Federal Cyber Service: Scholarship for Service (SFS)

Program Solicitation

NSF 06-507
***Replaces Document* NSF 05-507**

National Science Foundation
Directorate for Education and Human Resources
Division of Undergraduate Education

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

February 02, 2006

REVISIONS AND UPDATES

In the Scholarship Track, the maximum partial reimbursement of indirect management and administrative costs has been increased from 10 percent to 15 percent of the total budget.

In the Scholarship Track, institutions with existing scholarship programs should provide specific evidence of current SFS program achievements.

In the Scholarship and Capacity Building Tracks, proposals should include evaluation plans that provide indicators of program achievement.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Federal Cyber Service: Scholarship for Service (SFS)
A Federal Cyber Service Training and Education Initiative

Synopsis of Program:

The Federal Cyber Service: Scholarship for Service (SFS) program seeks to increase the number of qualified students entering the fields of information assurance and computer security and to increase the capacity of the United States higher education enterprise to continue to produce professionals in these fields to meet the needs of our increasingly technological society. The SFS program is composed of two tracks:

- The *Scholarship Track* provides funding to colleges and universities to award scholarships to students in the information assurance and computer security fields. Scholarship recipients shall pursue academic programs in information assurance for the final two years of undergraduate study, or for two years of master's-level study, or for the final two years of Ph.D.-level study. These students will participate as a cohort during their two years of study and activities, including a

summer internship at a Federal Agency, Independent Agency, Government Corporation, Commission, or Quasi-Official Agency, or at a National Laboratory that signs a memorandum of understanding setting forth the parameters for participation. (See http://www.firstgov.gov/Agencies.shtml for a list of organizations. See http://www.energy.gov/engine/content.do?BT_CODE=OF_NLTC for a list of National Laboratories.) The recipients of the scholarships will become part of the Federal Cyber Service of Information Technology Specialists whose responsibility is to ensure the protection of the United States Government's information infrastructure. Upon graduation, after their two-year scholarships, recipients will be required to work for two years at a Federal Agency, Independent Agency, Government Corporation, Commission, or Quasi-Official Agency, or at a National Laboratory that signs a memorandum of understanding setting forth the parameters for participation.

- The *Capacity Building Track* provides funds to colleges and universities to improve the quality and increase the production of information assurance and computer security professionals. Professional development of information assurance faculty and development of academic programs can be funded under this track.

Cognizant Program Officer(s):

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

- 47.076 --- Education and Human Resources

Eligibility Information

- **Organization Limit:**
  - **Scholarship Track:** The proposing organization must be an accredited U.S. university or college that either (1) has been designated by the National Security Agency and the Department of Homeland Security as a Center of Academic Excellence in Information Assurance Education (CAE/IAE) or (2) has an information assurance program that meets the criteria equivalent to those necessary for designation as a CAE/IAE. In the latter case, the proposal must demonstrate the program's qualifications for CAE/IAE designation. (See http://www.nsa.gov/ia/academia/caeCriteria.cfm for CAE/IAE criteria).
  - **Capacity Building Track:** The proposing organization may be either an accredited U.S. university or college or a consortium. The lead institution in the consortium must either (1) have a CAE/IAE designation or (2) have an information assurance program that meets criteria equivalent to those necessary for CAE/IAE designation. In the latter case, the proposal must demonstrate the program's qualifications for CAE/IAE designation. (See http://www.nsa.gov/ia/academia/caeCriteria.cfm for CAE/IAE criteria).
- **PI Eligibility Limit:** None Specified.
- **Limit on Number of Proposals:** An organization may submit no more than one proposal per track per round of competition.

Award Information

- **Anticipated Type of Award:** Standard or Continuing Grant
- **Estimated Number of Awards:** 13 to 16 - consisting of 3 - 4 Scholarship Track awards and 10 - 12 Capacity Building Track awards
- **Anticipated Funding Amount:** $3,500,000 in FY2006, for new awards under this program solicitation. Scholarship awards are usually funded as continuing grants over a three-year period.

