GENI design is fully compatible with this agenda. The GENI Project Office, with input from the CCC, will then: refine the Project Execution Plan; prepare a Project Development Plan that addresses major risks anticipated in the completion of project design and development activities and in the undertaking of construction; and develop a robust bottom-up budget estimate that can be transmitted with confidence to the NSF Director, the National Science Board, the Office of Management and Budget and the Congress for inclusion in a future NSF budget request. A detailed description of the activities to be undertaken during the Preliminary Design/Readiness stage of GENI in preparation for a full Preliminary Design Review by an independent panel of experts is provided in the *Guidelines for Planning and Managing the Major Research Equipment and Facilities Construction Account.* With the successful review of the Preliminary Design and NSF management approval, the project will progress to the next stage - the Final Design Stage.

Final Design Stage: During the Final Design Stage, the CCC will provide scientific leadership to the GENI Project Office in order to assist with the development and finalization of the scientific and technical requirements for GENI construction. Requirements include: delivery of designs, specifications and work scopes that will be competitively bid; refined bottom-up cost estimates and contingency estimates; development and delivery to NSF of a Project Management Control System for project technical and financial status reporting; successful prototyping of key technologies necessary for construction; finalization of commitments with academic, industry, interagency and international partners; and, submission of a complete Project Execution Plan for construction. The Final Design for GENI will be reviewed using NSF's merit review procedures. Following merit review and approval by the National Science Board, the CCC and the GENI Project Management Office will together produce a Final Design as defined in the document, *Guidelines for Planning and Managing the Major Research Equipment and Facilities Construction Account.* 

# **III. ELIGIBILITY INFORMATION**

**Organization Limit:** A CCC proposal must be submitted by an organization that is a consortium or that represents a consortium, with a stake in basic research and education in computing. Such an organization may submit only one CCC proposal. The consortium is expected to be broad-based, with members that are institutions of higher education - many of whom will have a strong research track record in computer science and engineering - as well as other private and public sector organizations, including industry. The submitting organization must be a legal entity eligible to receive federal funding.

#### PI Eligibility Limit: None

Limit on Number of Proposals: An organization may submit only one CCC proposal. An individual may appear as PI, co-PI, Senior Personnel or Consultant in no more than one CCC proposal.

One cooperative agreement not to exceed \$6,000,000 for 36 months, subject to availability of funds.

## V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

## **A. Proposal Preparation Instructions**

#### **Full Proposal Instructions:**

Proposals submitted in response to this program announcement/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.

For this solicitation, the following supplementary guidance is provided.

Proposers are encouraged to engage the broadest range of stakeholders, including members representing academic, industry and other types of organizations. With respect to GENI, proposers should consider previous workshop reports and planning activities that provide community perspectives on GENI (http://www.nsf.gov/cise/geni/) and the GENI conceptual design developed by the planning group and available at www.geni.net.

## **Project Summary**

Provide a brief 1-page description of the project activities and separate statements describing the intellectual merit and broader impacts of the proposed project. Please note that if a Project Summary does not explicitly address both the intellectual merit and the broader impacts of the proposed activities, the proposal will be returned without review. Detailed explanation can be found at http://www/nsf/gov/pubsys/ods/getpub.cfm?iin127.

#### **Project Description**

The Project Description section must not exceed 15 pages and must contain the following sections:

CCC Management Plan: Provide a detailed CCC management plan, including schedule and milestones, to

- 1. Establish the CCC as an effective community proxy for the computing research community. Describe the activities the CCC will undertake to identify promising CISE-related infrastructure-intensive projects developed to enable large-scale, systems-level fundamental research in computing. Provide plans for education and outreach activities.
- 2. Develop and finalize a community consensus for the GENI design, including the development of a compelling GENI research agenda.

Provide a functional project budget in tabular form showing how resources will be allocated to meet the goals and milestones described. Provide a critical self-assessment plan that includes measurable metrics and discuss how the results of the self-assessment will be used for project improvement.

**Organizational Structure and Project Staffing.** Describe the broad-based membership of the consortium, developed to ensure that the broad research interests of the computing community, including academe, government and industry, are represented. Discuss the administrative and organizational structure of the CCC, including any necessary advisory, administrative and scientific support structures, and the CCC's relationship to the proposing organization. Describe how the CCC will be organized to provide scientific leadership to the GENI Project Office and any other facility project offices that might be supported in the future. Describe the experience of the submitting institution in managing projects of this nature. Describe the relevant qualifications of the PI, Co-PI, and other senior personnel. Describe the roles of subawardees (if any) and consultants (if any). Provide a table that describes the following for each member of the management team, including all subawardees and consultants: name, administrative position/project title, level of effort (monthly and annually), activities

assigned, and responsibilities for achievement of key milestones and outcomes.

