Science, Technology, and Society (STS)

PROGRAM SOLICITATION
NSF 08-553

REPLACES DOCUMENT(S):
NSF 05-588

National Science Foundation

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

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

August 01, 2010

August 1, Annually Thereafter

February 01, 2011

Full Proposal Target Date(s):

August 01, 2008

February 01, 2009

February 1, Annually Thereafter

August 01, 2009

August 1, Annually Thereafter

IMPORTANT INFORMATION AND REVISION NOTES

A revised version of the *NSF Proposal & Award Policies & Procedures Guide* (PAPPG), NSF 11-1, was issued on October 1, 2010 and is effective for proposals submitted, or due, on or after January 18, 2011. Please be advised that the guidelines contained in NSF 11-1 apply to proposals submitted in response to this funding opportunity. Proposers who opt to submit prior to January 18, 2011, must also follow the guidelines contained in NSF 11-1.

Cost Sharing: The PAPPG has been revised to implement the National Science Board's recommendations regarding cost sharing. Inclusion of voluntary committed cost sharing is prohibited. In order to assess the scope of the project, all organizational resources necessary for the project must be described in the Facilities, Equipment and Other Resources section of the proposal. The description should be narrative in nature and must not include any quantifiable financial information. Mandatory cost sharing will only be required when explicitly authorized by the NSF Director. See the PAPP Guide Part I: *Grant Proposal Guide (GPG)* Chapter II.C.2.g(xi) for further information about the implementation of these recommendations.

Data Management Plan: The PAPPG contains a clarification of NSF's long standing data policy. All proposals must describe plans for data management and sharing of the products of research, or assert the absence of the need for such plans. FastLane will not permit submission of a proposal that is missing a Data Management Plan. The Data Management Plan will be reviewed as part of the intellectual merit or broader impacts of the proposal, or both, as appropriate. Links to data management requirements and plans relevant to specific Directorates, Offices, Divisions, Programs, or other NSF units are available on the NSF website at: http://www.nsf.gov/bfa/dias/policy/dmp.jsp. See Chapter II.C.2.j of the GPG for further information about the implementation of this requirement.

Postdoctoral Researcher Mentoring Plan: As a reminder, each proposal that requests funding to support postdoctoral researchers must include, as a supplementary document, a description of the mentoring activities that will be provided for such individuals. Please be advised that if required, FastLane will not permit submission of a proposal that is missing a Postdoctoral Researcher Mentoring Plan. See Chapter II.C.2.j of the GPG for further information about the implementation of this requirement.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Science, Technology, and Society

Synopsis of Program:

STS considers proposals that examine historical, philosophical, and sociological questions that arise in connection with science, engineering, and technology, and their respective interactions with society. STS has four components:

1. Ethics and Values in Science, Engineering and Technology (EVS),
2. History and Philosophy of Science, Engineering and Technology (HPS),
3. Social Studies of Science, Engineering and Technology (SSS),
4. 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. STS encourages the submission of hybrid proposals that strive to integrate research involving two or more of these core areas.

STS provides the following modes of support:

1. Scholars Awards,
2. Standard Research Grants and Grants for Collaborative Research,
3. Postdoctoral Fellowships,
4. 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.

Cognizant Program Officer(s) and Additional Points of Contact:

- Frederick Kronz - Program Director, Program Officer, telephone: (703) 292-7283, email: fkronz@nsf.gov
- Kelly Moore - Program Director, telephone: (703) 292-5026, email: kmoore@nsf.gov
- Carolyn D. McKinnon-Jones, telephone: (703) 292-7275, email: cmckinno@nsf.gov

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 or Fellowship

Estimated Number of Awards: 40

Anticipated Funding Amount: $9,000,000 in FY 2009 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

Limit on Number of Proposals per PI:

None Specified

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **Letters of Intent:** Not Applicable
- **Preliminary Proposal Submission:** Not Applicable
- **Full Proposals:**
  - Full Proposals submitted via FastLane: NSF Proposal and Award Policies and Procedures Guide, Part I: Grant Proposal Guide (GPG) Guidelines apply. The complete text of the GPG is available electronically on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg.
  - Full Proposals submitted via Grants.gov: NSF Grants.gov Application Guide: A Guide for the Preparation and

Submission of NSF Applications via Grants.gov Guidelines apply (Note: The NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide)

B. Budgetary Information

- **Cost Sharing Requirements:** Inclusion of voluntary committed cost sharing is prohibited.
- **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 Deadline(s)** (due by 5 p.m. proposer's local time):

  August 01, 2010

  August 1, Annually Thereafter

  February 01, 2011
- **Full Proposal Target Date(s):**

  August 01, 2008

  February 01, 2009

  February 1, Annually Thereafter

  August 01, 2009

  August 1, 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

The Science, Technology, and Society Program (STS) supports research and associated activities that examine the relationships among science, technology, engineering, and society. It considers proposals that examine historical, philosophical, social, cultural, policy, and ethical questions that arise in connection with science and technology, and their respective interactions with society. It is committed to the importance and intrinsic value of scholarly research conducted by individual investigators; to qualitative, interpretive, and quantitative research; and to analytical, critical, theoretical, empirical, ethnographic, and comparative studies.

