Ethics in Science, Mathematics, and Engineering Online Resource Center   (Ethics Resource)

PROGRAM SOLICITATION
NSF 10-547

National Science Foundation

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

Office of Integrative Activities

Office of International Science and Engineering

Directorate for Mathematical & Physical Sciences

Directorate for Computer & Information Science & Engineering

Directorate for Geosciences

Directorate for Engineering

Directorate for Biological Sciences

Directorate for Education & Human Resources

Letter of Intent Due Date(s) *(required)* (due by 5 p.m. proposer's local time)***:***

> April 30, 2010

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

> June 03, 2010

IMPORTANT INFORMATION AND REVISION NOTES

Please be advised that the *NSF Proposal & Award Policies & Procedures Guide* (PAPPG) includes revised guidelines to implement the mentoring provisions of the America COMPETES Act (ACA) (Pub. L. No. 110-69, Aug. 9, 2007.)   As specified in the ACA, 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).

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

> Ethics in Science, Mathematics, and Engineering Online Resource Center (Ethics Resource)

Synopsis of Program:

> The Ethics in Science, Mathematics, and Engineering Online Resource Center competition proposes to fund one award to support a multidisciplinary team of researchers who will create an online resource center that develops, compiles, and maintains resources related to ethics in science, mathematics, and engineering. The research team's focus will be to gather existing information, generate new knowledge, and create interactive tools that will help scientists and engineers incorporate ethical issues and reasoning into their pedagogy and research. The online resource center should be creative, comprehensive, accessible, and constantly evolving. Thus, it should incorporate strategies and techniques to keep the Ethics in Science, Mathematics, and Engineering center relevant and up to date. Engineering, mathematics, and science refers to all of the fields that NSF supports; this includes the social sciences.

Cognizant Program Officer(s):

- Kelly Joyce, SBE/SES, telephone: (703) 292-8543, email: kjoyce@nsf.gov

- Myles G. Boylan, EHR/DUE, telephone: (703) 292-4617, email: mboylan@nsf.gov

- Tom Carruthers, MPS/PHY, telephone: (703) 292-7373, email: tcarruth@nsf.gov

- Ephraim P. Glinert, CISE/IIS, telephone: (703) 292-8930, email: eglinert@nsf.gov

- Elmima C. Johnson, EHR/DRL, telephone: (703) 292-5137, email: ejohnson@nsf.gov

- Jill L. Karsten, GEO/OAD, telephone: (703) 292-8500, email: jkarsten@nsf.gov

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- Vanessa Richardson, OD/OISE, telephone: (703) 292-5076, email: vrichard@nsf.gov

- Joan Straumanis, SBE/OAD, telephone: (703) 292-4589, email: jstrauma@nsf.gov

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

- 47.041 --- Engineering
- 47.049 --- Mathematical and Physical Sciences
- 47.050 --- Geosciences
- 47.070 --- Computer and Information Science and Engineering
- 47.074 --- Biological Sciences
- 47.075 --- Social Behavioral and Economic Sciences
- 47.076 --- Education and Human Resources
- 47.079 --- Office of International Science and Engineering

Award Information

Anticipated Type of Award: Cooperative Agreement

Estimated Number of Awards: 1 - One award will be made. The award duration is five years.

Anticipated Funding Amount: $5,000,000 - The anticipated funding amount is up to $5,000,000, pending availability of funds.

Eligibility Information

Organization Limit:

   None Specified

PI Limit:

   None Specified

Limit on Number of Proposals per Organization:

   None Specified

Limit on Number of Proposals per PI:

   None Specified

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **Letters of Intent:** Submission of Letters of Intent is required. Please see the full text of this solicitation for further information.

- **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:** Cost Sharing is not required under this solicitation.

- **Indirect Cost (F&A) Limitations:** Not Applicable

- **Other Budgetary Limitations:** Not Applicable

C. Due Dates

- **Letter of Intent Due Date(s)** *(required)* (due by 5 p.m. proposer's local time)**:**

     April 30, 2010

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

     June 03, 2010

Proposal Review Information Criteria

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

Award Administration Information

Award Conditions: Standard NSF award conditions apply.

Reporting Requirements: Additional reporting requirements apply. Please see the full text of this solicitation for further information.

