Program Solicitation

NSF 05-588

Replaces Document(s): NSF 01-152



National Science Foundation

Directorate for Social, Behavioral & Economic Sciences Division of Social and Economic Sciences

Full Proposal Target Date(s):

August 23, 2005

February 01, 2006

February, Annually Thereafter

August 01, 2006

August, Annually Thereafter

REVISION NOTES

This document replaces NSF 01-152 and NSF 04-531.

This Science and Society (S&S) solicitation combines the former Societal Dimensions of Engineering program (SDEST) and the former Science and Technology Studies (STS) program.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Science and Society (S&S)

Synopsis of Program:

S&S considers proposals that examine questions that arise in the interactions of engineering, science, technology, and society. There are four components: Ethics and Values in Science, Engineering and Technology (EVS); History and Philosophy of Science, Engineering and Technology (HPS); Social Studies of Science, Engineering and Technology (SSS); and Studies of Policy, Science, Engineering and Technology (SPS). The components overlap, but are distinguished by the different scientific and scholarly

orientations they take to the subject matter, as well as by different focuses within the subject area.

This program solicitation covers the following modes of support:

- 1. S&S Scholars Awards
- 2. Standard Research Grants and Grants for Collaborative Research
- 3. S&S Postdoctoral Fellowships
- 4. S&S Professional Development Fellowships
- 5. Doctoral Dissertation Research Improvement Grants
- 6. Small Grants for Training and Research
- 7. Conference and Workshop Awards
- 8. Other Funding Opportunities

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

· 47.075 --- Social Behavioral and Economic Sciences

Award Information

Anticipated Type of Award: Standard Grant or Continuing Grant

Estimated Number of Awards: 40

Anticipated Funding Amount: \$6,000,000 in FY 2006 pending availability of funds.

Eligibility Information

Organization Limit:

Proposals may only be submitted by the following:

Organization limit varies by the mode of support. See Section II. Program Description for detailed information about each mode of support.

PI Limit:

PI eligibility limit varies by the mode of support. See Section II. Program Description for detailed information about each mode of support.

Limit on Number of Proposals per Organization:

None Specified

None Specified

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- Letters of Intent: Not Applicable
- . Preliminary Proposal Submission: Not Applicable
- Full Proposal Preparation Instructions: This solicitation contains information that deviates from the standard NSF Proposal and Award Policies and Procedures Guide, Part I: 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 under this solicitation.
- Indirect Cost (F&A) Limitations:

Fellowship awards do not allow for indirect costs. See specific information in Section II. Program Description.

• Other Budgetary Limitations: Other budgetary limitations apply. Please see the full text of this solicitation for further information.

C. Due Dates

• Full Proposal Target Date(s):

August 23, 2005

February 01, 2006

February, Annually Thereafter

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August, Annually Thereafter

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

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I. INTRODUCTION

This Science and Society (S&S) solicitation combines the former Societal Dimensions of Engineering program (SDEST), and the former Science and Technology Studies (STS) program. The combined programs support research and associated activities that examine the relationships among science, engineering, technology and society. The distinct elements of the former programs are maintained to continue to serve the different intellectual priorities and themes and different constituents of those programs. The new program remains committed to the importance and intrinsic value of scholarly research conducted by individual investigators, to qualitative and interpretive research, and to analytical, theory-building and comparative studies.

The four components of the S&S Program are described below. While each component is distinct, there is, nevertheless, overlap among them. All four components emphasize analytical, interpretive studies as the means for examining scientific, technological and engineering practices and processes. All four components stress the importance of understanding the role of science, technology, and engineering in society. Studies in these various fields will not only explore the impact of science, technology and engineering. Questions pertaining to knowledge production and its effects, both within the scientific community and beyond, are central to the S&S Program as a whole. Within each component, however, different analytical tools, perspectives, and research methodologies are brought to bear on the study of science, technology and engineering. Proposers should apply to only one of the four components, and those who are uncertain about which is most appropriate should contact the S&S program officers. As appropriate, proposals may be reviewed in more than one program component.