STS considers proposals in four broad, overlapping, and mutually complementary areas of research described below. It emphasizes analytical and interpretive studies that examine scientific and technological theory and practice. Studies in this field may also explore the impact of science and technology on society and how ethical, intellectual, cultural, and social factors influence science and technology. Questions pertaining to knowledge production and its effects, both within the scientific community and beyond, are also central to STS. Within STS a variety of analytical tools, perspectives, and research methodologies are used.

Studies of ethics and values in science and technology examine normative issues in the conduct of science and the development and implementation of technology. Proposals focus on how ethical issues and values interconnect with science and technology, and how norms and values institutionalized in science and technology engage with society. Proposals in this area of STS may examine how ethics in scientific and technological research are defined, and by whom.

Studies in history and philosophy of science and technology use the traditions and tools of history and philosophy to examine intellectual, theoretical, socio-cultural, and material dimensions of science and technology. Proposals in this area of STS engage in analytical, critical, reflective, and interpretive modes of study of the scientific and technological enterprises both past and present. History is broadly conceived to include social, cultural, institutional, and personal contexts. Philosophy may focus on a variety of modes such as providing epistemological, methodological, conceptual, or metaphysical perspectives on a particular theory or conceptual or technological innovation, or on science or technology more broadly.

Social studies of science and technology draw upon the social and behavioral sciences including anthropology, sociology, economics, political science, psychology, geography, and science and technology studies. Proposals in this area examine the interconnections of science, technology, and 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. A variety of methodologies are supported including ethnography, surveys, network analysis, interviews, modeling and theorizing, content analysis, and archival exploration.

Studies in policy on science and technology include 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. Proposals in this area typically draw upon methodologies of the social sciences including qualitative, interpretive, and quantitative approaches.

The four areas that constitute the core of STS are regarded by the program as mutually complementary. STS encourages the submission of hybrid proposals that strive to integrate research involving two or more of these core areas. Each proposal is evaluated by an interdisciplinary panel consisting of experts from each of the core areas. Doing so facilitates the assessment of different disciplinary dimensions of hybrid proposals.

STS is also responsible for representing the Directorate for the Social, Behavioral and Economic Sciences (SBE) in priority areas and other cross-directorate initiatives, like the nanotechnology priority area and the Ethics Education in Science and Engineering (EESE) program in which SBE involvement is likely to focus on the historical development, ethical, and social influence or philosophical foundations of the science or technology of the priority area or initiative. STS 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 also strongly encouraged.

Special restrictions apply to STS studies of medicine, public health, and society. Ordinarily STS does not consider proposals focused on historical, philosophical, ethical, or social aspects of medical, clinical bio-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, 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:

STS provides a range of funding opportunities designed to support the full spectrum of research, educational, and scholarly activities undertaken by scholars working on science, technology and society. The Program urges potential investigators to discuss their proposals with one of the affiliated Program Officers in advance of submission. This program solicitation covers the eight modes of support detailed below

1. SCHOLARS AWARDS

STS 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 $90,000 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 $110,000, 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 $8,000 per year for an undergraduate research assistant, $18,000 per year for a graduate student and $50,000 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 $180,000. 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 US academic institutions, although an individual who is not affiliated with an appropriate US academic institution may submit a proposal as an independent scholar. In that case, the scholar must be a US 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 databases, 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. STS 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 $400,000 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

STS 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.

- Each proposal that requests funding to support postdoctoral researchers must include a description of the mentoring activities that will be provided for such individuals. Proposals that do not comply with this requirement will be returned without review (see the PAPP Guide Part I: *Grant Proposal Guide* Chapter II for further information about the implementation of this new requirement).
- The chief purpose of these Fellowships is to enhance the methodological skills and research competence of researchers in STS 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 PhD 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 PhD 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 US), Postdoctoral Fellows may submit proposals as independent PIs.

