

# THE ACTION AGENDA FOR ENGINEERING CURRICULUM INNOVATION (“ACTION AGENDA”) PROGRAM

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## *Program Announcement*

***NSF 99-169***

*(REPLACES NSF 98-27)*

DIRECTORATE FOR ENGINEERING  
DIVISION OF ENGINEERING EDUCATION AND CENTERS

***DEADLINE DATE: JANUARY 31, 2000***



NATIONAL SCIENCE FOUNDATION



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# SUMMARY OF PROGRAM REQUIREMENTS

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## General Information

**Program Name:** The Action Agenda for Engineering Curriculum Innovation

### Short Description/Synopsis of Program:

The *Action Agenda for Engineering Curriculum Innovation* is intended to support innovative proposals that will address one or more of the issues mentioned in the PROGRAM DESCRIPTION section, and in which there is a strong institutional commitment. The proposals are expected to be highly focused, original, and have well defined objectives. To ensure that the innovations have an impact beyond the immediate surroundings where the work is done, an *education impact statement* is required in each proposal. In it, both the means for institutionalizing and propagating the innovations and the proposed methods for assessing their impact must be detailed.

**Cognizant Program Officer(s):** Dr. Ernest T. Smerdon, Senior Education Associate, Room 585, Division of Engineering Education and Centers, telephone 703-306-1380, email: esmerdon@nsf.gov.

**Applicable Catalog of Federal Domestic Assistance (CFDA) No.:** 47.041 — Engineering Grants

## ELIGIBILITY

- ◆ Limitation on the categories of organizations that are eligible to submit proposals: **U.S. academic institutions with undergraduate and/or graduate programs in engineering may submit proposals in response to this announcement. Investigators involved in existing NSF-funded research and education projects, including centers and coalitions, are welcome to participate in the program. A proposal involving collaborative or joint arrangements with more than one institution must be submitted by a lead institution, with the other institutions as sub-awardees. The lead institution must have a college of engineering that is a primary participant.**
- ◆ PI eligibility limitations: **Only one proposal may be submitted in this competition by a given Principal Investigator and he/she may only collaborate in one other proposal as a co-Investigator. The principal investigator and any co-principal investigator must be full-time, tenured, or tenure-track members of a four-year degree granting engineering school. Record of research and scholarship will be a major criterion for selection.**
- ◆ Limitation on the number of proposals that may be submitted by an organization: **An institution may submit no more than two (2) proposals in response to this announcement as the sole or lead institution, in case of multi-institution proposals.**

## AWARD INFORMATION

- ◆ Type of award anticipated: **Standard Grant**
- Number of awards anticipated in FY 2000: **Approximately ten (10)**
- Amount of funds available: **Approximately \$5.0 million will be available for this initiative in FY 2000.**
- ◆ Anticipated date of award: **June 2000**

## **Proposal Preparation & Submission Instructions**

### **◆ Proposal Preparation Instructions**

- Letter of Intent requirements: **None**
- Preproposal requirements: **None**
- Proposal preparation instructions: **Standard NSF Grant Proposal Guide (GPG) instructions**
- Supplemental proposal preparation instructions: **None**
- Deviations from standard (GPG) proposal preparation instructions: **None**

### **◆ Budgetary Information**

- Cost sharing: **None**
- Indirect cost (F&A) limitations: **None**
- Other budgetary limitations: **Award amounts may not exceed \$500,000 total for projects with a duration of three years.**

### **◆ FastLane Requirements**

- FastLane proposal preparation requirements: **FastLane use required**
- FastLane point of contact: **Directorate for Engineering FastLane representative Cheryl Albus, 703-306-1302, email address: calbus@nsf.gov**

### **◆ Deadline/Target Dates**

- Full Proposal Deadline: **5:00 PM submitter's local time, January 31, 2000 (via FastLane)**

## **PROPOSAL REVIEW INFORMATION**

- ◆ Merit Review Criteria: **Standard National Science Board approved criteria**

## **AWARD ADMINISTRATION INFORMATION**

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

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- ◆ Special reporting requirements anticipated: **None**

## INTRODUCTION

During its 50-year history the National Science Foundation (NSF) has played a leading role in supporting research and education in engineering and science. This helped enable the nation to become preeminent in engineering and science. In turn, this was a major factor for the U.S. to achieve unmatched economic strength through introduction of new technology based products and services and their continuous improvement. The Foundation is a catalyst for the pursuit of excellence in both research and education at U.S. universities, and through its many programs provides leadership and support for improving learning in engineering, science and mathematics. It promotes the integration of education and research. The flexibility in engineering education now possible under the Engineering Criteria 2000 of The Accreditation Board for Engineering and Technology (ABET) provides yet another stimulus for greater innovation in undergraduate engineering education ([www.abet.com](http://www.abet.com)).