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

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

B. Budgetary Information

- **Cost Sharing Requirements:** Cost Sharing is not required by NSF.
- **Indirect Cost (F&A) Limitations:** In Scholarship Track proposals, proposers may request up to 15 percent of the total budget as partial reimbursement of indirect costs to address the management and administrative costs directly associated with operating the SFS scholarship program and may request up to 5 percent as partial reimbursement of direct or indirect costs of the total budget to address curriculum, laboratory, and faculty development in support of the SFS program. Full indirect costs may be charged in Capacity Building Track proposals.
- **Other Budgetary Limitations:** Other budgetary limitations apply. Please see the full text of this solicitation for further information.

C. Due Dates

- **Full Proposal Deadline Date(s)** (due by 5 p.m. submitter's local time):
  February 02, 2006

Proposal Review Information

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

Award Administration Information

- **Award Conditions:** Standard NSF award conditions apply.
- **Reporting Requirements:** Standard NSF reporting requirements apply.

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I. INTRODUCTION

The Federal Cyber Service: Scholarship for Service (SFS) program provides funding to colleges and universities for scholarships and capacity building in the information assurance and computer security fields. A typical grant for scholarships will provide four years of funding to enable the institution to cover as many as three cohorts of up to 10, two-year full scholarships (30 two-year scholarships total during the grant period) for study leading to baccalaureate, master's, or Ph.D. degrees providing technical competence in the area of information assurance and security. A typical grant for capacity building will provide funds for institutional and/or faculty development in the area of information assurance and computer security. The program was established by the National Science Foundation (NSF) in accordance with the Federal Cyber Service Training and Education Initiative as described in the President's *National Plan for Information Systems Protection*. This initiative reflects the critical need for Information Technology (IT) professionals specializing in information assurance and security. The expected outcomes of this program include:

- new entrants to the federal workforce with the education and training that will enhance the security of critical federal information infrastructure,
- an increased national capability for the education of IT professionals in critical information infrastructure protection disciplines,
- increased national research and development capabilities in critical information infrastructure protection, and
- strengthened partnerships between institutions of higher education and relevant employment sectors.

The scholarship program provides funding for two-year full scholarships plus stipends for students to pursue academic programs in information assurance for the final two years of undergraduate study, or for two years of master's-level study, or for the final two years of Ph.D.-level study. Students receive both scholarship and stipend support. Upon graduation, the recipients of the scholarships will become part of the Federal Cyber Service of information technology specialists whose responsibility is to ensure the protection of the United States Government's information infrastructure. After their two-year scholarships, the recipients will be required to work at a Federal Agency, Independent Agency, Government Corporation, Commission, or Quasi-Official Agency, or at a National Laboratory that signs a memorandum of understanding setting forth the parameters for participation, for two years in fulfillment of their Federal Cyber Service commitment. (See http://www.firstgov.gov/Agencies.shtml for a list of organizations. See http://www.energy.gov/engine/content.do?BT_CODE=OF_NLTC, for a list of National Laboratories.)

The capacity building component of the SFS program provides funds to colleges and universities to improve the quality and increase the production of information assurance and computer security professionals through professional development of information assurance faculty and the development of academic programs.

II. PROGRAM DESCRIPTION

The primary objective of the SFS program is to build information assurance capacity and to provide an educated cadre of information technology professionals who can help ensure the protection of the United States Government information infrastructure. The two tracks in this program are described below.

In order to increase information security expertise and capacity at institutions serving underrepresented populations, application by and partnerships with minority institutions, as recognized by the U.S. Department of Education's list.

In accordance with the Cyber Security Research and Development Act (P. L. #107-305), the grantee is responsible for ensuring that no grant funds are provided directly or indirectly to:

(a) any individual who is in violation of the terms of his or her status as a non- immigrant under section 101(a)(15)(F), (M), or (J) of the Immigration and Nationality Act (8 U.S.C. 1101(a)(15)(F), (M), or (J)).

(b) any alien from a country that is a state sponsor of international terrorism, as defined under section 306(b) of the Enhanced Border Security and VISA Entry Reform Act (8 U.S.C. 1735(b)), unless the Secretary of State determines, in consultation with the Attorney General and the heads of other appropriate agencies, that such alien does not pose a threat to the safety or national security of the United States.