The four components are:

- Ethics and Values in Engineering, Science, and Technology (EVS). This component studies the ethical and value dimensions in interactions of science, engineering, technology, and society. Projects appropriate for this component examine normative issues in the conduct of science and engineering as well as the way in which ethics and values in the wider society influence science and engineering, and how norms and values institutionalized in science and engineering influence society.
- 2. History and Philosophy of Science, Engineering, and Technology (HPS). HPS uses the traditions and tools of the history and philosophy of science and technology to examine the intellectual, theoretical, social-cultural, and material dimensions of science, technology and engineering. This program component is designed to support proposals that are primarily reflective, analytical, and interpretive about the scientific and engineering enterprise today and as it has existed in the past.

- 3. Social Studies of Science, Engineering, and Technology (SSS). The social studies component includes research drawing on those areas of the social and behavioral sciences, including science and technology studies, that examine the influence of society on engineering, science and technology and the influence of science, engineering and technology on society. Supported research will bring the tools and theories of the social sciences to bear on such issues as how science and technology function in different societies, and how culture and society and science, technology, and engineering shape each other.
- 4. Studies in Policy, Science, Engineering, and Technology (SPS). The policy component includes research on social and strategic choices, especially policy choices, that influence knowledge production and innovation and their effects, and on the influences of scientific and technical knowledge and innovation on policy. It includes qualitative and interpretive research as well as research using quantitative approaches.

The S&S Program is also responsible for representing the Social, Behavioral and Economic (SBE) sciences in priority areas and other cross-directorate initiatives, like the Nanotechnology priority area, in which SBE involvement is likely to focus on the historical development, ethical and social influence or philosophical foundations of the science or technology that is the focus of the priority area or initiative. The S&S Program promotes the study of the sciences supported by the various NSF Directorates with respect to their historical, ethical, social, philosophical and policy dimensions. Cross-directorate collaborations are encouraged.

Special restrictions apply to Science and Society studies of medicine, public health and society. Ordinarily the programs do not consider proposals focused on historical, philosophical, ethical, or social aspects of medical or public health research or practice. Generally researchers should contact the National Institutes of Health and/or the National Endowment for the Humanities for support of research in these fields.

II. PROGRAM DESCRIPTION

AN OVERVIEW OF PROGRAM COMPONENTS

Ethics and Values in Engineering, Science, and Technology (EVS). Research on ethics, values, and the conduct and social influence of science, engineering, and technology often takes its lead from current social issues where inventions or innovations raise normative or ethical questions. It often uses historical and philosophical modes of analysis and the theories and methods of science and technology studies, applied ethics, or other areas of the social sciences and humanities. Information and analysis from the natural and physical sciences and engineering may also play a role in this research.

Proposal topics appropriate to EVS include, but are not limited to:

Scientific or professional ethics, including research ethics; equity issues in the development, use and effects of science or technology; controversy and the resolution of controversy involving science or technology; normative issues in decisions involving science or technology; ethical and value issues for organizational policy and practice involving science, engineering, or technology; ethics, values, and the relationship of scientific and technical expertise to democratic decision making; ethics and values as they shape or are shaped by biotechnology, environmental science, Nanotechnology, the World Wide Web or similarly transforming sciences and technologies.

The following kinds of questions are illustrative of those that might be addressed in EVS supported projects:

How do choices about acceptable scientific evidence or technological development evince social values; what are their ethical implications; what roles do values play in the selection of research priorities or evaluations of products and programs that incorporate scientific findings or engineering designs; what scientific or social values influence the directions and outcomes of research; how do social institutions stimulate responsible research conduct; how does disciplinary, professional, or collective responsibility affect the work of scientists and engineers.

EVS does not support research on the ethics and values aspects of clinical medicine or research, or medical ethics, or research on ethics and resource allocations in medicine.