**GENI Risk Assessment and Mitigation.** Describe how the CCC will provide scientific leadership to the GENI Project Office to identify and assess risks and to develop effective mitigation strategies.

**Office Facilities.** Describe office and meeting facilities that will be available to support the work of the CCC, including office equipment, teleconference, communications capabilities, and institutional meeting space necessary to conduct project business.

Proposers are reminded to identify the program announcement/solicitation number (06-551) in the program announcement/ solicitation block on the proposal Cover Sheet. Compliance with this requirement is critical to determining the relevant proposal processing guidelines. Failure to submit this information may delay processing.

## **B. Budgetary Information**

## **Cost Sharing:**

Cost sharing is not required by NSF in proposals submitted under this Program Solicitation.

## C. Due Dates

Proposals must be submitted by the following date(s):

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

June 10, 2006

## **D. FastLane Requirements**

Proposers are required to prepare and submit all proposals for this announcement/solicitation through the FastLane system. Detailed instructions for proposal 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 announcement/solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this announcement/solicitation.

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. Proposers are no longer required to provide a paper copy of the signed Proposal Cover Sheet to NSF. Further instructions regarding this process are available on the FastLane Website at: http://www.fastlane.nsf.gov

# VI. PROPOSAL REVIEW INFORMATION

# A. NSF Proposal Review Process

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, or adjacent disciplines to that principally addressed in the proposal.

The National Science Board approved revised criteria for evaluating proposals at its meeting on March 28, 1997 (NSB 97-72). All NSF proposals are evaluated through use of the two merit review criteria. In some instances, however, NSF will employ additional criteria as required to highlight the specific objectives of certain programs and activities. On July 8, 2002, the NSF Director issued Important Notice 127, Implementation of new Grant Proposal Guide Requirements Related to the Broader Impacts Criterion. This Important Notice reinforces the importance of addressing both criteria in the preparation and review of all proposals submitted to NSF. NSF continues to strengthen its internal processes to ensure that both of the merit review criteria are addressed when making funding decisions.

In an effort to increase compliance with these requirements, the January 2002 issuance of the GPG incorporated revised proposal preparation guidelines relating to the development of the Project Summary and Project Description. Chapter II of the GPG specifies that Principal Investigators (PIs) must address both merit review criteria in separate statements within the one-page Project Summary. This chapter also reiterates that broader impacts resulting from the proposed project must be addressed in the Project Description and described as an integral part of the narrative.

Effective October 1, 2002, NSF will return without review proposals that do not separately address both merit review criteria within the Project Summary. It is believed that these changes to NSF proposal preparation and processing guidelines will more clearly articulate the importance of broader impacts to NSF-funded projects.

The two National Science Board approved merit review criteria are listed below (see the Grant Proposal Guide Chapter III.A for further information). 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 he/she is qualified to make judgments.

#### 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:

Reviewers will be asked to comment explicitly on the issues discussed below, in the context of each proposal's Intellectual Merit and Broader Impacts.

- How well does the submitting organization represent the broad computing research community, particularly
  the academic and industrial communities including the communities supported by the CISE Directorate? Is
  the CCC sufficiently broad to play a community proxy role for CISE-related large-scale, systems-level
  infrastructure projects, including GENI?
- Is the organization and management structure sufficient to meet the project goals? Does the submitting organization have experience with similar types of projects? How qualified are the PI(s) and other named

personnel to meet the project goals? Are the milestones and associated activities appropriate?

- Comment upon the quality and appropriateness of the proposed plans to provide scientific leadership guiding the evolution of the GENI design. Does the proposal present a comprehensive and timely approach to complete GENI design? Are the milestones and associated activities appropriate?
- How well does the proposing team understand the research and education priorities associated with GENI? Does the plan for development of the GENI final design include sufficient mechanisms for obtaining input from and consulting with the community?

## **B. Review Protocol and Associated Customer Service Standard**

All proposals are carefully reviewed by at least three other persons outside NSF who are experts in the particular field represented by the proposal. Proposals submitted in response to this solicitation will be reviewed using a combination of ad hoc, review panel, and/or site visits .

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.

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 Director. In addition, the proposer will receive an explanation of the decision to award or decline funding.