TABLE OF CONTENTS

I. INTRODUCTION

The 21st Century finds science, mathematics, and engineering facing more and more complex ethical and social issues. Science and engineering practices are also increasingly multidisciplinary and operate in many organizational, national, and international contexts. This diversity of interests creates a need for connections among the fields, disciplines, organizations, situations, and nations in which these ethical concerns arise.

To help scholars assess, develop, and incorporate ethical reasoning and topics into their pedagogy and research, NSF expects to fund the creation and maintenance of an Ethics in Science, Mathematics, and Engineering Online Resource Center. The proposed online center for responsible and ethical conduct of research [RCR] aims to help educators, researchers, undergraduate and graduate students, postdoctoral fellows, and practicing scientists and engineers understand the scope of existing knowledge about both ethics and ethics education in science, mathematics, and engineering, as well as to develop analytical approaches to the study of ethical issues in science, mathematics, and engineering in both national and international contexts. By funding this resource, the National Science Foundation supports and promotes ethical practices and reasoning in science.

One of the intents of this program is to help scholars and institutions meet NSF's implementation of Section 7009 of the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science (America COMPETES) Act by providing easy access to high quality case studies, best practices, and original scholarship in ethics in science, mathematics, and engineering. The NSF has always encouraged ethical conduct of research, with appropriate attention to the training of students and

postdoctoral researchers in this area. The America COMPETES Act makes the training requirement explicit.

This competition reinforces and builds upon other NSF funded initiatives. For example, NSF actively supports the creation of knowledge about ethics in science, mathematics, and engineering by funding original research in ethics through the Science, Technology, and Society Program and original research in ethics education and curriculum development through the Ethics Education in Science and Engineering (EESE) Program. NSF also funded a workshop entitled "Ethics Education: What's Been Learned? What Should be Done?" that was held by the National Academies of Science & Engineering (NAE). Information about the workshop, as well as additional resources, are available at:
http://www.nae.edu/nae/engethicscen.nsf/weblinks/NKAL-7LHM86?OpenDocument . The workshop report is available at the NAE's Center for Engineering, Ethics and Society website:
http://www.nae.edu/?ID=14646 . More recently, NSF funded two beta sites (NSF Award 0936857, http://www.umass.edu/sts/digitallibrary/ , and NSF Award 0936865, http://www.onlineethics.org/CMS/about/UserGuide/18848.aspx) to begin to provide an interactive community location and searchable clearinghouse of resources related to ethics in science, mathematics, and engineering. These beta sites provide a foundation for the ongoing online responsible and ethical conduct of research [RCR] resource center described in this open competition.

II. PROGRAM DESCRIPTION

NSF expects to support the development of an online RCR resource center containing research findings, pedagogical materials, and promising practices regarding ethics in science, mathematics, and engineering training. The development and evolution of the ongoing ethics online center will be informed by the research communities that NSF supports (e.g. engineering, social sciences, natural sciences, mathematics, computer sciences), and it will serve as a living resource of multimedia materials that may be used to train current and future generations of scientists, mathematicians, and engineers in RCR. The proposed online resource center will also assist practicing scientists, mathematicians, and engineers to identify and explore ethical issues as they arise in research. Science, mathematics, and engineering refer to all of the fields that NSF supports; this includes the social sciences.

Audiences for the proposed ethics resource center may include but are not limited to:

- instructors who want to incorporate an ethics module into classes;
- administrators and/or instructors who seek to access scholarly evaluation of ethics curricula;
- undergraduate and graduate students who seek to understand ethical issues in science, mathematics, and engineering;
- practicing scientists and engineers who seek to explore ethical reasoning and issues as they arise in research;
- researchers who create original scholarship on ethics in science, mathematics, and/or engineering.

The goals for the proposed online resource center include helping researchers and administrators understand the various strategies (as well as the efficacy and impacts of such strategies) used to train science, mathematics, and engineering students in ethical reasoning. The proposed online ethics center should also incorporate interactive tools that help practicing scientists, mathematicians, and engineers delve into ethical situations as they develop in the laboratory and the field. The proposed RCR center should feature innovative content, design, and tools though it should be careful to assure clients that its contents should not be construed as constituting legal advice.