History and Philosophy of Science, Engineering, and Technology (HPS). HPS supports research on the nature and development of science, technology and engineering, both in the past and the present. Proposals appropriate to HPS commonly deal with the history of science and technology as well as the philosophy of science and technology.

Proposal topics appropriate to HPS include but are not limited to:

The nature of theory and evidence in science, technology and engineering; the relationship between science and

instrumentation; the production, transmittal and reception of scientific knowledge; relationships between lay and expert communities; the role of causation in science; studies of the lives of prominent individual scientists or science research teams; science, technology and popular culture; the interactions of social, cultural, and political forces with science and technology.

The following kinds of questions are illustrative of those that might be addressed in HPS supported projects:

What does it mean to be a scientist in a particular place and time; what constitutes a valid scientific theory; what is the relationship between scientific theory and practice; how and why do scientists collaborate; what is the impact of the state on science, technology and engineering; how do scientific disciplines develop and what impact do they have on science; what is the relationship between science, technology, and business; what is the role of science in popular culture.

Social Studies of Science of Science, Engineering and Technology (SSS). SSS supports research and related activities that contribute to systematic understanding of the character and development of science and technology, including their cultural, intellectual, material, and social dimensions. SSS research includes such topics as the foundations of scientific and technological knowledge; the relations between science and other social institutions; and the processes of scientific and technological innovation and change. It considers proposals that examine how science and technology function in different cultures, and within different communities of a single culture. Proposals are welcome from the disciplines that comprise the science and technology studies community, as well as those disciplines from the social and behavioral sciences (sociology, anthropology, political science, etc.) pursuing social studies of science and technology.

Proposal topics appropriate to SSS include but are not limited to:

The role of science and technology in different societies or among diverse social groups; the nature of scientific networks and collaboration; boundaries and boundary work in science and technology; the role of laboratories in the shaping and production of science; studies of cyborgs, robots, and bodies; relationships between technology, workers, cultures, and economies.

The following kinds of questions are illustrative of those that might be addressed in SSS supported projects:

How has the Internet transformed cultures; what factors shape public understandings of science; how do stakeholders influence the research agenda in science, technology, and engineering; how are new communication technologies affecting community identities, public participation, and social networks?

Studies of Policy, Science, Engineering and Technology (SPS). Research under this component examines social and strategic choices, including the legal, economic, and political contexts, that influence knowledge production, innovation and their effects. It addresses questions of interest to scholars and decision makers concerned with the direction, management, and outcomes of investments in science, engineering, and technology. It funds qualitative and institutional research on support for science and technology, as well as the processes and outcomes of science and technology policy. It also considers proposals using quantitative and empirical approaches to data collection and analysis. Information and analysis from the natural and physical sciences and engineering may also play a role in this research.

Proposal topics appropriate to SPS include but are not limited to:

The human resources and labor force demands of science and technology; science research policy as an agent of change; the political aspects of support for science; modes of securing informed public input into science or technology policy; conditions under which science guides or fails to guide policy.

The following kinds of questions are illustrative of those that might be addressed in SPS supported projects:

How do changing sources and modes of support affect scientific research and science and engineering education; what influences public support for scientific and engineering research; what measures can be used to gauge social or quality-of-life returns to public or private investment in research; how do science policy decisions shape the interaction of legal, political, or economic institutions; what channels exist for public input into science policy; what new forms of property, human rights, and national and international organizations evolve with scientific and technological changes; how can scientific developments and technological change be channeled so as to promote social and individual well-being?

MODES OF SUPPORT:

The S&S Program provides a range of funding opportunities designed to support the full spectrum of research, educational, and scholarly activities undertaken by scholars working on science and society. The Program urges potential investigators to discuss their proposals with the cognizant Program Officer(s) in advance of submission. This program solicitation covers the eight (8) modes of support detailed below

1. SCHOLARS AWARDS

S&S Scholars Awards are the usual awards for individual investigators who are undertaking research projects and need full- time release for an academic year or an academic year and a summer. Additional support may be requested through two more years (up to three years in total), although full-time support normally is provided for only one year.

