

Promoting Research and Innovation in Methodologies for Evaluation (PRIME)

PROGRAM SOLICITATION

NSF 12-508

REPLACES DOCUMENT(S):
NSF 10-615



National Science Foundation

Directorate for Education & Human Resources
Research on Learning in Formal and Informal Settings

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

January 25, 2012

IMPORTANT INFORMATION AND REVISION NOTES

Revisions to this solicitation:

1. Additional material about what letters of support are permissible;
2. Additional material about the specificity needed in describing a project's research design, data collection and analysis procedures;
3. Additional material about project evaluation;
4. Additional material about information needed in project's management plan;
5. Additional materials about dissemination activities.

Important Reminders

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.

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:;

Promoting Research and Innovation in Methodologies for Evaluation (PRIME)

Synopsis of Program:

The Promoting Research and Innovation in Methodologies for Evaluation (PRIME) program seeks to support research on evaluation with special emphasis on exploring innovative approaches for determining the impacts and usefulness of STEM education projects and programs; building on and expanding the theoretical foundations for evaluating STEM education and workforce development initiatives, including translating and adapting approaches from other fields; and growing the capacity and infrastructure of the evaluation field. Two types of proposals will be supported by the program: Exploratory Projects that include proof-of-concept and feasibility studies and more extensive Full-Scale Projects.

Cognizant Program Officer(s):

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

- PRIME Program Officers, telephone: 703-292-8650, email: DRLPRIME@nsf.gov
- Janice M. Earle, telephone: (703) 292-5097, email: jearle@nsf.gov

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

- 47.076 --- Education and Human Resources

Award Information

Anticipated Type of Award: Standard Grant or Continuing Grant

Estimated Number of Awards: 10 to 12 It is anticipated that between 10 and 12 projects will be awarded in FY 2012: approximately 5-8 full scale and approximately 3-5 exploratory projects will be selected for funding. The remainder of funds allocated to conference and workshop projects, RAPIDs and EAGERs, pending availability of funds.

Anticipated Funding Amount: \$6,000,000 Pending availability of funds.

Eligibility Information

Organization Limit:

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

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: 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: Not Applicable
- Other Budgetary Limitations: Not Applicable

C. Due Dates

- Full Proposal Deadline(s) (due by 5 p.m. proposer's local time):
January 25, 2012

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 National Science Foundation (NSF) is the premier Federal agency supporting research at the frontiers of knowledge, across all fields of science, technology, engineering, and mathematics (STEM) and all levels of STEM education. The NSF enables innovation and discovery in STEM by educating and preparing a diverse, world-class STEM workforce of people who are motivated to participate at the frontiers of science. STEM education, learning, and workforce development programs are rooting their approaches in the learning sciences, neuroscience, and other research literatures; investigating cognitive development, motivation, social interaction, and the nature of learning in diverse contexts; and utilizing cutting-edge, evidence-based approaches to engage the public and broaden the future scientific workforce at all levels of the STEM education enterprise (NRC, 1999; NRC, 2007; NRC, 2009). Recent developments in STEM teaching and learning include the study of learning progressions, the interrelationships among learning and contextual factors, the interplay of content knowledge and pedagogical practices, the transformative role of digital technologies, and the importance of lifelong learning that includes a wide variety of learning settings and platforms, both formal and informal.

Along with these advances in STEM education come growing pressures for public accountability by individual education projects and the larger programs that typically fund them. Federal agencies are being called upon to show that funding priorities are evidence-based, and to provide plans for how both project and program evaluations demonstrate or validate impact and are used to support budget priorities (US Office of Management and Budget [OMB], Memo M-10-32, July 29, 2010).

The new developments in STEM education and workforce development, along with increasing pressures for accountability, challenge evaluators to develop innovative evaluation approaches, questions, theories, methodologies, measures, analytic tools and reporting formats. Evaluation theory and practice need to complement innovations in STEM education and human resource development in order for program evaluations to inform decision-making, meet accountability requirements, and provide useful information for program improvement.

The Promoting Research and Innovation in Methodologies for Evaluation (PRIME) program seeks to advance evaluation theory and practice across all levels of the STEM education enterprise in both formal and informal settings. PRIME calls for studies with special emphasis on developing innovative STEM evaluation methodologies and identifying ways to measure or demonstrate the impacts of STEM education programs. Approaches are encouraged that address new ways to conceptualize evaluation, such as a focus on themes of national importance (e.g., teacher education, cyberlearning, innovation) rather than on particular projects or programs. Other areas of interest include assessing the cumulative effects of engaging in STEM programs over time or determining impact in the context of complex and multivariate causation that is inherent to STEM learning in real-world settings.