NSF is striving to be able to tell proposers whether their proposals have been declined or recommended for funding within six months. The time interval begins on the closing date of an announcement/solicitation, or the date of proposal receipt, whichever is later. The interval ends when the Division Director accepts the Program Officer's recommendation.

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 Division 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.A. 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 (NSF-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 agreement awards are administered in accordance with NSF Cooperative Agreement Financial and Administrative Terms and Conditions (CA-FATC). Electronic mail notification is the preferred way to transmit NSF awards to organizations that have electronic mail capabilities and have requested such notification from the Division of Grants and Agreements.

Consistent with the requirements of OMB Circular A-16, *Coordination of Geographic Information and Related Spatial Data Activities*, Fand the Federal Geographic Data Committee, all NSF awards that result in relevant geospatial data must be submitted to Geospatial One-Stop in accordance with the guidelines provided at: www.geodata.gov.

More comprehensive information on NSF Award Conditions is contained in the NSF *Grant Policy Manual* (GPM) Chapter II, available electronically on the NSF Website at http://www.nsf.gov/publications/pub\_summ.jsp?ods\_key=gpm. The GPM is also for sale through the Superintendent of Documents, Government Printing Office (GPO), Washington, DC 20402. The telephone number at GPO for subscription information is (202) 512-1800. The GPM may be ordered through the GPO Website at http://www.gpo.gov/.

\*These documents may be accessed electronically on NSF's Website at http://www.nsf.gov/awards/managing/. Paper copies of these documents may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from pubs@nsf.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 activities of the awardee will be monitored through brief monthly reports of financial and technical status by monthly teleconferences and quarterly progress reports. Reports should account for the activities of sub-awardees and major subcontractors as well. In lieu of a fourth quarter report, an annual report on progress and plans will be submitted by the awardee to the cognizant Program Officer. NSF will provide the format for these reports within one month of the award date. Both quarterly and annual reports must address progress of the CCC regarding the duties outlined in the Solicitation.

Within 90 days after the expiration of an award, the PI also is required to submit a final project report. Failure to provide final technical reports delays NSF review and processing of pending proposals for the PI and all Co-PIs. 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. This system 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. PIs will not be required to re-enter information previously provided, either with a proposal or in earlier updates using the electronic system.

# VIII. CONTACTS FOR ADDITIONAL INFORMATION

General inquiries regarding this program should be made to:

• Cheryl F. Albus, Staff Associate, Directorate for Computer & Information Science & Engineering, 1105 N, telephone: (703) 292-7051, fax: (703) 292-9074, email: calbus@nsf.gov

For questions related to the use of FastLane, contact:

 Joan Goetzinger, Staff Assistant for Integrative Activities, Directorate for Computer & Information Science & Engineering, Division of Computer and Network Systems, 1175 N, telephone: (703) 292-8188, fax: (703) 292-9030, email: jgoetzin@nsf.gov

# IX. OTHER PROGRAMS OF INTEREST

The NSF *Guide to Programs* is a compilation of funding for research and education in science, mathematics, and engineering. The NSF *Guide to Programs* is available electronically at <a href="http://www.nsf.gov/cgi-bin/getpub?gp">http://www.nsf.gov/cgi-bin/getpub?gp</a>. General descriptions of NSF programs, research areas, and eligibility information for proposal submission are provided in each chapter.

Many NSF programs offer announcements or solicitations concerning specific proposal requirements. To obtain additional information about these requirements, contact the appropriate NSF program offices. 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, which is updated daily on the NSF Website at http://www.nsf.gov/home/ebulletin, and in individual program announcements/solicitations.

Subscribers can also sign up for NSF's MyNSF News Service (http://www.nsf.gov/mynsf/) to be notified of new funding opportunities that become available.

## ABOUT THE NATIONAL SCIENCE FOUNDATION

The National Science Foundation (NSF) funds research and education in most fields of science and engineering. Awardees 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, although some programs may have special requirements that limit eligibility.

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 GPG Chapter II, Section D.2 for instructions regarding preparation of these types of proposals.

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:								
Send an e-mail to:	pubs@nsf.gov							
or telephone:	(703) 292-7827							
To Locate NSF Employees:	(703) 292-5111							

# 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 proposal 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.

An agency may not conduct or sponsor, and a person is not required to respond to an information collection unless it displays a valid OMB control number. The OMB control number for this collection is 3145-0058. 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: Suzanne Plimpton, Reports Clearance Officer, Division of Administrative Services, National Science Foundation, Arlington, VA 22230.

## OMB control number: 3145-0058.

P	olicies and Important Links		Privacy	FOIA		Help		Contact NSF		Contact Web Master		SiteMap
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