Budget Guidelines for Scholars Awards

- Awards may provide support for full-time academic year (nine months) research, including salary, fringe benefits, and other direct costs, up to a ceiling that is ordinarily \$70,000 for total direct costs.
- Proposals may also request support for full-time summer research, including salary, fringe benefits, and other direct costs, up to approximately \$20,000 for total direct costs. Summer salary request may not exceed 2/9ths (two months) of academic year salary.
- Annual limit for project support in a 12-month period is normally \$90,000, exclusive of indirect costs.
- Research assistance may also be requested but must be justified in the proposal's work plan.
 Normal limits for such support are \$6,000 per year for an undergraduate research assistant,
 \$15,000 per year for a graduate student, and \$36,000 per year (including fringe benefits) for a designated postdoctoral researcher.
- . Indirect costs assessed by institutions will be added to these levels of support.
- · Projects duration -- up to three years.
- The maximum award (indirect costs excluded) is normally \$150,000. Proposals of longer duration or requesting larger amounts of support will be considered if extraordinarily well justified and merited.

Eligibility Requirements for Scholars Award

Scholars Awards are normally made to U.S. academic institutions, although an individual who is not affiliated with an appropriate U.S. academic institution may submit a proposal as an independent scholar. In that case, the scholar must be a U.S. citizen or national, or have permanent resident status.

2. STANDARD RESEARCH GRANTS AND GRANTS FOR COLLABORATIVE RESEARCH

Standard and Collaborative awards include proposals for research, infrastructure or education projects. These proposals ordinarily do not require full-time investigator support like that for Scholars' Awards. These grants can also support projects that require several investigators, advisors, or collaboration among Principal Investigators, including investigators at different institutions. They may also involve postdoctoral researchers, or graduate or undergraduate student assistants.

Infrastructure projects may involve a variety of activities to stimulate and provide resources for new or high priority research areas, and may include outreach efforts. Examples are the development and dissemination of appropriate data bases, text retrieval systems, preparation of reference works, editions of scientific and personal papers, digital libraries, or resources for educational, or public use. Electronic dissemination of results from infrastructure projects is expected. S&S program support of infrastructure projects should be directed to scholarly work, such as archival research and annotation, or special education and outreach activities, rather than administrative or logistical activities.

Budget Guidelines for Standard and Collaborative Grants

Generally the maximum award, excluding indirect costs, is \$300,000 for an award of two to three years' duration. Proposals of longer duration, or proposals requesting larger amounts of support, will be considered if extraordinarily well justified and merited.

Indirect costs assessed by institutions will be added to these levels of support.

Eligibility Requirements for Standard and Collaborative Grants

These awards are made to US academic institutions.

3. POSTDOCTORAL FELLOWSHIPS

S&S Postdoctoral Fellowship proposals should be prepared following the same format as a regular NSF proposal (see the NSF *Grant Proposal Guide* for details), including the specific additional items listed below.

The chief purpose of these Fellowships is to enhance the methodological skills and research competence of researchers in S&S fields. Consequently, proposals must describe **both** a training **and** a research component, and the site for the Fellowship must be different from the institution where the Fellow received the Ph.D. degree. The proposal should justify the choices of the venue for the Fellowship and the host faculty member, in terms of the Fellow's research and training goals. In addition host faculty must provide statements describing their plans for working with Fellows, while host institutions should provide letters agreeing to provide appropriate space and facilities. A letter of support also must be included from the Fellow's dissertation supervisor. No Fellowship may begin until the appropriate Ph.D. granting institution has certified that the Fellow has completed all requirements for the degree. Letters should be submitted in the Supplementary Documentation section of the FastLane proposal.