(c) any institution of higher education or non-profit institution (or consortia thereof) that has:

(1) materially failed to comply with the recordkeeping and reporting requirements to receive nonimmigrant students or exchange visitor program participants under section 101(a)(15)(F), (M), or (J) of the Immigration and Nationality Act (8 U.S.C. 1101(a)(15)(F), (M), or (J)), or section 641 of the Illegal Immigration Reform and Responsibility Act of 1996 (8 U.S.C. 1372), as required by section 502 of the Enhanced Border Security and VISA Entry Reform Act (8 U.S.C. 1762); or

(2) been suspended or terminated pursuant to section 502(c) of the Enhanced Border Security and VISA Entry Reform Act (8 U.S.C 1762(c)).

Scholarship Track

The SFS program provides funds to colleges and universities for student scholarships in support of education in information technology areas relevant to information assurance and computer security. In return for their scholarship and stipend, scholarship recipients must agree to work after graduation for two years as an information assurance specialist in the Federal Cyber Service at a Federal Agency, Independent Agency, Government Corporation, Commission, or Quasi-Official Agency, or at a National Laboratory that signs a memorandum of understanding setting forth the parameters for participation. (See http://www.firstgov.gov/Agencies.shtml for a list of organizations. See http://www.energy.gov/engine/content.do?BT_CODE=OF_NLTC for a list of National Laboratories.)

SFS student participants are responsible for their own job search. The SFS program office, through the U.S. Office of Personnel Management (OPM), provides several tools to aid in this job search. PIs and SFS scholarship students are expected to actively participate with OPM to secure both summer internship and permanent placement at a Federal Agency, Independent Agency, Government Corporation, Commission, or Quasi-Official Agency, or at a National Laboratory that signs a memorandum of understanding setting forth the parameters for participation. The program has a (as near as possible to) 100% placement goal, which can only be reached through active cooperation between all parties involved. Materials to assist PIs and student participants with the placement process are available through the NSF website: http://www.ehr.nsf.gov/ehr/DUE/programs/sfs/ and through the OPM SFS program website: http://www.sfs.opm.gov.

During the scholarship period, the students will participate in internships at a Federal Agency, Independent Agency, Government Corporation, Commission, or Quasi-Official Agency, or at a National Laboratory that signs a memorandum of understanding setting forth the parameters for participation, and will participate in other SFS activities such as conferences, workshops, and seminars. These activities are aimed at developing a community of practice that will enhance their individual and collective skills in an area increasingly important to the health and safety of the United States. OPM partners with NSF in this program by providing internship and placement assistance to SFS students. However, SFS student participants are ultimately responsible for their own job search. OPM is also responsible for coordinating student transition into Federal employment, for ensuring that contractual obligations are met by the students during their scholarship period and after graduation, and for assessing whether the program helps meet the personnel needs of the federal government for information infrastructure protection.

Grantee institutions will provide scholarship support to students who compete successfully in a selection process developed by the institution, who meet the SFS eligibility criteria, and who are selected as qualified for employment in the Federal Cyber Service by OPM. It is expected that scholarship participants will receive their degree (undergraduate, master's, or Ph.D.) within two years of the beginning of their scholarships. Each proposing institution must provide a description of its selection criteria and process, and explain and justify the proposed distribution of scholarship recipients. In particular, institutions must ensure that groups underrepresented in Information Technology have fair access to scholarships.

To be eligible for consideration for an SFS scholarship, a student must be

- a United States citizen and
- a full-time student within two years of graduation in a coherent formal program that is focused on computer security or information assurance at an awardee institution.

Students identified by their institutions for scholarships must meet selection criteria for federal employment. In addition, internship placements and final job placements may require security clearances. Scholarship recipients may be required to undergo the background investigation required to obtain such clearances.

The selection process for scholarship recipients should include indicators of academic merit and other indicators of future professional success. Multiple indicators may be appropriate in gauging both academic merit (e.g., grade point average, class rank) and professionalism (e.g., motivation, ability to manage time and resources, communication skills). Selection criteria should be flexible enough to accommodate applicants who have diverse backgrounds and with diverse career goals. Federal Cyber Service scholars must continue to demonstrate their eligibility in each semester/quarter of SFS support.

Awardee institutions must submit their lists of candidates for SFS scholarships to OPM for final eligibility approval. OPM will manage the scholars' internships and job placements. OPM will also manage compliance with the mandatory employment component of this program.

