High End Computing University Research Activity (HECURA)

Program Announcement NSF 08-531

Replaces Document(s): NSF 06-503



National Science Foundation

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

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

April 08, 2008

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 announcement, 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.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

High End Computing University Research Activity (HECURA)

Synopsis of Program:

The HECURA initiative invites research and education projects focused on novel programming models, languages, compilers and underlying communication libraries to enable extreme-scale highly computationand data-intensive scientific and engineering applications in high-end computing (HEC) environments.

Researchers in a wide range of science and engineering fields increasingly depend upon computation and

simulation to augment theoretical and experimental studies. In fact, modern HEC systems comprised of thousands to tens-of-thousands of processors now allow researchers to solve previously intractable scientific problems. However, researchers depend not only on access to state-of-the-art HEC systems, but on the availability of state-of-the-art tools that allow them to exploit HEC system capabilities to the fullest extent. To simplify the challenges of developing scientific and engineering codes that are portable, scale well on HEC systems, and effectively utilize computational resources, further research focused on programming models and languages for HEC is needed.

The gap between HEC processing power and HEC application performance points to a need to develop practical parallel programming models that provide ease of use, increase programmer productivity, and improve application performance and scalability, while taking advantage of underlying hardware, communication interconnects and operating systems.

This solicitation is concerned exclusively with research in novel programming models, languages, compilers and underlying communication libraries for extreme-scale highly computation- and data-intensive scientific and engineering applications. The target hosts for these tools are next generation systems comprised of tens-of-thousands to hundreds-of-thousands of processors.

Cognizant Program Officer(s):

- Almadena Y. Chtchelkanova, Program Director, Division of Computing and Communication Foundations, telephone: (703) 292-8910, email: achtchel@nsf.gov
- Frank Olken, Program Director, Division of Information and Intelligent Systems, telephone: (703) 292-8930, email: folken@nsf.gov
- Joseph Urban, Program Director, Division of Computing and Communication Foundations, telephone: (703) 292-8910, email: jurban@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: 10 to 20 awards with cumulative budgets of \$500K-\$1M and project durations of up to 3 years.

Anticipated Funding Amount: \$10,000,000 in FY 2008. The anticipated funding amount is 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:

None Specified

A. Proposal Preparation Instructions

- Letters of Intent: Not Applicable
- . Preliminary Proposal Submission: Not Applicable
- Full Proposals:
 - Full Proposals submitted via FastLane: NSF Proposal and Award Policies and Procedures Guide, Part I: 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 under this solicitation.
- . 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):

April 08, 2008

Proposal Review Information Criteria

Merit Review Criteria: National Science Board approved criteria apply.

Award Administration Information

Award Conditions: Standard NSF award conditions apply

Reporting Requirements: Standard NSF reporting requirements apply

TABLE OF CONTENTS

Summary of Program Requirements

- I. Introduction
- II. Program Description
- III. Award Information
- **IV. Eligibility Information**

V. Proposal Preparation and Submission Instructions

- A. Proposal Preparation Instructions
- B. Budgetary Information
- C. Due Dates
- D. FastLane/Grants.gov Requirements

VI. NSF Proposal Processing and Review Procedures

- A. NSF Merit Review Criteria
- B. Review and Selection Process

VII. Award Administration Information

- A. Notification of the Award
- B. Award Conditions
- C. Reporting Requirements
- VIII. Agency Contacts
- **IX. Other Information**

I. INTRODUCTION

The way in which scientific and engineering research is conducted has radically changed in the past two decades. Simulation and computation are increasingly used to augment, and in many cases replace, physical experimentation and the construction of prototypes. Complex systems can be analyzed and better understood through computer models. In many instances, such as in astrophysics or climate modeling, computational simulation is the principal method for exploring concepts and ideas. Complex human-made objects such as aircraft and advanced drugs might be better designed through computational optimization and computer-based experimentation and testing. Computation will inexorably play a more critical role, not only in coping with advanced scientific and engineering challenges, but in solving societal and environmental problems and in improving the nation's economic productivity and competitiveness.

In response to recommendations of the High End Computing Revitalization Task Force (HECRTF), http://www.nitrd.gov/ subcommittee/hec/hecrtf-outreach/hec-ura/index.html, an interagency group presently consisting of representatives from NSF, the Department of Energy (DOE) Office of Science, the Defense Advanced Research Projects Agency (DARPA), the DOE National Nuclear Security Administration, the National Aeronautics and Space Administration, and the National Security Agency, started a pilot program called High-End Computing University Research Activity (HECURA) to address basic research in the area of high-end computing (HEC). In FY 2004, NSF and DARPA jointly funded the Software Tools for High-End Computing (ST-HEC) program, focused on research and education projects in the area of software tools and compilers for HEC http://www.nsf.gov/pubs/2004/nsf04569/nsf04569.pdf.