II. PROGRAM DESCRIPTION

The overarching goal of the PRIME program is to support the development, demonstration, and validation of innovative new methodologies and approaches in STEM evaluation. To address this goal, the program is interested in proposals that:

1. Explore innovative new approaches for determining the impact and usefulness of evaluations of STEM education projects or programs, with appropriate rigor.
2. Expand the theoretical foundations for evaluating STEM education and human resource initiatives, including translating approaches from other fields.
3. Increase the capacity of and infrastructure for researchers and evaluators by increasing the number of individuals who can produce conceptually sound and methodologically appropriate evaluations of STEM education and workforce projects, portfolios, and programs.

Evaluation contexts, and thus problems, addressed in response to this solicitation may vary from large-scale system change to individual experiences and impacts. They may focus on any level of education and on any combination of formal or informal settings. Proposed goals can be as broad as assessing science and mathematics literacy, or as focused as producing specific demonstration models for laboratories or changes in classroom practice. Some initiatives may target specific fine-grained topics within a STEM subject area, while others may focus on STEM fields more broadly. They may be purely theoretical or have large empirical components. Finally, proposals may include a wide range of design features (e.g., partnerships) and goals (e.g., broadening participation) that may exist within and across specific STEM education and workforce initiatives. These examples are presented to illustrate that the solicitation permits a broad range of entry points, issues, and settings. We encourage the field to engage these issues creatively in preparing proposals.

Examples of potential projects (meant to be suggestive, not prescriptive nor limiting) within each of the three program sub-goals are:

Explore innovative new approaches for determining the impact and usefulness of evaluations of STEM education projects or programs, with appropriate rigor.

- Adapt methods of rapid evaluation, assessment, and appraisal for use in formal and informal STEM education at all levels.
- Develop context-sensitive theory and methods that assess fidelity and adaptation of implementation with emphasis on assessing impact on student outcomes.
- Develop rigorous methodologies for examining either the collective or disaggregated impact of learners' participation in multiple government-funded STEM education and broadening participation programs.
- Create innovative approaches to determining what works, for whom, under what circumstances.
- Develop methods for evaluating a broader range of outcomes beyond traditional achievement test scores, such as motivation, literacy, persistence in STEM careers, or broader community outcomes such as economic or societal impacts.
- Design methodologies for conducting meta-evaluations and addressing tensions between project- and program-level evaluations.
- Create innovative longitudinal methodologies to track students' progress across levels of schooling.
- Develop methods for evaluating early-stage, transformative approaches in STEM.
- Design techniques that allow learners to demonstrate their STEM competence in informal settings without undermining the voluntary nature of learning in such settings.
- Assess the usefulness and use of innovative evaluation approaches for decision-making, program improvement, and accountability.

Expand the theoretical foundations for evaluating STEM education and workforce initiatives, including translating approaches from other fields.

- Adapt or apply methods used in other fields (e.g., organizational theory, science of science policy, public health, economics) to STEM education and learning settings.
- Adapt methods from epidemiology and/or media research to assess the spread of educational innovation throughout STEM education
- Challenge assumptions in determining causality and attribution of impact by demonstrating viable approaches
- Translate fundamental educational research, STEM discipline-based educational research, and/or models of evaluation into innovative methodologies to determine the impact, effectiveness, and utility of STEM education projects and programs.
- Incorporate use of national and state databases into STEM evaluation.

Increase the capacity of and infrastructure for researchers and evaluators by increasing the number of individuals who can produce conceptually sound and methodologically appropriate evaluations of STEM education and workforce projects, portfolios, and programs.

- Create extended systems of professional development and training to support a range of evaluation professionals.
- Foster communities of practice that develop, test, and share evaluation approaches.
- Develop theoretical and empirical solutions to common systemic problems such as limited use of evaluation findings or resistance to documentation of negative results.

STEM content and context should be a central factor of any evaluative approach taken. Therefore, proposal teams should specify, as necessary, a range of experts such as education researchers, evaluators, methodologists, STEM disciplinary scientists and engineers, social, behavioral, economic and cognitive scientists.

I. Eligible Proposal Types

1. Exploratory Projects

Exploratory projects are small-scale explorations that include proof-of-concept and feasibility studies. Exploratory projects must describe relevant literature, evaluation research questions, data to be gathered and analytic approaches to be taken. Not all Exploratory projects will result in a subsequent, full-scale proposal. However, for those that do, the results and implications of the exploratory work must be explicitly described. Exploratory projects cannot exceed \$250,000 total and a duration of two years.

