Science of Design   (SoD)
Software-Intensive Systems

National Science Foundation

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

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

   February 05, 2007

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.

This is the third year that CISE is encouraging innovative research and education in Science of Design for software-intensive systems. The emphasis this year is on team projects performing interdisciplinary research on the underlying sciences of software design. The program seeks research that combines creativity with rigor for the design of relevant, useful software systems.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Science of Design (SoD)
Software-Intensive Systems

Synopsis of Program:

The Science of Design (SoD) Program at NSF solicits proposals for projects that will bring creative, scientific advances to the design of software artifacts and systems. Design is a topic of great interest in many fields; the goal of the SoD Program is to advance design research and education to meet the critical software design challenges of the 21st century. The objective of the program is to bring new paradigms, concepts, approaches, models, and theories into the development of a strong intellectual foundation for software design, which will ultimately improve the processes of constructing, evaluating, and modifying software-intensive systems. This body of knowledge needs to be intellectually rigorous, formalized where appropriate, supported by empirical evidence where possible, open to creative, artistic expression, and above all, teachable.

Future software-intensive systems will be vastly different from those in use today. Revolutionary advances in hardware, networking, and human interface technologies will require entirely new ways of thinking about how software systems are conceptualized, built, understood, and evaluated. As we envision the future of complex distributed computing environments, innovative research is needed to provide the scientific foundations for managing issues of complexity, quality, cost, and human intellectual control of software design and development. To these ends, importing and adapting ideas from other design fields (engineering, biology, architecture, economics, and the arts, for example) are encouraged. Similarly, it is critical that software design researchers work across different areas within computer science to insure that design includes the interdependencies of software with other systems artifacts, such as complex data structures and data repositories. Thus, continuations of current lines of research or research to incrementally extend current software design methods are unlikely to be competitive in this solicitation.

While proposals from individual researchers will be considered by the SoD program, this year the program's focus will be on interdisciplinary team projects. Each proposal should provide a convincing argument that the proposed research is innovative and unique in its contribution to the Science of Design discipline, including careful reference to the literature. Selected projects will be funded for durations and at levels commensurate with the size of the team and the nature of the research. Larger projects typically will be funded for up to 3 years at levels of up to $300,000 per year. Investigators who wish to submit proposals that exceed these parameters **must** receive prior permission to do so from an SoD program officer.

Cognizant Program Officer(s):

- Alan Hevner, Program Director, CCF Division, 1114 N, telephone: (703) 292-8910, fax: (703) 292-9059, email: ahevner@nsf.gov

- Sol Greenspan, Program Director, CCF Division, 1108 N, telephone: (703) 292-8910, fax: (703) 292-9059, email: sgreensp@nsf.gov

- Anita La Salle, Program Director, CNS Division, 1175 N, telephone: (703) 292-8950, fax: (703) 292-9010, email: alasalle@nsf.gov

- Ephraim Glinert, Program Director, IIS Division, 1125 S, telephone: (703) 292-8930, fax: (703) 292-9073, email: eglinert@nsf.gov

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

- 47.070 --- Computer and Information Science and Engineering

Award Information

Anticipated Type of Award: Standard Grant or Continuing Grant

Estimated Number of Awards: 15 to 25 awards are expected.

Anticipated Funding Amount: $10,000,000 in FY 2007 subject to the availability of funds.

Eligibility Information

Organization Limit:

 None Specified

PI Limit:

 None Specified

Limit on Number of Proposals per Organization:

 None Specified

Limit on Number of Proposals per PI: 1

 A person may be a participant (i.e., PI, co-PI, senior personnel) on at most **one proposal** to the Science of Design program. Proposals that do not comply with this condition may be returned without review; it is therefore strongly advised that all project personnel check with their colleagues to ensure that all participants are in compliance with this condition.