In FY 2006, NSF released a HECURA solicitation focused on research and education projects in the area of I/O, file and storage systems design for efficient, high throughput data storage, retrieval and management in HEC environments, http://www.nsf.gov/pubs/2006/nsf06503/nsf06503.pdf. DARPA and DOE participated in the review process and contributed funds for several awards.

This FY 2008 solicitation seeks research and education proposals focused on programming models, languages and compilers for HEC systems comprised of tens-of-thousands to hundreds-of-thousands of processors. All proposals should be submitted to NSF, and will be reviewed using NSF's merit review process. NSF, DARPA, and other funding agencies will participate in the review process.

II. PROGRAM DESCRIPTION

In FY 2008, the HECURA initiative invites research and education proposals focused on novel programming models, languages, compilers and underlying communication libraries to support extreme-scale highly computation- and dataintensive scientific and engineering applications in HEC environments. Successful proposals will focus on increasing programmer productivity while achieving optimal application performance.

In order to take advantage of the computing power of future HEC platforms, one or more of the following challenges must be addressed in every proposal:

- · How will programmers contend with billion-way parallelism?
- What will programming languages of the future look like?
- · What will be the balance between user direct control of resources and system automation for ease of use?
- What new semantic constructs and programming models will be needed by petascale-and-beyond applications and algorithms?
- What minimal set of changes or enhancements to programming models, programming languages, and compilers can be introduced to enable better memory system performance?
- What minimal set of changes or enhancements to programming models, programming languages, and compilers can be introduced to enable better I/O, file and storage systems performance?
- How will compilers and runtime systems support new classes of applications dominated by dynamic metadata structures?
- · Will programmers continue to write traditional procedural programs or will a different paradigm become prevalent?

The topics of interests include but are not limited to programming models, languages, compilers and underlying communication libraries, for

- · expressing parallelism;
- effective locality-aware computing;
- · adaptive and global memory management including cache coherency;
- specifying concurrency;
- · expressing workload partitioning, synchronization and data access; and,
- · expressing resource management in an application.

Single- and multiple-investigator projects will be supported. Research collaborations are encouraged with industry, non-profit organizations, federal laboratories and Federally Funded Research and Development Centers (FFRDCs), including DOE National Laboratories. The resulting HECURA award portfolio will: advance the high-end computing research frontier in novel programming models, languages, and compilers; build national education and workforce capacity (including undergraduate, graduate, and faculty development and training); and increase the impact of High End Computing.

III. AWARD INFORMATION

Estimated program budget, number of awards and award size/duration are subject to the availability of funds. The estimated number of awards is between 10 and 20 awards, with cumulative budgets of \$500K-\$1M and project durations of up to 3 years. NSF anticipates that awards will be made by the end of August 2008.

IV. ELIGIBILITY INFORMATION

The categories of proposers eligible to submit proposals to the National Science Foundation are identified in the Grant Proposal Guide, Chapter I, Section E.

Organization Limit:

None Specified

PI Limit:

None Specified

Limit on Number of Proposals per Organization:

None Specified

Limit on Number of Proposals per PI:

None Specified

A. Proposal Preparation Instructions

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

- Full proposals submitted via FastLane: Proposals submitted in response to this program announcement 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 announcement 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.

B. Budgetary Information

Cost Sharing: Cost sharing is not required under this solicitation.

C. Due Dates

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

April 08, 2008

D. FastLane/Grants.gov Requirements

. For Proposals Submitted Via FastLane:

Detailed technical instructions regarding the technical aspects of 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 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 as general technical questions related to the use of Grants.gov. Specific questions related to this program announcement should be referred to the NSF program staff contact(s) listed in Section VIII of this announcement.

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, original, or potentially transformative 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?

Examples illustrating activities likely to demonstrate broader impacts are available electronically on the NSF website at: http:// www.nsf.gov/pubs/gpg/broaderimpacts.pdf.

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.

B. Review and Selection Process

Proposals submitted in response to this program announcement 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:

- Almadena Y. Chtchelkanova, Program Director, Division of Computing and Communication Foundations, telephone: (703) 292-8910, email: achtchel@nsf.gov
- Frank Olken, Program Director, Division of Information and Intelligent Systems, telephone: (703) 292-8930, email: folken@nsf.gov
- Joseph Urban, Program Director, Division of Computing and Communication Foundations, telephone: (703) 292-8910, email: jurban@nsf.gov

For questions related to the use of FastLane, contact:

- FastLane Help Desk, telephone: 1-800-673-6188; e-mail: fastlane@nsf.gov.
- Allison Smith, telephone: (703) 292-8910, email: asmith@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 (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		

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

Pol	icies and Important Links Privacy FOIA Help Contact NSF Contact V	Neb Master	SiteMap
鏺	The National Science Foundation, 4201 Wilson Boulevard, Arlington, Virginia 22230, USA Tel: (703) 292-5111, FIRS: (800) 877-8339 TDD: (800) 281-8749	11/0	: Updated: 07/06 <u>t Only</u>