This announcement for *The Action Agenda for Engineering Curriculum Innovation* (“Action Agenda”) comes at a time when engineering education faces mounting challenges and rapidly changing employment circumstances for engineers. More engineering graduates will go into service industries, and more will be employed in small companies. Many will need knowledge and skills in areas of technology outside their engineering specialty. Career-long learning will be more important than ever as job and assignment changes become increasingly frequent. Curriculum innovation will be a major source of education support as graduates face these conditions in their careers.

## PROGRAM DESCRIPTION

The Action Agenda is intended to support innovative proposals that will address one or more of the issues mentioned below and in which there is strong institutional commitment. The program is to be a catalyst in facilitating the exploration of innovations that improve the quality of engineering education for the next century. Thus, NSF through the Action Agenda program seeks to increase the involvement of those members of engineering faculty who are highly active in research and scholarly endeavors in education innovation. Proposals must have strong support of the university administration. Evidence of support of employers of engineering graduates is desirable.

Proposals must be original, highly focused, and hold the promise of producing a lasting and widespread impact. To enhance the prospect of such an impact, an *education impact plan* is required of each proposal. In it both the means for institutionalizing and propagating the innovations and the proposed methods for assessing their impact must be detailed. Proposals should focus on a specific objective or set of objectives that are measurable.

An ever-present goal in the Action Agenda program is to attract talented individuals to pursue engineering. Diversity in the workforce continues to be a major issue. Projects that incorporate intrinsically these goals are especially encouraged.

## IMPORTANT OBJECTIVES

In addition to the general objectives given in earlier sections, the following important objectives are significant selection criteria for the successful proposals:

1. They serve some clearly identified and widely applicable needs.
2. They require an effort greater than could be reasonably borne as part of normal faculty duty.
3. They are likely to have an impact well beyond the boundaries of the participating institutions.

## ***TARGETED AREAS OF OPPORTUNITY***

The following areas of need are examples of particularly good opportunities for curriculum innovation:

### **1. Major Technology Tracks**

All engineering students, regardless of major, should be exposed to one or more of the major technology developments of our time. Information technology, microelectronics and micro-systems, and biotechnology come readily to mind. Development of course sequences that deal with these technology areas in some depth and yet are available to students not majoring in these disciplines would be important.

### **2. Curricula for Emerging Areas of Engineering**

Exciting new areas of engineering have education requirements that may be quite different from those of the established disciplines. For example, pre-requisite requirements may be very different. Bioengineering at the molecular level requires a great depth of understanding in biology, far more than is normally available to engineering students. Nanotechnology requires techniques and use of tools that are fundamentally different from most engineering disciplines and not widely available. Innovations to deal with these difficulties are needed.

### **3. Structured Early Career Support**

Graduates often find that their jobs require skills and knowledge beyond the scope of the education they have received. Such gaps are not easily filled by individual efforts without structured assistance. Innovative proposals to provide such structured assistance, possibly for a fee and at a distance, would be appropriate.

## ***SIGNIFICANT EFFORT***

While we do not exclude the possibility of developing a course on an unusual subject, we expect each proposal to deal with an issue broader in scope than a single course. Teaming of faculty members from different disciplines or different institutions is particularly encouraged.

## ***WEB SITES TO ENHANCE IMPACT***

To enhance the potential of producing an impact beyond the proposing institution, we require that each proposal spell out how its innovation could be shared in forms other than papers in journals or textbooks. Indeed, we strongly encourage each proposal to include a Web site to which materials produced in progress would be posted. In time, we envisage the establishment of a “curated” repository to house interactive materials that can be widely shared. To this end, interactive material to facilitate self-learning is particularly encouraged. However, the design or implementation of a repository is beyond the scope of this announcement.