It is expected that grantee institutions will provide the infrastructure to recruit and support students, so that a sufficient

number of scholarship recipients will graduate. Such an infrastructure might include, for example:

- recruitment of students, with special consideration to groups underrepresented in SFS fields (i.e., women, racial and ethnic minorities, and persons with disabilities);
- academic support and mentoring to support students in making progress toward the degree and to prepare students for the workplace;
- application-oriented experiences to increase the students' understanding of information assurance needs and their relationship to educational preparation and to build their leadership skills; and
- mechanisms to ensure retention of scholarship recipients to degree completion.

Institutions with existing SFS scholarship programs that are applying for a new award should provide specific evidence of their current SFS program achievements. Indicators of program success include, but are not limited to, placement statistics, faculty development activities, and curriculum innovations.

Grantee institutions are also expected to have clearly articulated management and administrative plans for the following program elements:

- Verification of scholarship candidates' eligibility, including the recipients' academic merit, appropriate affective skills, and enrollment in a designated or equivalent information assurance program.
- Provision of scholarship amounts to be used for expenses normally incurred by full-time students in the institution, including tuition, room and board, and equipment. These shall be included in Participant Support costs.
- Provision of academic-year stipends of $8,000 per year for undergraduate students and $12,000 per year for graduate students. These charges shall be included in Participant Support costs.
- Provision for coordination with OPM for summer intern and permanent job placements for each student. Students are expected to take Federal intern positions in the summer between their first and second year of scholarship study. The payments for summer internships will take place outside the university grant structure and are not to be included in the budget.
- Provisions for tracking the academic progress of students to determine their continued eligibility throughout the academic part of the program. Subsequent tracking of students to verify that they meet the service obligation will be done by OPM.
- Evaluation of program outcomes.
- Demonstration of ability to partner with the OPM in student hiring and agency placement.

The above items must be clearly detailed in the Budget Justification section of the proposal.

In Scholarship Track proposals, proposers may request up to 15 percent of the total budget as partial reimbursement of indirect costs to address the management and administrative costs associated with operating the SFS scholarship program and may request up to 5 percent as partial reimbursement of direct or indirect costs of the total budget to address curriculum, laboratory, and faculty development in support of the SFS program. Full indirect costs may be charged in Capacity Building Track proposals. Funds requested for management and administrative costs, as well as for curriculum, laboratory, and faculty development, must be included in standard budget categories in the proposal budget, and appropriate justification must be provided in the Budget Justification.

Collaborations with industry, non-profit, or state organizations are strongly encouraged to allow students not chosen for scholarships to participate in student internships and in Federal Cyber Service activities.

The Principal Investigator (PI) will have overall responsibility for the administration of the institution's award, the management of the project, and interactions with NSF and OPM. The PI and the grantee institution are expected to have or to develop an administrative structure that enables faculty, academic administrators, scholarship recipients, and others involved in the project to interact productively during the award period. The PI is expected to be an integral participant in the educational activities of the SFS project. The management plan will be an integral part of the proposal evaluation.

Within the grantee institution, the departments making up the Center of Academic Excellence in Information Assurance Education or equivalent are expected to collaborate in implementing the project plan. To broaden the support of their activities, proposers are encouraged to establish collaborative arrangements with other organizations.

A proposing institution must have a strong program of activity in information assurance with Center of Academic Excellence in Information Assurance Education (CAE/IAE) designation, or must be able to demonstrate that its programs meet criteria equivalent to those necessary for designation as a CAE/IAE by the National Security Agency and the Department of Homeland Security. Additionally, the institution must demonstrate its continuing commitment to both faculty development and curriculum excellence in information assurance. Proposals should contain documentation of CAE/IAE designation or demonstrate how the program meets the criteria published by the National Security Agency at http://www.nsa.gov/ia/academia/caeCriteria.cfm.

Proposals should clearly describe the activities to be undertaken, the processes through which the program elements will be implemented, and plans for documentation. Proposals should also clearly describe the student support structure, plans to manage and administer the program, and evidence of the quality of the institution's educational program in information assurance.

Capacity Building Track

The SFS program provides for capacity building in information assurance and computer security fields by providing funds to support faculty, institutional, and partnership development.