To accomplish these goals, NSF seeks proposals to create and maintain an online RCR resource center. The center will serve a stewardship role for the educational content and/or the services needed by a broad community of scholars, including instructors who want to incorporate ethics in science, mathematics, and engineering modules into their courses; scholars who research ethics in science, mathematics, and engineering; or scientists and engineers as they negotiate active research agendas and encounter ethical dilemmas. To be competitive, proposals should include multi-disciplinary teams that include expertise in relevant areas (for example, expertise in ethics in science, mathematics, and engineering; expertise in project design; and/or expertise in online pedagogy or library science). Prior research and educational activities provide a background on which to build an Ethics in Science, Mathematics, and Engineering online resource center. The designers of the online resource, however, will also have to gather materials and data due to the infancy of the field.

Proposals for the online RCR resource center must describe prospects for continuing to make project capabilities available beyond the period of NSF funding. This description should include a long-term management plan, and proposed projects should have a tangible, long-term commitment from a stable organization. For more detailed information on the project description and management plan, see the proposal preparation additional guidelines outlined below.

A successful proposal will show awareness of previous NSF online resource awards and will address how the proposed resource will go beyond these sites. A successful proposal will also demonstrate awareness of and ability to integrate and leverage relevant international resources on ethics in science, mathematics, and engineering.

In the third year of the award, all central members of the PI team are expected to come to the NSF to present a detailed progress report of the project and a live demonstration of the online resource.

III. AWARD INFORMATION

One award will be funded under this competition. This award will have a duration of five years and an anticipated funding amount up to $5,000,000 pending availability of funds.

IV. ELIGIBILITY INFORMATION

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

Organization Limit:

None Specified

PI Limit:

None Specified

Limit on Number of Proposals per Organization:

None Specified

Limit on Number of Proposals per PI:

None Specified

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

Letters of Intent *(required):*

Letters of Intent (LOI) are required for proposals submitted in response to this solicitation and should be submitted by the Sponsored Projects Office (SPO) via FastLane by the stated due date. Full proposals submitted in the absence of an LOI will be returned without review. Multiple LOI submissions are allowed with a limit of two per PI or Co-PI. The LOI should include all relevant information for all institutions as discussed below.

- The title of the project (up to 100 characters)
- A brief project description/synopsis (up to 2,500 characters)
- The names and affiliations of the Principal Investigator, co- principal investigators, and other senior personnel from all institutions involved, including paid consultants and sub-awardees
- The e-mail address of the Principal Investigator
- The submitting organization and any other organizations likely to be sub-awardees

Letter of Intent Preparation Instructions:

When submitting a Letter of Intent through FastLane in response to this Program Solicitation please note the conditions outlined below:

- Sponsored Projects Office (SPO) Submission is required when submitting Letters of Intent
- Submission of multiple Letters of Intent is allowed

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.

Please Note: Because of the nature of this project, submission of separately submitted collaborative proposals is not permitted. Multiple institutions may be involved; however, there must be a lead institution and the remaining institutions should be identified as subawardees.

The following information supplements the standard GPG or NSF Grants.gov Application Guide proposal preparation instructions:

For the purpose of this competition, proposals are allowed up to 20 pages in the Project Description to describe two distinct but related sections. The first part of the Project Description (up to 15 pages) should address the core project. This should include the underlying research questions and ultimate operational aspects of the project. The second part of the Project Description (up to 5 pages) is a management plan that will describe how the PIs will create the early stages of the resource and then turn it into a fully functioning resource. Further description of each part of the Project Description is included below.

Project Description Part One: Core Project (up to 15 pages)

Project Goals. State the overall goals and objectives for the Ethics in Science, Mathematics, and Engineering resource center. How

will the intended scholars use the resources or services? What new resources related to ethics in science, mathematics, and engineering (for example, encyclopedia entries that give overviews of key issues in ethics education in science, best practices for teaching ethics to scientists and engineers) will be created?

Target Audience. Describe clearly the community or communities of scholars whose needs will be addressed by the project. What aspect(s) of the user's experience with the online resource center will be enhanced and/or extended by the project outcomes? What users will be affected and how, and what is the context of the anticipated usage? How will issues of accessibility described in Section 508 (see http://www.section508.gov/ for more information) be addressed?

Statement of Need. Describe clearly the need for the resources and services of the community of scholars being addressed. What content areas are being expanded or enhanced and why? What are the particular user needs of the anticipated participants and why are these critical to developing and disseminating a robust understanding of ethics in science, mathematics, and engineering?