## ***PROJECT ASSESSMENT/EVALUATION, IMPLEMENTATION AND DISSEMINATION***

Projects supported under the Action Agenda program should be innovative and experimental in character. Thus, it is essential that the methodologies and results of each project be subjected to careful evaluation to ensure that the objectives of the project are being met by the resulting innovation. In order to develop effective measures for evaluation, cooperation with persons experienced in assessment and evaluation is strongly encouraged. This system must include, as a minimum, measurable objectives (for example, objectives for student learning); procedures to measure their achievement; and a system for monitoring the progress of the project in relation to these measures.

NSF resource materials are available to assist institutions in developing and implementing a sound educational assessment program, including reports of the Education and Human Resources Directorate, Division of Research,

Evaluation, and Communication<sup>1</sup> and engineering education evaluation workshops funded by the Engineering Directorate Division of Engineering Education and Centers<sup>2</sup>.

To achieve the desired national impact, project results must be evaluated and then disseminated widely within the engineering education community once they have been demonstrated effective in accomplishing the project's objectives. The impact of a project depends on the quality and utility of what is learned or produced and upon the breadth and effectiveness of the related dissemination activities. Therefore, the plan for dissemination of project results is a very important component of Action Agenda projects and should be carefully articulated in the proposal.

Multiple dissemination approaches are encouraged. If this project involves the development of materials or publications which will be disseminated commercially and in the event that an award is made, the grantee is responsible for developing, documenting and implementing a publication or distribution plan which includes, at the minimum, the following elements:

- Procedures to be followed for selection of a publisher or distributor so as to ensure reasonable competition or justification for non-competitive selection;
- Delineation of the criteria used in the selection of the publisher or distributor; and
- Steps taken to prevent conflicts of interest in the selection of a publisher or distributor.

The Grantee shall ensure that the publisher or distributor of any material supported under this NSF award agrees to provide the Government with a nonexclusive, nontransferable, irrevocable, royalty-free license to exercise or have exercised for or on behalf of the United States throughout the world all the exclusive rights provided by copyright. Such license does not include the right to sell copies or photo records of the copyrighted works to the public. Any publication or distribution agreement must be consistent with NSF's Grant Policy Manual (NSF 95-26) and the Grant General Conditions.

It is expected that the institution(s) involved in an Action Agenda project will provide the leadership needed to ensure that the education innovations developed as a result of the project will be implemented and institutionalized. Therefore, please include in the proposal a milestone chart showing development, pilot studies, implementation, evaluation, dissemination, and completion of deliverables.

## **ELIGIBILITY**

U.S. academic institutions with undergraduate and/or graduate programs in engineering may submit proposals in response to this announcement. Investigators involved in existing NSF-funded research and education projects, including centers and coalitions, are welcome to participate in the program. A proposal involving collaborative or joint arrangements with more than one institution must be submitted by a lead institution, with the other institutions as sub-awardees. The lead institution must have a college of engineering that is a primary participant.

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<sup>1</sup> Floraline Stevens, *et al.*, "User-Friendly Handbook for Project Evaluation: Science, Mathematics, Engineering, and Technology Education," NSF Division of Research, Evaluation, and Communications, Directorate for Education and Human Resources, NSF 93-152, National Science Foundation, 1993 (reprinted in 1996).

Joy Frechtling and Laure Sharp, "User-Friendly Handbook for Mixed Method Evaluations," NSF Division of Research, Evaluation, and Communications, Directorate for Education and Human Resources, NSF 97-153, National Science Foundation, 1997.

<sup>2</sup> Gloria M. Rogers and Jean K. Sando, "Stepping Ahead: An Assessment Plan Development Guide," Report of an NSF-Supported Workshop on Outcomes Assessment, Rose-Hulman Institute of Technology, Terre Haute, IN, 1996.

Only one proposal may be submitted in this competition by a given Principal Investigator and he/she may only collaborate in one other proposal as a co-Investigator. The principal investigator and any co-principal investigator must be full-time, tenured, or tenure-track members of a four-year degree granting engineering school. Record of research and scholarship will be a major criterion for selection.

An institution may submit no more than two (2) proposals in response to this announcement as the sole or lead institution, in case of multi-institution proposals.

The primary focus of this program announcement is on curriculum innovation. All proposals responding to this announcement must incorporate as their primary focus some aspect of curriculum innovation.

Proposals must include an *education impact plan* as explained above.