The intent of the Capacity Building Track is to increase the production of high quality information assurance and computer security professionals by providing support for efforts within the higher education system. These efforts may take many forms, but must be designed to:

- increase national capability for the high-quality education of information technology professionals in critical information infrastructure protection disciplines, or
- strengthen partnerships between institutions of higher education, government, and relevant employment sectors leading to improved educational opportunities in information assurance studies.

Funding for up to $150,000 per year for two years is available. Additional funding of up to $150,000 per year for two years is available to partnerships that include minority institutions as recognized by the U.S. Department of Education's list.

Indirect costs may be charged against all costs except Participant Support and Equipment.

Projects of particular interest in this competition include, but are not limited to, the following:

- *Adaptation and Implementation*: The program wishes to foster collaboration and dialogue among institutions offering courses and programs in information assurance. Consequently, the SFS program supports proposals for the adaptation and implementation of exemplary educational materials, courses, and curricula that have been developed at CAE/IAE or comparable institutions to promote increased educational capacity in information assurance and computer security education programs.

- *Faculty Development*: Grants are made to CAE/IAE designated or equivalent institutions for the development and implementation of activities that assist faculty from other institutions to learn about recent advances in information assurance and computer security and to improve their instructional capability in these areas. Such activities might include residencies, conferences, workshops, intensive seminars, distance learning opportunities, or a combination of these to bring about the desired professional development for faculty. These activities typically last from a few days to several weeks and are usually conducted in the summer, with follow-up activities during the academic year. To effect long-term change, projects for faculty development should normally span at least two academic years.

Proposals must describe how faculty participants will be recruited, what level of support will be provided for participants, what evaluation procedures will be used, and what type of follow-up will be provided as participants implement new courses and curricula in information assurance and computer security. Proposals must also describe how institutional teams of two or more members will be formed, and provide evidence of the institutional support that assures that these teams can continue to work towards building institutional capacity once the teams complete their faculty development activities.

Inclusion of faculty belonging to underrepresented populations and from institutions serving underrepresented populations in such partnerships is strongly encouraged.

- *Technical Experiences*: Well-designed technical experiences in the classroom and in a work environment can give students and faculty a broad, up-to-date, real-world perspective on the information assurance fields. Such experiences typically allow participants to get hands-on exposure to the field and thereby gain confidence in their abilities in technical areas; interact closely with computer security experts; obtain information about various careers available in information assurance and computer security; become aware of academic preparation necessary for such careers; become acquainted with the environments of other academic institutions, private industry, and government agencies; and develop leadership skills.

Projects providing technical experiences may consist of any combination of activities involving instruction, problem solving, research, deployment of security solutions, and industrial internships. Proposals should describe recruitment strategies, criteria for selection of participants, and the relevance of the planned experiences to the goal of developing expertise in information assurance and computer security.

- *Laboratory Development*: Laboratory or field experiences using suitable modern instrumentation are crucial elements in advanced technology fields. The SFS program supports the development of innovative methods for using laboratory and field exercises to improve students' understanding of basic principles. It also supports use by faculty of modern instrumentation, new technologies, or applications of instruments that extend their instructional capability. The program also encourages the establishment of equipment-sharing arrangements through consortia of institutions developing capacity in information assurance and computer security.

- *Partnerships*: Partnerships between CAE/IAE and equivalent institutions and institutions seeking to enhance their IA programs are strongly encouraged. Such partnerships serve to increase the capacity of the educational system to produce high-quality information assurance and security degree recipients. Including private companies and local, state, and federal governmental agencies greatly increases the value of such partnerships.

Inclusion of institutions serving underrepresented populations in such partnerships is strongly encouraged.

Proposals must clearly explain how their project will address the previously stated objectives of the program.

Proposals must describe impact on the production of qualified students, plans to evaluate the success of the project, and plans to provide effective dissemination of results.