2. Full-Scale Projects

Full-scale projects are larger in scope and may investigate pressing issues facing the field; develop innovative evaluation methodologies or approaches; translate evaluation approaches from other fields and/or disciplines; or

build capacity for rigorous, useful evaluations. Full-scale projects cannot exceed \$800,000 total and a duration of three years.

3. Conferences and Workshops

The PRIME program may support a few well-focused conferences and workshops that have the potential to transform the field. Budgets are expected to be related to the duration of the event and the number of participants. Typical costs are around \$100,000. Proposals should include a conceptual framework for the conference, a draft agenda, a possible participant list, and the likely outcomes or products that will result from the conference. Proposals may be submitted at any time, generally at least one year in advance of when the conference would be held. Please see the NSF Grant Proposal Guide, GPG Section II D.8, for additional information about conference and workshop proposals.

All proposals (except those for conferences and workshops) are expected to specifically address the following requirements:

- Specify the methodologies to be researched or developed either by pursuing new areas or by translating and applying existing approaches in creative and innovative ways.
- Specify the theoretical underpinnings from one or more education and social science disciplines that will drive the research and development.
- Specify the settings or contexts where the evaluative research will occur such as geographical location, time span, population, etc.
- Identify desired outcomes of the research and development such as potential products and the audiences/ communities who will find them useful.
- Outline creative strategies for engaging communities of practitioners, evaluators, researchers, and STEM content experts (as appropriate) for the co-design of approaches and effective dissemination of project outcomes.
- Identify an evaluation plan that describes how outside feedback on the work will be obtained (external evaluation, advisory board, etc.).

References

National Research Council. (1999). *How people learn: Brain, mind, experience and school*. Washington, DC: National Academy Press.

National Research Council. (2007). *Taking science to school: Learning and teaching science in grades K-8*.

Washington, DC: National Academy Press.

National Research Council. (2009). *Learning science in informal environments: People, ideas, and pursuits*. Washington, DC: National Academy Press.

US Office of Management and Budget. (2010). *Evaluating Programs for Efficacy and Cost Efficiency: Memorandum for the heads of Executive Departments and Agencies*. (Document M-10-32). Washington, DC: Author. Retrieved September 3, 2010 from www.whitehouse.gov/sites/default/files/omb/memoranda/2010/m10-32.pdf.

Resources

NSF Grant Proposal Guide: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg

Page, S. E. (2007). *The difference: How the power of diversity creates better groups, firms, schools and societies*. Princeton, NJ: Princeton University Press.

National Research Council. (2002). *Scientific research in education*. Washington, DC: National Academy Press.

National Research Council. (2010). *Study of Teacher Preparation Programs in the U.S.* Washington, DC: National Academy Press.

NSF Task Force on Cyberlearning. (2008). *Fostering learning in the networked world: The cyberlearning opportunity and challenge*. (NSF 08-204). Arlington, VA: National Science Foundation.

Committee on Prospering in the Global Economy of the 21st Century: An Agenda for American Science and Technology, National Academy of Sciences, National Academy of Engineering, Institute of Medicine. (2007). *Rising Above the Gathering Storm: Energizing and Employing American for a Brighter Economic Future*. Washington, DC: National Academy Press.

Committee on Undergraduate Science Education, Center for Science, Mathematics, and Engineering Education, National Research Council. (1999). *Transforming Undergraduate Education in Science, Mathematics, Engineering, and Technology*. Washington, DC: National Academy Press.

Board on Science Education, Center for Education, National Research Council. (2008). *Evidence on Promising Practices in Undergraduate Science, Technology, Engineering, and Mathematics (STEM) Education*. Retrieved September 3, 2010 from www7.nationalacademies.org/bose/Promising%20Practices_Homepage.html.

Yarbrough, D. B., Shulha, L. M., Hopson, R. K., and Caruthers, F. A. (2011). *The program evaluation standards: A guide for evaluators and evaluation users* (3rd ed.). Thousand Oaks, California: Sage. Retrieved September 3, 2010 from www.jcsee.org/program-evaluation-standards.

American Evaluation Association. (2004). *Guiding Principles for Evaluators* Fairhaven, MA: Author. Retrieved September 3, 2010 from www.eval.org/Publications/GuidingPrinciples.asp.

III. AWARD INFORMATION

Anticipated Type of Award: Continuing Grant or Standard Grant

Estimated Number of Awards: 10 to 12 It is anticipated that between 10 and 12 projects will be awarded in FY 2012: approximately 5-8 full scale and approximately 3-5 exploratory projects will be selected for funding. The remainder of funds allocated to conference and workshop projects, RAPIDs and EAGERS, pending availability of funds.