The Fellow generally prepares the proposal and normally should be listed as the co-Principal Investigator. The host faculty member at the host institution normally should be listed as the Principal Investigator (PI). The host institution usually submits the proposal and administers the award. In certain circumstances (such as when the Fellowship takes place at an institution outside the U.S.), Postdoctoral Fellows may submit proposals as independent PIs.

Budget Guidelines for Postdoctoral Fellowships

- Postdoctoral Fellowships normally provide an annual stipend of up to \$36,000 (including fringe benefits) per year for support of full-time academic year study and research.
- Postdoctoral Fellowships allow research and travel expenses of up to \$3,000/year. The proposal should justify expenditure of the research and travel expenses.
- Postdoctoral Fellowships provide a fixed-amount institutional allowance of \$3,000/year in lieu of indirect costs. [Please note: NSF will not pay the institutional allowance to non-U.S. institutions.]
- There are no dependents' allowances, and moving expenses, if requested, must be deducted from the research and travel allowance.
- The maximum award normally will be \$42,000/year. Awards may be for up to two years.

Eligibility Requirements for Postdoctoral Fellowships

Postdoctoral Fellowships are available for S&S researchers within 5 years of receipt of the Ph.D. degree. Fellows must be U.S. citizens or nationals, or have permanent resident status.

4. PROFESSIONAL DEVELOPMENT FELLOWSHIPS

S&S Professional Development Fellowship proposals should follow the same format as a regular NSF proposal (see the NSF *Grant Proposal Guide* for details), including the specific additional items listed below.

Professional Development Fellowships (PDFs) are available for researchers trained in all areas of Science and Society who wish to improve and expand their skills in the areas of science or engineering, and conversely for physical and natural scientists and engineers who desire training in S&S disciplines. For example, historians, philosophers, ethicists, and others in fields of the social, behavioral and economic sciences may use this award to work with a scientist or engineer to learn the technical aspects of research in their area. Alternatively, scientists or engineers may use this award to work with a historian, philosopher or social scientist to learn the research methods, analytical tools and approaches current in S&S fields.

These Fellowship proposals must contain **both** a training **and** a research component, and should justify the choice of the venue and the host faculty member, in relation to the Fellow's training and research goals. Proposals must also include letters from the host faculty describing plans for working with the Fellow, and from the host institution agreeing to provide appropriate space and facilities. These should be submitted in the Supplementary Documentation section of the FastLane proposal.

Budget Guidelines for Professional Development Fellowships

- The annual stipend for these awards depends upon the Fellow's current salary and work history, and can range from \$36,000 to \$60,000, inclusive of fringe benefits, for a full-time academic year of study and research (or half-time over two years) in a field outside the Fellow's current area of expertise.
- These awards provide \$3,000 for travel and research expenses. The budget should justify these expenditures; moving expenses (if requested) must be deducted from the travel allowance.
- These Fellowships provide a fixed-amount institutional allowance of \$3,000/year in lieu of indirect costs.

Eligibility Requirements for Professional Development Fellowships

All Fellows must be U.S. citizens or nationals, or have permanent resident status.

5. DOCTORAL DISSERTATION RESEARCH IMPROVEMENT GRANTS

These awards provide funds for dissertation research expenses not normally available through the student's university. The dissertation advisor is the principal investigator on these proposals; the doctoral student should be listed as co-principal investigator.

Dissertation proposals should be prepared in accordance with the guidelines for regular research proposals. (See the NSF *Grant Proposal Guide* and the instructions and additional items listed below.) The Project Description section should describe the scientific significance of the work, including its relationship to other current research, and the design of the project in sufficient detail to permit evaluation. It should present and interpret progress to date if the research is already underway. The Results from Prior NSF Support section is not required with these proposals.