Program Evaluation

The Division of Undergraduate Education (DUE) conducts an on-going program evaluation to determine how effectively the SFS program is achieving its goal to increase the quantity of new entrants to the federal workforce with the education and training that will enhance the security of critical federal information infrastructure, to increase the national capability for the education of IT professionals in critical information infrastructure protection disciplines, and to increase national research and development capabilities in critical information infrastructure protection, and to strengthen partnerships between institutions of higher education and relevant employment sectors. In addition to project-specific evaluations, all projects are expected to cooperate with this third party program evaluation and respond to all inquiries, including requests to participate in surveys, interviews and other approaches for collecting evaluation data. Project-specific evaluations should provide indicators of program achievement including, but not limited to, the areas of placement, student achievement, faculty development, curriculum and institutional partnerships.

III. ELIGIBILITY INFORMATION

For the Scholarship Track, the proposing organization must be an accredited U.S. university or college that either (1) has been designated by the National Security Agency and the Department of Homeland Security as a Center of Academic Excellence in Information Assurance Education (CAE/IAE) or (2) has an information assurance program that meets criteria equivalent to those necessary for designation as a CAE/IAE. In the latter case, the proposal must demonstrate the program's qualifications for CAE/IAE designation. (See http://www.nsa.gov/ia/academia/caeCriteria.cfm for CAE/IAE criteria.)

For the Capacity Building Track, the proposing organization may be either an accredited U.S. university or college or a consortium. The lead institution in a proposing consortium must either (1) have a CAE/IAE designation or (2) have an information assurance program that meets criteria equivalent to those necessary for CAE/IAE designation. In the latter case, the proposal must demonstrate the program's qualifications for CAE/IAE designation. (See http://www.nsa.gov/ia/academia/caeCriteria.cfm for CAE/IAE criteria.)

An organization may submit no more than one proposal per track per round of competition.

IV. AWARD INFORMATION

The SFS Scholarship Track supports a university- or college-based scholarship program that supports two years of tuition, room and board, and stipends for students in the general area of information assurance and security. The scholarships provide academic year stipends of $8,000 per year for undergraduate students and $12,000 per year for graduate students. The program contains an internship component intended to support hands-on training in the Federal Government that is supported through the award for the internships and other training. A typical award might be approximately $2.5 million for

four years supporting three cohort classes of 10 first-year students (year 1), 10 first-year and 10 second-year students (year 2), 10 first-year and 10 second-year students (year 3), and 10 second-year students (year 4). The total award sizes will depend upon the tuition and room and board costs and on the cost of management and development.

The SFS Capacity Building Track supports a university or college or partnership in efforts to increase the numbers of highly qualified degree graduates with emphasis in information assurance and/or computer security. Awards provide up to $150,000 per year for up to two years. Additional funding of up to $150,000 per year for two years is available to partnerships that include minority institutions as recognized by the U.S. Department of Education.

NSF anticipates that approximately $3.5 million will be available for new standard and continuing awards under this program solicitation in FY2006. Scholarship awards are usually funded as continuing grants over a three-year period. The program expects to make 3 - 4 awards in the Scholarship Track and 10-12 awards in the Capacity Building Track, depending on the quality of proposals received and the availability of funds.

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

Full Proposal Instructions:

Proposals submitted in response to this program announcement/solicitation should be prepared and submitted in accordance with the general guidelines contained in the NSF *Grant Proposal Guide* (GPG). The complete text of the GPG is available electronically on the NSF Website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from pubs@nsf.gov.

A Project Data Form must be submitted (via FastLane) as part of all proposals. The information on this form is used to direct proposals to appropriate reviewers and to determine the characteristics of projects supported by the Division of Undergraduate Education. In FastLane, this form will show up in the list of forms for your proposal only after you have selected the correct Program Announcement/ Solicitation No. on the Cover Sheet and *saved* the Cover Sheet.

A Budget Justification of up to a total of three pages must accompany the budget forms and provide details about line items. Proposals that involve subawards should include the justification for the subawards in the three-page total.

Organizations intending to submit simultaneous Collaborative Proposals must carefully follow the instructions for electronic submission specified in the GPG (Chapter II, Section D.3.b). The titles of the related proposals must be identical and must begin with the words "Collaborative Project," and the *combined* budgets of the related proposals should conform to the anticipated individual award sizes specified in Section IV ("AWARD INFORMATION") above. These simultaneous Collaborative Proposals will be treated as a single proposal (with a single Project Summary, Project Description, and References Cited) during the review process.