## **AWARD INFORMATION**

Under this announcement, proposals may be submitted for any funding amount up to \$500,000 total for up to three years. Grants may be awarded in a wide variety of sizes and durations. NSF expects to fund approximately 10 standard research awards depending on the quality of submissions and the availability of funds. Approximately \$5.0 million will be available for this initiative in FY 2000. Anticipated date of awards: June 2000.

## **PROPOSAL PREPARATION & SUBMISSION INSTRUCTIONS**

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

Proposals submitted in response to this program announcement should be prepared and submitted in accordance with the general guidelines contained in the *Grant Proposal Guide* (GPG), NSF 00-2. The complete text of the GPG (including electronic forms) is available electronically on the NSF Web site at: <<http://www.nsf.gov/>>. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone 301.947.2722 or by e-mail from [pubs@nsf.gov](mailto:pubs@nsf.gov).

Proposers are reminded to identify the program announcement number (NSF 99-169) in the program announcement/solicitation block on the NSF Form 1207, "*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.

**No videotapes, diskettes, textbooks, or CD-ROMs will be accepted. Proposals not adhering to the guidelines set forth above will be returned to the Principal Investigator without review.**

FastLane is required.

### **B. Budgetary Information**

Cost Sharing Requirements – None

### **C. Proposal Due Dates.**

Full proposals MUST be submitted by 5 p.m. (Submitter's Local Time) January 31, 2000. Copies of the signed proposal sheet must be submitted in accordance with the instructions identified below.



Submission of Signed Cover Sheets. The signed proposal Cover Sheet (NSF Form 1207) must be forwarded to the following address and received by NSF by February 7, 2000:

Announcement No. NSF 99-169  
Attn: Ernest Smerdon  
National Science Foundation  
4201 Wilson Blvd., Room 585  
Arlington, VA 22230

All proposals or any supporting materials or letters submitted in response to this announcement that are received after the deadline dates cited above will be returned without review.

**D. FastLane Requirements.**

Proposers must prepare and submit proposals using the NSF FastLane system. Detailed instructions for proposal preparation and submission via FastLane are available at <https://www.fastlane.nsf.gov/a1/newstan.htm>

Submission of Signed Cover Sheets. For proposals submitted electronically, the signed paper copy of the proposal Cover Sheet (NSF Form 1207) should be forwarded to NSF within five working days following proposal submission in accordance with FastLane proposal preparation and submission instructions referenced above.

## **PROPOSAL REVIEW INFORMATION**

**A. Merit Review Criteria.**

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

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

**What is the intellectual merit of the proposed activity?**

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

### **What are the broader impacts of the proposed activity?**

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

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

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

One of the principal strategies in support of NSF's goals is to foster integration of research and education through the programs, projects and activities it supports at academic and research institutions. These institutions provide abundant opportunities where individuals may concurrently assume responsibilities as researchers, educators, and students and where all can engage in joint efforts that infuse education with the excitement of discovery and enrich research through the diversity of learner perspectives.

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

Broadening opportunities and enabling the participation of all citizens -- women and men, underrepresented minorities, and persons with disabilities -- are essential to the health and vitality of science and engineering. NSF is committed to this principle of diversity and deems it central to the programs, projects, and activities it considers and supports.

### **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 announcement will be reviewed by a panel review.

Reviewers will be asked to formulate a recommendation to either support or decline each proposal. A program officer assigned to manage the proposal's review will consider the advice of reviewers and will formulate a recommendation. NSF will be able to tell applicants whether their proposals have been declined or recommended for funding within six months for 95 percent of proposals. The time interval begins on the proposal deadline or target date or from the date of receipt, if deadlines or target dates are not used by the program. The interval ends when the division director accepts the program officer's recommendation.

In all cases, after 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 Officer may make commitments, obligations or awards on behalf of NSF or authorize the expenditure of funds. No commitment on the part of NSF should be inferred from technical or budgetary discussions with an NSF Program officer. A principal investigator or organization that makes financial or personnel commitments in the absence of a grant or cooperative agreement signed by the NSF Grants Officer does so at its own risk.

## **AWARD ADMINISTRATION INFORMATION**

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

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

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

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

\* These documents may be accessed electronically on NSF's Web site at: <<http://www.nsf.gov/>>. Paper copies may be obtained from the NSF Publications Clearinghouse, telephone 301.947.2722 or by e-mail from [pubs@nsf.gov](mailto:pubs@nsf.gov).