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **Letters of Intent:** Not Applicable

- **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:** Not Applicable

- **Other Budgetary Limitations:** Not Applicable

C. Due Dates

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

     February 05, 2007

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

TABLE OF CONTENTS

I. INTRODUCTION

The Science of Design (SoD) program solicits proposals that address fundamental research and education topics in the science of software-intensive system design. The program's objective is to inspire the research community to make significant leaps in thinking about how to extend the intellectual and creative foundations for the design of software-intensive systems. Original ideas are sought on how to synthesize creative expression with scientific rigor in the design of relevant, useful software-intensive systems. The program recognizes that significant strides in creative thinking about design have a strong tradition in many scientific, engineering, and artistic disciplines, and the program seeks to import and adapt the best of these ideas while recognizing and addressing the unique nature of software (e.g., its mutability), which differs significantly from other designed artifacts. Project goals will typically include the development of new, innovative theories, constructs, models, methods, and/or tools to move software design into the next generation of complex, distributed computing environments. Proposals to develop software design demonstration test beds are also welcome.

II. PROGRAM DESCRIPTION

The Science of Design Program seeks to initiate new activities to bring together the necessary knowledge and expertise to develop a rigorous science of design for software-intensive systems. The program seeks ideas that will broaden the ways in which software design research is conducted, particularly in light of increasing software sophistication, diversity, dependences, and risks. The focus on design as the central theme of this program is intended to raise the level of discourse, generate new interdisciplinary perspectives, and take a more holistic view of the major challenges of building software-intensive systems.

A comprehensive science of design for software systems must confront a number of very difficult challenges. It is not possible to know all of the right research questions nor to prescribe how to respond to specific opportunities or problems. Nevertheless, the following research questions constitute some examples of interesting challenges that could be pursued.

- *How can we design and evaluate software architectures for future computing environments to achieve the greatest software system understandability, utility, and quality?*

- *How do we design software systems in order to support quality attribute tradeoffs? How are system quality requirements specified in design and realized in implementation?*

- *Given that software designs need to satisfy multiple stakeholders' inconsistent, contradictory, and partially understood objectives, how can improved design processes and designs lead to systems that converge on satisfaction of these requirements?*

- *How can we discover, understand, and predict the full behaviors of software components and systems in all circumstances of use and apply this knowledge in the design process?*

- *Knowing that designs of complex systems emerge throughout the development process, how do we build flexibility into design processes, methods, and models?*

- *How do we analyze and perform tradeoffs between information design and software design?*

- *How can we evaluate and certify the correctness and quality of software designs? How do we make designs testable?*

- *How can complex systems be designed in environments where the component parts are developed and controlled by multiple, independent entities?*

- *What economic and social tradeoffs are needed to best describe and understand the dynamics of designing software systems and the impacts of those systems on industrial, governmental, and societal infrastructures?*

- *How can designs be reused in environments and contexts other than the ones in which they were originally designed?*

- *How do we build design processes that can scale from the smallest software component to ultra-large scale systems of systems?*

- *How do we produce software system designs leading to systems that have the capacity to respond to surprise in operational environments?*

While the preceding list of questions hints at the broadness of Science of Design, we note that design is an explicit concern in many NSF programs. Projects that focus on the design of a particular type of system or system architecture, or which concern design issues specific to another NSF program, will not be appropriate to Science of Design. Submissions to SoD must have a clear focus on basic research to advance the *science of software-intensive design.* Thus, projects whose research focus is on more specific software engineering topics should be submitted elsewhere (e.g., to the Computing Processes and Artifacts (CPA) cluster within CCF Division).

As the third solicitation in the Science of Design program, we look forward in the near future to the effective application of SoD research outcomes to the design of practical software-intensive systems and to the integration of the generated design knowledge into educational curricula. Thus, in addition to basic SoD research proposals as described above, we encourage researchers to submit proposals in two special categories.

1. Demonstration Testbeds: Members of the Science of Design research community need to be able to show that their

research results, as embodied in software artifacts, have utility and quality in practice. A potential SoD project could therefore perform research to build and maintain a design demonstration test bed to support research infrastructures on which the results from other projects could be implemented and evaluated.

2. Innovative Curricula: SoD will support projects to develop innovative curricula that have the potential to transform education on Science of Design topics. Investigators who wish to make contributions in this area may propose to do so either as part of a combined research and education project or as an innovative stand-alone educational project. Whatever the case, proposals are encouraged to leverage knowledge about design education from other disciplines to develop new educational models and materials for the design of software-intensive systems. Educational proposals must address the uniqueness and innovativeness of the project and its outcomes, including reference to the existing state of affairs in design education and how the proposed work will advance and impact it.