Awards are not intended to cover the full costs of a student's doctoral dissertation research. Funds may be used only for valid research expenses which include, but are not limited to, conducting field research in settings away from campus that would not otherwise be possible, data collection and sample survey costs, payments to subjects or informants, specialized research equipment, analysis and services not otherwise available, supplies, travel to archives, special collections or seminars, and facilities or field research locations, and partial living expenses for conducting necessary research away from the student's university. Funds are to be used exclusively for the actual conduct of dissertation research. These funds may not be used as a student stipend, for tuition, textbooks, journals, or for the typing, reproduction, or publication costs of the student's dissertation. Funds may be requested for research assistants only in very special circumstances, which should be carefully justified.

The proposal must include a letter from the faculty advisor. This document is not intended as a traditional recommendation, but should evaluate the student's promise as a researcher, the student's capabilities for undertaking this project, and the value and status of the proposed research. It should also discuss the student's current progress in the graduate program, affirming when the student passed the qualifying exams, completed all course work required for the degree, and had the dissertation topic approved. If the doctoral student will use the award for travel expenses to work with a specialist, the proposal should provide a justification for this choice and a letter from the specialist agreeing to work with the student. These requirements must be met before an award will be made. Letters should be submitted in the Supplementary Documentation section of the FastLane proposal.

Budget Guidelines for Doctoral Dissertation Research Improvement Grants

- The usual limit on a dissertation award is \$8,000 for research in North America.
- The usual limit for international research is \$12,000.
- . No indirect costs are allowed.

Eligibility Requirements for Doctoral Dissertation Research Improvement Grants

- Doctoral students who are enrolled in U.S. graduate programs are eligible to apply. The dissertation
 advisor is the principal investigator.
- Doctoral students must have passed the qualifying exams, completed all course work required for the degree, and had the dissertation topic approved prior to receiving the award.

6. SMALL GRANTS FOR TRAINING AND RESEARCH

Small Grants for Training and Research should follow the same format as a regular NSF proposal. (See the NSF Grant Proposal Guide and the instructions and additional items listed below.)

Small Grants for Training and Research (SGTR) are intended to provide sustained research opportunities for graduate students and post-doctoral fellows on important issues in S&S. Senior investigators at an institution may propose a sustained course of study, research and training for these students (for from one to three years) on a subject that is significant and innovative. These training programs should have a specific research theme (e.g., ethics and computers in education; proof, persuasion, and policy; science, technology, and business). The proposal should indicate how the training will be organized around the theme and how the subject or theme of the proposal coincides with the strengths of the host faculty and the institution. In addition to providing a research theme and plan, applicants must also indicate how they will

recruit members of underrepresented groups into the programs and educate these students and post-docs about research ethics in the SGTR training activities. The grants can provide a maximum of \$100,000 support for one postdoctoral fellow and up to three graduate students to participate each year. For projects of more than one year, PIs may retain or change the postdoctoral fellow and graduate students. These awards are made to the university. The budget for student and post-doc support belongs in the personnel section of the budget form. Indirect costs can be applied to these budget items. The host faculty at the sponsoring institution should submit and administer the award. The host institution must provide letters agreeing to provide appropriate space and facilities, and applications should also include letters from institutional administrators indicating their support of the initiative. Letters should be submitted in the Supplementary Documentation section of the FastLane proposal.

Budget Guidelines for SGTR

- These awards provide a maximum of \$100,000 per year, exclusive of indirect costs, to support a post-doc and up to three graduate students.
- Each award may last up to three years. The post-doc and the graduate students supported by the award may change during the duration of the award.
- All expenses for the SGTR should be listed in the personnel section of the proposal budget.
- S&S may only fund 2 or 3 SGTRs each year.

Eligibility Requirements for Small Grants for Training and Research (SGTR)

- These SGTR awards are available for S&S postdoctoral researchers within 5 years of receipt of the Ph.D. and for graduate students who are regularly admitted students in S&S graduate programs.
 All Postdoctoral Fellows must be U.S. citizens or nationals, or have permanent resident status.
- NOTE: SGTR proposals may only be submitted by the August target date for consideration in
- the fall of each year.