More comprehensive information on NSF Award Conditions is contained in the NSF *Grant Policy Manual* (GPM) Chapter II, (NSF 95-26) available electronically on the NSF Web site. The GPM also is available in paper copy by subscription from the Superintendent of Documents, Government Printing Office, Washington, DC 20402. The GPM may be ordered through the GPO Web site at: <<http://www.gpo.gov/>>. The telephone number at GPO for subscription information is 202.512.1800.

### **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.

Within 90 days after expiration of a grant, the PI also is required to submit a final project report. Approximately 30 days before expiration, NSF will send a notice to remind the PI of the requirement to file the final project report. Failure to provide final technical reports delays NSF review and processing of pending proposals for that PI. PIs should examine the formats of the required reports in advance to assure availability of required data.

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

Effective October 1, 1999, PIs are required to use the new FastLane reporting system for submission of annual and final project reports.

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

If the submitting organization has never received an NSF award, it is recommended that the organization's appropriate administrative officials become familiar with the policies and procedures in the NSF *Grant Policy Manual* which are applicable to most NSF awards. The "Prospective New Awardee Guide" (NSF 99-78) includes information on: Administrative and Management Information; Accounting System Requirements and Auditing Information; and Payments to Organizations with NSF Awards. This information will assist an organization in preparing documents that NSF requires to conduct administrative and financial reviews of an organization. The guide also serves as a means of highlighting the accountability requirements associated with Federal awards. This document is available electronically on NSF's Web site at: <<http://www.nsf.gov/cgi-bin/getpub?nsf9978>>.

## CONTACTS FOR ADDITIONAL INFORMATION

General inquiries should be made to the **Action Agenda for Engineering Curriculum Innovation ("Action Agenda") Program**, Dr. Ernest Smerdon, Program Officer, Room 585, Division of Engineering Education and Centers, National Science Foundation, Arlington, VA 22230, telephone 703.306.1380, e-mail: [esmerdon@nsf.gov](mailto:esmerdon@nsf.gov). For questions related to use of FastLane, contact Cheryl Albus, Directorate for Engineering FastLane Coordinator, 703.306.1302, [calbus@nsf.gov](mailto:calbus@nsf.gov).

## OTHER PROGRAMS OF INTEREST

The NSF Guide to Programs is a compilation of funding for research and education in science, mathematics, and engineering. General descriptions of NSF programs, research areas, and eligibility information for proposal submission are provided in each chapter. Many NSF programs offer announcements concerning specific proposal requirements. To obtain additional information about these requirements, contact the appropriate NSF program offices listed in Appendix A of the GPG. Any changes in NSF's fiscal year programs occurring after press time for the Guide to Programs will be announced in the NSF Bulletin, available monthly (except July and August), and in individual program announcements. The Bulletin is available electronically via the NSF Web Site at. The direct URL for recent issues of the Bulletin is <http://www.nsf.gov/od/lpa/news/publicat/bulletin/bulletin.htm>. Subscribers can also sign up for NSF's Custom News Service to find out what funding opportunities are available.

## ABOUT THE NATIONAL SCIENCE FOUNDATION

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

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

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

The National Science Foundation has Telephonic Device for the Deaf (TDD) and Federal Information Relay Service (FIRS) capabilities that enable individuals with hearing impairments to communicate with the Foundation regarding NSF programs, employment, or general information. TDD may be accessed at (703) 292-5090 or (800) 281-8749 or through FIRS on 1-800-877-8339.

We want all of our communications to be clear and understandable. If you have suggestions on how we can improve this document or other NSF publications, please email us at [plainlanguage@nsf.gov](mailto:plainlanguage@nsf.gov).

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

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

Public reporting burden for this collection of information is estimated to average 120 hours per response, including the time for reviewing instructions. Send comments regarding this burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to: Reports Clearance Officer; Information Dissemination Branch, DAS; National Science Foundation; Arlington, VA 22230.

### **YEAR 2000 REMINDER**

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

Catalogue of Federal Domestic Assistance (CFDA) No.: 47.041 – Engineering Grants  
OMB No.: 3145-0058  
NSF 99-169 (replaces NSF 98-27)