III. AWARD INFORMATION

The objective of the Science of Design program is to bring new paradigms, concepts, approaches, models, and theories into the development of a strong intellectual foundation for software design, which will ultimately improve the processes of constructing and modifying software-intensive systems. While proposals from individual researchers will be considered by the SoD program, this year the program's focus will be on interdisciplinary team projects. Selected projects will be funded for durations and at levels commensurate with the size of the team and the nature of the research. Larger projects typically will be funded for up to 3 years at levels of up to $300,000 per year. Investigators who wish to submit proposals that exceed these parameters **must** receive prior permission to do so from an SoD program officer.

IV. ELIGIBILITY INFORMATION

Organization Limit:

None Specified

PI Limit:

None Specified

Limit on Number of Proposals per Organization:

None Specified

Limit on Number of Proposals per PI: 1

A person may be a participant (i.e., PI, co-PI, senior personnel) on at most **one proposal** to the Science of Design program. Proposals that do not comply with this condition may be returned without review; it is therefore strongly advised that all project personnel check with their colleagues to ensure that all participants are in compliance with this condition.

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

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 guidance in the GPG or NSF Grants.gov Application Guide:

Project Management Plan - Up to three additional pages are required in an **appendix** section titled Project Management Plan. The purpose of this section is to provide detailed information about the role of key project personnel and the plan for coordinating project tasks among multiple institutions and disciplines. The Project Management Plan will be reviewed for clarity of task definitions, effectiveness of task assignments, and achievability of project milestones.

B. Budgetary Information

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

Budget Preparation Instructions: SoD budgets should include travel funds for one PI trip per year to attend SoD workshops and/or PI meetings.

C. Due Dates

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

    February 05, 2007

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.

- **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:

The Program is looking for new and creative ways of thinking about a Science of Design discipline for software-intensive systems. Incremental research will not be funded. Project Descriptions must present a vision for a Science of Design that forms the context for the contributions of the proposal.

B. Review and Selection Process

Proposals submitted in response to this program solicitation will be reviewed by Adhoc Review 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 *Grant Policy Manual* (GPM) Chapter II, available electronically on the NSF Website at http:// www.nsf.gov/publications/pub_summ.jsp?ods_key=gpm.

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:

- Alan Hevner, Program Director, CCF Division, 1114 N, telephone: (703) 292-8910, fax: (703) 292-9059, email: ahevner@nsf.gov

- Sol Greenspan, Program Director, CCF Division, 1108 N, telephone: (703) 292-8910, fax: (703) 292-9059, email: sgreensp@nsf.gov

- Anita La Salle, Program Director, CNS Division, 1175 N, telephone: (703) 292-8950, fax: (703) 292-9010, email: alasalle@nsf.gov

- Ephraim Glinert, Program Director, IIS Division, 1125 S, telephone: (703) 292-8930, fax: (703) 292-9073, email: eglinert@nsf.gov

For questions related to the use of FastLane, contact:

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

- Velma Lawson, Program Specialist, 1115 N, telephone: (703) 292-8910, fax: (703) 292-9059, email: vlawson@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.

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**   (703) 292-5111
  (NSF Information Center)**:**

- **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; and 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 proposer 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 or other entities needing information regarding applicants or nominees as part of a joint application review process, or in order to coordinate programs or policy; 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," 69 Federal Register 26410 (May 12, 2004), and NSF-51, "Reviewer/Proposal File and Associated Records, " 69 Federal Register 26410 (May 12, 2004). 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 Office of Management and Budget (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 the burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to:

Suzanne H. Plimpton
Reports Clearance Officer
Division of Administrative Services
National Science Foundation
Arlington, VA 22230

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The National Science Foundation, 4201 Wilson Boulevard, Arlington, Virginia 22230, USA
Tel: (703) 292-5111, FIRS: (800) 877-8339 | TDD: (800) 281-8749

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