Budget Guidelines for Postdoctoral Fellowships

- Postdoctoral Fellowships normally provide an annual stipend of up to $50,000 (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 $5,000 per year. The proposal should justify expenditure of the research and travel expenses.
- Postdoctoral Fellowships provide a fixed-amount institutional allowance of $5,000 per year in lieu of indirect costs. [Please note: NSF will not pay the institutional allowance to non-US 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 $60,000 per year. Awards may be for up to two years.

Eligibility Requirements for Postdoctoral Fellowships

Postdoctoral Fellowships are available for STS researchers within 5 years of receipt of the PhD degree. Fellows must be US citizens or nationals, or have permanent resident status.

4. PROFESSIONAL DEVELOPMENT FELLOWSHIPS

STS 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 are available for researchers trained in all areas of Science, Technology, 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 STS 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 STS 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 $50,000 to $90,000, 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 $5,000 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 $5,000 per year in lieu of indirect costs.

Eligibility Requirements for Professional Development Fellowships

All Fellows must be US 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 $10,000 for research in North America.
- The usual limit for international research is $15,000.
- No indirect costs are allowed.

Eligibility Requirements for Doctoral Dissertation Research Improvement Grants

- Doctoral students who are enrolled in US 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 for 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 STS. 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; logic, rhetoric, 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 $130,000 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 Proposals

- These awards provide a maximum of $130,000 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.
- STS may only fund 2 or 3 SGTRs each year.

Eligibility Requirements for SGTR Proposals

- These SGTR awards are available for STS postdoctoral researchers within 5 years of receipt of the PhD and for graduate students who are regularly admitted students in STS graduate programs.
- All Postdoctoral Fellows must be US 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.

STS can help to support national and international conferences, symposia, and research workshops that enable scientists, engineers, researchers in STS areas of support, policy makers, and representatives of interested groups to develop, evaluate, and share new research findings. STS 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. STS encourages conferences and symposia that promote interactions between researchers in STS and scientists and engineers, or between STS 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 conference or workshop 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

- STS normally limits support for conferences and workshops to $25,000.
- 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 STS 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 STS Program participates in most Foundation-wide initiatives, such as CAREER, ADVANCE, MRI, and such specially-focused research efforts as Ethics Education in Science and Engineering (EESE), 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: $9,000,000 in FY 2009 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

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

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

- Full proposals submitted via FastLane: Proposals submitted in response to this program solicitation should be prepared and submitted in accordance with the general guidelines contained in the NSF Grant Proposal Guide (GPG). The complete text of the GPG is available electronically on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from nsfpubs@nsf.gov. Proposers are reminded to identify this program solicitation number in the program solicitation block on the NSF Cover Sheet For Proposal to the National Science Foundation. Compliance with this requirement is critical to determining the relevant proposal processing guidelines. Failure to submit this information may delay processing.

- Full proposals submitted via Grants.gov: Proposals submitted in response to this program solicitation via Grants.gov should be prepared and submitted in accordance with the NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov. The complete text of the NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at: (http://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide). To obtain copies of the Application Guide and Application Forms Package, click on the Apply tab on the Grants.gov site, then click on the Apply Step 1: Download a Grant Application Package and Application Instructions link and enter the funding opportunity number, (the program solicitation number without the NSF prefix) and press the Download Package button. Paper copies of the Grants.gov Application Guide also may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from nsfpubs@nsf.gov.

In determining which method to utilize in the electronic preparation and submission of the proposal, please note the following:

Collaborative Proposals. All collaborative proposals submitted as separate submissions from multiple organizations must be submitted via the NSF FastLane system. Chapter II, Section D.4 of the Grant Proposal Guide provides additional information on collaborative proposals.

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 although proposals are evaluated by ad-hoc reviewers that are specialists in their research area, they are also reviewed by members of the STS Advisory Panel. The panel is comprised of scholars from the various fields in science, technology, and society; however, it may not include a specialist in that research area. Consequently, it is imperative that proposals be comprehensible to a broad range of readers, and proposers are urged to consider carefully the use of jargon and highly specialized terminology without explanation.

Proposers are encouraged to pay close attention to the GPG guidelines concerning permissible fonts, which serve to ensure the legibility of proposals. Proposals that do not follow GPG font guidelines may be returned without review.