Proposers are reminded to identify the program announcement/solicitation number (06-507) in the program announcement/ solicitation block on the proposal Cover Sheet. Compliance with this requirement is critical to determining the relevant proposal processing guidelines. Failure to submit this information may delay processing.

B. Budgetary Information

Cost Sharing:

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

Indirect Cost (F&A) Limitations:

In Scholarship Track proposals, proposers may request up to 15 percent of the total budget as partial reimbursement of indirect costs to address the management and administrative costs directly associated with operating the SFS scholarship program and may request up to 5 percent as partial reimbursement of direct or indirect costs of the total budget to address curriculum, laboratory, and faculty development in support of the SFS program. Full indirect costs may be charged in Capacity Building Track proposals.

Other Budgetary Limitations:

The Scholarship Track provides academic year stipends of $8,000 per year for undergraduate students and $12,000 per year for graduate students. The Capacity Building Track provides funding of up to $150,000 per year for two years; additional funding of up to $150,000 per year for two years is available to partnerships that include minority institutions as recognized by the U.S. Department of Education.

In the Scholarship and Capacity Building Tracks, funds requested for equipment or other technology may not exceed $100,000 or 10 percent of the total NSF funding request, whichever is larger.

C. Due Dates

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

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

February 02, 2006

D. FastLane Requirements

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

Submission of Electronically Signed Cover Sheets. The Authorized Organizational Representative (AOR) must electronically sign the proposal Cover Sheet to submit the required proposal certifications (see Chapter II, Section C of the Grant Proposal Guide for a listing of the certifications). The AOR must provide the required electronic certifications within five working days following the electronic submission of the proposal. Proposers are no longer required to provide a paper copy of the signed Proposal Cover Sheet to NSF. Further instructions regarding this process are available on the FastLane Website at: http://www.fastlane.nsf.gov

VI. PROPOSAL REVIEW INFORMATION

A. NSF Proposal Review Process

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

The National Science Board approved revised criteria for evaluating proposals at its meeting on March 28, 1997 (NSB 97-72). All NSF proposals are evaluated through use of the two merit review criteria. In some instances, however, NSF will employ additional criteria as required to highlight the specific objectives of certain programs and activities.

On July 8, 2002, the NSF Director issued Important Notice 127, Implementation of new Grant Proposal Guide Requirements Related to the Broader Impacts Criterion. This Important Notice reinforces the importance of addressing both criteria in the preparation and review of all proposals submitted to NSF. NSF continues to strengthen its internal processes to ensure that both of the merit review criteria are addressed when making funding decisions.

In an effort to increase compliance with these requirements, the January 2002 issuance of the GPG incorporated revised proposal preparation guidelines relating to the development of the Project Summary and Project Description. Chapter II of the GPG specifies that Principal Investigators (PIs) must address both merit review criteria in separate statements within the one-

page Project Summary. This chapter also reiterates that broader impacts resulting from the proposed project must be addressed in the Project Description and described as an integral part of the narrative.

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

The two National Science Board approved merit review criteria are listed below (see the Grant Proposal Guide Chapter III.A for further information). The criteria include considerations that help define them. These considerations are suggestions and not all will apply to any given proposal. While proposers must address both merit review criteria, reviewers will be asked to address only those considerations that are relevant to the proposal being considered and for which he/she is qualified to make judgments.

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

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

NSF staff will give careful consideration to the following in making funding decisions:

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

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

Additional Review Criteria:

Reviewers will be asked to consider the merit review criteria with respect to the SFS program components (see Section II ["PROGRAM DESCRIPTION"]). These include:

- the quality and completeness of the management and administrative plan--the plan must address all elements expressed in the program solicitation;
- the quality of education and research in information assurance at the institution and the extent to which education and research are integrated;
- the quality of application-oriented experiences to increase the student's understanding of information assurance needs and their relationship to educational practices, governmental and industrial partnerships, and outreach;
- the extent of the participation of faculty members with specific expertise in information assurance and security, as well as professional development for other faculty;
- the extent to which discipline faculty members are integrally involved with the scholarship students and working with the students as a cohort; and
- for the Scholarship Track, reviewers may also consider the provision for appropriate student support infrastructure for the successful graduation of scholarship recipients, as expressed in the program solicitation.

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/solicitation will be reviewed by 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.