7. CONFERENCE AND WORKSHOP SUPPORT

These proposals should be prepared in accordance with the NSF *Grant Proposal Guide* and the additional information below.

S&S can help to support national and international conferences, symposia, and research workshops that enable scientists, engineers, researchers in S&S areas of support, policy makers, and representatives of interested groups to develop, evaluate, and share new research findings. S&S also supports projects on the interactions of engineering, science, technology and society that emphasize capacity building. Such activities can include national summer workshops for graduate students or faculty, or projects by professional societies to develop concentrations in the ethical, philosophical, historical and social context of science and engineering for undergraduate or graduate level science and engineering students. S&S encourages conferences and symposia that promote interactions between researchers in S&S and scientists and engineers, or between S&S scholars and members of scholarly communities not normally in contact with each other. The ultimate goal of the gathering should be development of a new field of scholarship, pedagogy, or research.

Proposals for conferences or workshops support should describe the need for the gathering, the proposed date and location, topics and persons who will be involved, prior related meetings, publicity, and expected outcomes. Every effort must be made to include among proposed participants younger scholars and members of underrepresented groups. Conferences and workshops may, where justified, be carried out as special sessions in regular meetings of professional societies. Meetings usually should be open.

Budget Guidelines for Conferences and Workshops

- S&S normally limits support for conferences and workshops to \$25,000.
- The Ethics and Values (EVS) component will consider only proposals with sponsors or co-sponsors from national associations and organizations.
- Expenses (travel, stipends, honoraria, etc.) for attendees should be entered on the Participant Support line of the budget. These expenses are not eligible for indirect costs.

8. OTHER GRANT OPPORTUNITIES

The S&S program may provide supplemental funding to existing awards in order to create research experiences for undergraduates (REU). EVS provides ethics supplements to REU Sites awards. See the REU Announcement in the listings of NSF funding opportunities. The S&S Program participates in most Foundation-wide initiatives, such as CAREER, ADVANCE, MRI, and such specially-focused research efforts

as Human and Social Dynamics (HSD) and Nanoscale Science and Engineering (NSE). Information about these opportunities can be found at the NSF Home Page, by linking to the funding opportunities alphabetical listing or to the cross-cutting programs section of the page. You can also use the search feature to find relevant documents.

III. AWARD INFORMATION

- . Anticipated Type of Award: Standard or Continuing Grant
- Estimated Number of Awards: 40
- Anticipated Funding Amount: \$6,000,000 in FY 2006 pending availability of funds

See Section II. Program Description for detailed information about funding limits and requirements for each mode of support.

IV. ELIGIBILITY INFORMATION

Organization Limit:

Proposals may only be submitted by the following:

• Organization limit varies by the mode of support. See Section II. Program Description for detailed information about each mode of support.

PI Limit:

PI eligibility limit varies by the mode of support. See Section II. Program Description for detailed information about each mode of support.

Limit on Number of Proposals per Organization:

None Specified

Limit on Number of Proposals per PI:

None Specified

Additional Eligibility Info:

Organization Limit: Organizational limit varies by the mode of support. See Section II. Program Description for detailed information about each mode of support.

PI Eligibility Limit: PI eligibility limit varies by the mode of support. See Section II. Program Description for detailed information about each mode of support.

Limit on Number of Proposals: None Specified.

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

Full Proposal Instructions: Proposals submitted in response to this program solicitation should be prepared and submitted in accordance with the guidelines specified 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-PUBS (7827) or by e-mail from

Proposers must choose one program component from the FastLane dropdown menu.

Proposers must identify the mode of support (Scholar's Award, Dissertation Award, etc.) they are applying for in the title line of the FastLane application form.

This program solicitation has instructions that deviate from the GPG guidelines. See Program Description for detailed information about each mode of support.