Project Design. Describe the overall approach and substantive and technical components of the project. Topics to be addressed include:

- Breadth of topical coverage, with appropriate rationale;
- Criteria and mechanisms for identifying, selecting and annotating high quality, relevant digital content, both for initiating the resource and for continuous updating;
- Approaches to ensure creative design practice;
- Techniques to populate the resource center and ensure its ongoing refreshment;
- Strategies to ensure the resource center appears at the top of most online searches for ethics in science; and
- Archiving methods to preserve the usability of digital content as the underlying information technology systems evolve.

Project Description Part Two: Management Plan (up to 5 pages)

Key Staff. Provide a description of the roles, responsibilities, and qualifications of key personnel, consultants, and/or advisors. These should be tied to major project goals and objectives. All members of the project team should be required to make the project work and their contributions need to be well-justified. The project team should be multi-disciplinary and include individuals with expertise in relevant areas (for example, ethics in science, mathematics, and engineering; resource design; and/or online pedagogy or library science). Thus, the PI team should include senior personnel that have expertise in technical issues as well as content and resource design. Alternatively, the PI team may partner with other online resource centers to ensure adequate technical expertise. The Management Plan should describe how they will interact to create the resource.

Timeline. Provide a timeline for development indicating major points of progress and user evaluation that are expected.

Plans for Maintenance and User Interfaces. Provide information about who will maintain the server and its security, as well as how issues of capacity (memory), speed (uploading and downloading), and simultaneous users will be managed.

Dissemination. Describe, as appropriate, how knowledge about the online resource will be communicated broadly. How will community members be made aware of this new resource? How will community members be educated to use the online resource library?

Evaluation. Describe, as appropriate, the plans for evaluation, including the name and qualifications of any evaluator(s). Information about the evaluation strategy, process, and methods should also be provided. What evidence will be sought to inform the progress towards project goals and why is this of value? How will usage of the tools offered by the project be ascertained? What evidence of impact on users will be gathered and why? What kinds of activities will be evaluated?

Sustainability. Describe the plans to promote and sustain the project beyond the grant period. Explain how the project will be financially sustained and who will have access to the online resource after the expiration of the five-year NSF award.

Where multiple institutions are involved, the Management Plan should spell out clearly the role of each institution and how the collaboration enables a stronger resource center.

In preparing this narrative, proposers should ensure that both the intellectual merit and broader impacts of the project are addressed.

B. Budgetary Information

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

Budget Preparation Instructions: Reverse Site Meeting: Costs need to be included in the budget for the participation for all central members of the PI team to attend a one-day reverse site meeting at the NSF.

C. Due Dates

- **Letter of Intent Due Date(s)** *(required)* (due by 5 p.m. proposer's local time)*:*

    April 30, 2010

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

    June 03, 2010

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. The Grants.gov's Grant Community User Guide is a comprehensive reference document that provides technical information about Grants.gov. Proposers can download the User Guide as a Microsoft Word document or as a PDF document. The Grants.gov User Guide is available at: http://www.grants.gov/CustomerSupport. In addition, the NSF Grants.gov Application Guide provides additional technical guidance regarding preparation of proposals via Grants.gov. For Grants.gov user support, contact the Grants.gov Contact Center at 1-800-518-4726 or by email: support@grants.gov. The Grants.gov Contact Center 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.

Additional Review Criteria:

Reviewers also will be asked to apply two special criteria to proposals submitted in response to this solicitation:

- To what extent does the breadth of coverage discussed in the proposal meet the objectives of the program solicitation and needs of the target audiences.
- To what extent is the management plan appropriate for the creation of a fully functioning resource center.

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.

Additional Reporting Requirements:

In addition to annual reports, the PI will have to submit an interim report via FastLane thirty days after the Award start date each year. The first interim report needs to be submitted thirty days after the award commences. Each interim report should clearly state specific project goals and activities for the upcoming project year.

VIII. AGENCY CONTACTS

General inquiries regarding this program should be made to:

- Kelly Joyce, SBE/SES, telephone: (703) 292-8543, email: kjoyce@nsf.gov

- Myles G. Boylan, EHR/DUE, telephone: (703) 292-4617, email: mboylan@nsf.gov

- Tom Carruthers, MPS/PHY, telephone: (703) 292-7373, email: tcarruth@nsf.gov

- Ephraim P. Glinert, CISE/IIS, telephone: (703) 292-8930, email: eglinert@nsf.gov

- Elmima C. Johnson, EHR/DRL, telephone: (703) 292-5137, email: ejohnson@nsf.gov

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For questions related to the use of FastLane, contact:

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- 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.

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