B. Budgetary Information

Cost Sharing: Inclusion of voluntary committed cost sharing is prohibited

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

  August 01, 2010

  August 1, Annually Thereafter

  February 01, 2011

- **Full Proposal Target Date(s):**

  August 01, 2008

  February 01, 2009

  February 1, Annually Thereafter

  August 01, 2009

  August 1, Annually Thereafter

D. FastLane / Grants.gov Requirements

- **For Proposals Submitted Via FastLane:**

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

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

- **For Proposals Submitted Via Grants.gov:**

  Before using Grants.gov for the first time, each organization must register to create an institutional profile. Once registered, the applicant's organization can then apply for any federal grant on the Grants.gov website. Comprehensive information about using Grants.gov is available on the Grants.gov Applicant Resources webpage: http://www07.grants.gov/applicants/app_help_reso.jsp. In addition, the NSF Grants.gov Application Guide provides additional technical guidance regarding preparation of proposals via Grants.gov. For Grants.gov user support, contact the Grants.gov Contact Center at 1-800-518-4726 or by email: support@grants.gov. The Grants.gov Contact Center answers general technical questions related to the use of Grants.gov. Specific questions related to this program solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this solicitation.

  Submitting the Proposal: Once all documents have been completed, the Authorized Organizational Representative (AOR) must submit the application to Grants.gov and verify the desired funding opportunity and agency to which the application is submitted. The AOR must then sign and submit the application to Grants.gov. The completed application will be transferred to the NSF FastLane system for further processing.

VI. NSF PROPOSAL PROCESSING AND REVIEW PROCEDURES

Proposals received by NSF are assigned to the appropriate NSF program where they will be reviewed if they meet NSF proposal preparation requirements. 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 of interest with the proposal.

A. NSF Merit Review Criteria

All NSF proposals are evaluated through use of the two National Science Board (NSB)-approved merit review criteria: intellectual merit and the broader impacts of the proposed effort. In some instances, however, NSF will employ additional criteria as required to highlight the specific objectives of certain programs and activities.

The two NSB-approved merit review criteria are listed below. The criteria include considerations that help define them. These considerations are suggestions and not all will apply to any given proposal. While proposers must address both merit review criteria, reviewers will be asked to address only those considerations that are relevant to the proposal being considered and for which the reviewer is qualified to make judgements.

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

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

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

Mentoring activities provided to postdoctoral researchers supported on the project, as described in a one-page supplementary document, will be evaluated under the Broader Impacts criterion.

NSF staff also 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 deadline or target date, or receipt date, whichever is later. 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 Research 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/award_conditions.jsp?org=NSF. Paper copies may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from nsfpubs@nsf.gov.

More comprehensive information on NSF Award Conditions and other important information on the administration of NSF awards is contained in the NSF *Award & Administration Guide* (AAG) Chapter II, available electronically on the NSF Website at http://www.nsf.gov/publications/pub_summ.jsp?ods_key=aag.

C. Reporting Requirements

For all multi-year grants (including both standard and continuing grants), the Principal Investigator must submit an annual project report to the cognizant Program Officer at least 90 days before the end of the current budget period. (Some programs or awards require more frequent project reports). Within 90 days after expiration of a grant, the PI also is required to submit a final project report, and a project outcomes report for the general public.

Failure to provide the required annual or final project reports, or the project outcomes report 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. The project outcomes report must be prepared and submitted using Research.gov. This report serves as a brief summary, prepared specifically for the public, of the nature and outcomes of the project. This report will be posted on the NSF website exactly as it is submitted by the PI.

VIII. AGENCY CONTACTS

Please note that the program contact information is current at the time of publishing. See program website for any updates to the points of contact.

General inquiries regarding this program should be made to:

- Frederick Kronz - Program Director, Program Officer, telephone: (703) 292-7283, email: fkronz@nsf.gov
- Kelly Moore - Program Director, telephone: (703) 292-5026, email: kmoore@nsf.gov
- Carolyn D. McKinnon-Jones, telephone: (703) 292-7275, email: cmckinno@nsf.gov

For questions related to the use of FastLane, contact:

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

For questions relating to Grants.gov contact:

- Grants.gov Contact Center: If the Authorized Organizational Representatives (AOR) has not received a confirmation message from Grants.gov within 48 hours of submission of application, please contact via telephone: 1-800-518-4726; e-mail: support@grants.gov.

IX. OTHER INFORMATION

The NSF Website provides the most comprehensive source of information on NSF Directorates (including contact information), programs and funding opportunities. Use of this Website by potential proposers is strongly encouraged. In addition, National Science Foundation Update is a free e-mail subscription service 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 when new publications are issued that match their identified interests. Users can subscribe to this service by clicking the "Get NSF Updates by Email" link on the NSF web site.

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: nsfpubs@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 3145-0023. Public reporting burden for this collection of information is estimated to average 12 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