Proposers are reminded that proposals are evaluated by ad-hoc reviewers who are specialists in their research areas. In addition proposals are reviewed by members of the S&S Advisory Panel which is comprised of scholars from the various fields in science and society. Individual panel members review proposals, and the panel as a whole discusses all proposals and collectively writes a panel summary of each proposal. It is imperative that proposals be comprehensible to all readers, and proposers are urged to consider carefully the use of jargon and highly specialized terminology without explanation, or currently fashionable vocabulary.

Proposers are also reminded to pay close attention to the legibility of their proposal. While NSF guidelines allow 10-point type, many fonts this size produce very small text, especially in single-spaced documents. Forcing readers to struggle to decipher meaning and intent is never a good strategy. Therefore, the S&S Program recommends that applicants use at least 11-point type. Proposals prepared with type that is too small to read may be returned without review.

Proposers are reminded to identify the program solicitation number (NSF 05-588) 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.

B. Budgetary Information

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

Indirect Cost (F&A) Limitations:

Fellowship awards do not allow for indirect costs. See specific information in Section II. Program Description.

Other Budgetary Limitations:

See Section II. Program Description for detailed information.

C. Due Dates

• Full Proposal Target Date(s):

August 23, 2005

February 01, 2006

February, Annually Thereafter

August 01, 2006

August, Annually Thereafter

Proposals for the Small Grants for Training and Research (SGTR) mode of support may only be submitted by the August target date for consideration in the fall of each year.

D. FastLane Requirements

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

Submission of Electronically Signed Cover Sheets. The Authorized Organizational Representative (AOR) must electronically sign the proposal Cover Sheet to submit the required proposal certifications (see Chapter II, Section C of the Grant Proposal Guide for a listing of the certifications). The AOR must provide the required electronic certifications within five working days following the electronic submission of the proposal. Further instructions regarding this process are available on the FastLane Website at: https://www.fastlane.nsf.gov/fastlane.jsp.

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 gualified 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 solicitation 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.

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:

- Frederick Kronz, 995 N, telephone: (703) 292-7283, email: fkronz@nsf.gov
- Stephen Zehr, 995N, telephone: (703) 292-7318, email: szehr@nsf.gov
- Laurel Smith-Doerr, 995N, telephone: (703) 292-8543, email: Ismithdo@nsf.gov

For questions related to the use of FastLane, contact:

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

PRIVACY ACT AND PUBLIC BURDEN STATEMENTS

The information requested on proposal forms and project reports is solicited under the authority of the National Science Foundation Act of 1950, as amended. The information on proposal forms will be used in connection with the selection of qualified proposals; and project reports submitted by awardees will be used for program evaluation and reporting within the Executive Branch and to Congress. The information requested may be disclosed to qualified reviewers and staff assistants as part of the proposal review process; to proposer institutions/grantees to provide or obtain data regarding the proposal review process, award decisions, or the administration of awards; to government contractors, experts, volunteers and researchers and educators as necessary to complete assigned work; to other government agencies or other entities needing information regarding applicants or nominees as part of a joint application review process, or in order to coordinate programs or policy; and to another Federal agency, court, or party in a court or Federal administrative proceeding if the government is a party. Information about Principal Investigators may be added to the Reviewer file and used to select potential candidates to serve as peer reviewers or advisory committee members. See Systems of Records, NSF-50, "Principal Investigator/Proposal File and Associated Records," 69 Federal Register 26410 (May 12, 2004), and NSF-51, "Reviewer/Proposal File and Associated Records," 69 Federal Register 26410 (May 12, 2004). Submission of the information is voluntary. Failure to

provide full and complete information, however, may reduce the possibility of receiving an award.

An agency may not conduct or sponsor, and a person is not required to respond to, an information collection unless it displays a valid Office of Management and Budget (OMB) control number. The OMB control number for this collection is 3145-0058. Public reporting burden for this collection of information is estimated to average 120 hours per response, including the time for reviewing instructions. Send comments regarding the burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to:

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

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