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

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

In all cases, after programmatic approval has been obtained, the proposals recommended for funding will be forwarded to the Division of Grants and Agreements for review of business, financial, and policy implications and the processing and issuance of a grant or other agreement. Proposers are cautioned that only a Grants and Agreements Officer may make commitments, obligations or awards on behalf of NSF or authorize the expenditure of funds. No commitment on the part of NSF should be inferred from technical or budgetary discussions with a NSF Program Officer. A Principal Investigator or organization that makes financial or personnel commitments in the absence of a grant or cooperative agreement signed by the NSF Grants and Agreements Officer does so at their own risk.

VII. AWARD ADMINISTRATION INFORMATION

A. Notification of the Award

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

B. Award Conditions

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

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

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

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

C. Reporting Requirements

For all multi-year grants (including both standard and continuing grants), the PI must submit an annual project report to the cognizant Program Officer at least 90 days before the end of the current budget period.

Within 90 days after the expiration of an award, the PI also is required to submit a final project report. Failure to provide final technical reports delays NSF review and processing of pending proposals for the PI and all Co-PIs. PIs should examine the formats of the required reports in advance to assure availability of required data.

PIs are required to use NSF's electronic project reporting system, available through FastLane, for preparation and submission of annual and final project reports. This system permits electronic submission and updating of project reports, including information on project participants (individual and organizational), activities and findings, publications, and other specific products and contributions. PIs will not be required to re-enter information previously provided, either with a proposal or in earlier updates using the electronic system.

VIII. CONTACTS FOR ADDITIONAL INFORMATION

General inquiries regarding this program should be made to:

- Diana L. Burley, Program Director, Directorate for Education & Human Resources, Division of Undergraduate Education, 835 N, telephone: (703) 292-4642, fax: (703) 292-9015, email: dburley@nsf.gov

For questions related to the use of FastLane, contact:

- Ms. Antoinette Allen, Computer Specialist, Division of Undergraduate Education, telephone: 703.292.4646, email: duefl@nsf.gov
- FastLane Help Desk, telephone: 800.673.6188, email: fastlane@nsf.gov

IX. OTHER PROGRAMS OF INTEREST

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

Many NSF programs offer announcements or solicitations concerning specific proposal requirements. To obtain additional information about these requirements, contact the appropriate NSF program offices. Any changes in NSF's fiscal year programs occurring after press time for the *Guide to Programs* will be announced in the NSF E-Bulletin, which is updated daily on the NSF Website at http://www.nsf.gov/home/ebulletin, and in individual program announcements/solicitations. Subscribers can also sign up for NSF's MyNSF News Service (http://www.nsf.gov/mynsf/) to be notified of new funding opportunities that become available.

Information about the NSF Advanced Technological Education program, which provides additional funds for student support is available at: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5464&org=DUE&from=fund.

ABOUT THE NATIONAL SCIENCE FOUNDATION

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

NSF welcomes proposals from all qualified scientists, engineers and educators. The Foundation strongly encourages women, minorities and persons with disabilities to compete fully in its programs. In accordance with Federal statutes, regulations and NSF policies, no person on grounds of race, color, age, sex, national origin or disability shall be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving financial assistance from NSF, although some programs may have special requirements that limit eligibility.

Facilitation Awards for Scientists and Engineers with Disabilities (FASED) provide funding for special assistance or equipment to enable persons with disabilities (investigators and other staff, including student research assistants) to work on NSF-supported projects. See the GPG Chapter II, Section D.2 for instructions regarding preparation of these types of proposals.

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

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

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

  Send an e-mail to: pubs@nsf.gov

  or telephone: (703) 292-7827
- **To Locate NSF Employees:** (703) 292-5111

PRIVACY ACT AND PUBLIC BURDEN STATEMENTS

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

An agency may not conduct or sponsor, and a person is not required to respond to an information collection unless it displays

a valid OMB control number. The OMB control number for this collection is 3145-0058. Public reporting burden for this collection of information is estimated to average 120 hours per response, including the time for reviewing instructions. Send comments regarding this burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to: Suzanne Plimpton, Reports Clearance Officer, Division of Administrative Services, National Science Foundation, Arlington, VA 22230.

OMB control number: 3145-0058.