Anticipated Funding Amount: \$6,000,000 Pending availability of funds.

IV. ELIGIBILITY INFORMATION

Organization Limit:

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

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

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.

PRIME has five additional preparation requirements that each proposal must address: (1) letters of agreement to participate, (2) research design and methodology, (3) project evaluation (4) project personnel and management, and (5) dissemination.

Letters of agreement to participate: As appropriate, there are two types of letters that may be included in the supplementary documents section of the proposal. First, proposals are expected to include letters of agreement to participate from all appropriate organizations that provide the context for data collection and/or play a substantial role in ensuring access to required resources. Second, proposals are expected to contain letters of agreement to participate from members of advisory committees.

Research design and methodology: PRIME expects investigators to propose appropriate and rigorous research methods, whether quantitative, qualitative, or mixed-method. Investigators are expected to conduct their research so that relevant models, frameworks, data, literature, and measures are well-documented, usable, and replicable by other teams wishing to work on similar problems from other vantage points or by using other research designs. The proposed methods should be well-justified, consonant with theory, and suited to the stated questions or hypotheses. Each supported project must meet the following basic requirements:

- The proposed topics, questions, methodologies and settings must be consistent with the overall goals of the PRIME program.
- Investigators must demonstrate how the proposed evaluative research builds upon existing evidence obtained from relevant prior literature in one or more relevant domains.
- PRIME encourages and supports research using a range of designs. The design and methods must explicitly describe the design, including the data collection, data analysis, and data interpretation plans, along with the limitations of the study.
 - For quantitative proposals the description of methods should include: the study sample and selection process, instruments and other means of data collection, power analyses, and minimal detectable effects sizes, and the models to be tested. Information must also be provided on the reliability, validity, and appropriateness of proposed

measures and instruments. If the reliability and validity of instruments are not known, the proposal must describe specific plans for establishing these measurement properties. This list is not exhaustive; it is only intended to demonstrate the level of detail expected by proposals.

- For qualitative proposals with qualitative components, the description of methods should include: the rationale for the populations and cases to be studied; detail on the sources of data, such as observations or artifacts; efforts to triangulate findings; reliability and validity of instruments and protocols; procedures to code and interpret the data; and plans for ensuring authenticity and validity of findings. This list is not exhaustive; it is only intended to demonstrate the level of detail expected by proposals.
- For mixed-methods studies, both the qualitative and quantitative methods should be clear and follow the suggestions above. In addition, the proposal should describe the ways that the qualitative and quantitative portions connect and/or would inform each other.

Project Evaluation: All projects must have an evaluation plan that is appropriate to the goals of the project and explicitly describes the approach that the project team intends to use in assessing its successes and failures and meeting its milestones and objectives. Project evaluations should be sufficiently distant from the project to be objective but should be designed to be of most help to the project team pursuant to its responsibilities to the field.

All projects must have a substantive external expert review mechanism that provides regular critical review on the project's methods and progress, analysis procedures, interpretation of data into findings, and dissemination activities. In some cases, the expert review mechanism may not be sufficient given the nature of the project. Finally, proposals should describe how evaluation input will be used to shape the project.

Project personnel and management: The research and management roles of each of the senior personnel on the project must be described in brief within the project description. Collaborative teams representing multiple disciplines are typical in PRIME projects.

Where projects request time for students and other trainees, the project description should be clear on their roles and responsibilities. Investigators are reminded that all proposals requesting funds to support postdoctoral researchers are required by NSF to submit a one-page mentoring plan within the supplementary documents section or the proposal will be returned without review.

PRIME encourages the inclusion of women, persons with disabilities, underrepresented racial and ethnic groups, and diverse viewpoints.

Dissemination: All PRIME projects are expected to accumulate and communicate knowledge to relevant evaluation, research, policy, practitioner, and other communities. As part of EHR's strong and unwavering commitment to the broader impacts of funded research, reports from successful PRIME projects must be published in peer-reviewed professional or scholarly journals, and findings (positive or negative) must be disseminated through appropriate means to audiences relevant to the goals of the project.

B. Budgetary Information

Cost Sharing: Inclusion of voluntary committed cost sharing is prohibited

C. Due Dates

- Full Proposal Deadline(s) (due by 5 p.m. proposer's local time):
January 25, 2012

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 Officer 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:

- PRIME Program Officers, telephone: 703-292-8650, email: DRLPRIME@nsf.gov
- Janice M. Earle, telephone: (703) 292-5097, email: jearle@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 Arctic 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 3145-0058. Public reporting burden for this collection of information is estimated to average 120 hours per response, including the time for reviewing instructions. Send comments regarding the burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to:

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

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