

# Math and Science Partnership Program (MSP)

## Comprehensive and Targeted Projects

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### *Program Solicitation*

***NSF 02-190***

DIRECTORATE FOR EDUCATION AND HUMAN RESOURCES  
DIRECTORATE FOR BIOLOGICAL SCIENCES  
DIRECTORATE FOR COMPUTER AND INFORMATION SCIENCE AND ENGINEERING  
DIRECTORATE FOR ENGINEERING  
DIRECTORATE FOR GEOSCIENCES  
DIRECTORATE FOR MATHEMATICAL AND PHYSICAL SCIENCES  
DIRECTORATE FOR SOCIAL, BEHAVIORAL, AND ECONOMIC SCIENCES  
OFFICE OF POLAR PROGRAMS

**MSP Project Data Registration (*strongly encouraged*): December 2, 2002**

**FULL PROPOSAL DEADLINE(S) :**

**January 7, 2003**

**By 5:00 p.m. proposer's local time**



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# SUMMARY OF PROGRAM REQUIREMENTS

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## GENERAL INFORMATION

**Program Title:** Math and Science Partnership Program (MSP)

**Synopsis of Program:** The Math and Science Partnership (MSP) program supports innovative partnership-driven projects developed to improve K-12 student achievement in mathematics and science. As overall student achievement rises, MSP projects are expected to significantly reduce achievement gaps in the mathematics and science performance of diverse student populations. Successful MSP projects will serve as models that can be widely replicated in educational practice to improve the mathematics and science achievement of all the Nation's students.

K-20 education organizations (that is, K-12 schools and school districts, and institutions of higher education) are critical partners in all MSP projects. Specifically, administrators, mathematics and science teachers and guidance counselors in K-12 partner organizations join forces with disciplinary faculty in mathematics, science and/or engineering, education faculty and administrators in higher education partner organizations in activities developed to effect deep, lasting improvement in K-12 mathematics and science education. Furthermore, K-20 partner organizations commit to implementing the coordinated K-20 institutional change necessary to sustain partnerships' successes in the long-term; this includes the continued participation of mathematics, science and engineering faculty in work that clearly results in improved K-12 student and teacher learning.

Other partners and partner organizations are also involved in MSP projects, and may include parents and families, business and industry organizations, community organizations, state education agencies, science centers and museums, professional societies, research laboratories, dissemination and implementation centers, district-level educational support centers, social service agencies, private foundations, and other public and private organizations with interests in K-12 mathematics and science education such as educational research organizations, business roundtables or chambers of commerce. The participation of mathematicians, scientists and/or engineers from such organizations is encouraged.

Mathematicians, scientists, and engineers, particularly mathematics, science and engineering faculty in higher education partner organizations, play substantial roles in MSP-funded projects; it is their substantial involvement in these projects that distinguishes the MSP program from others seeking to improve K-12 student outcomes in mathematics and science.

All MSP-funded projects contribute to the MSP Learning Network, a network of researchers and practitioners studying and evaluating promising strategies to improve K-12 student achievement in mathematics and science. MSP projects are therefore designed to make evidence-based contributions to the learning and teaching knowledge base. MSP Learning Network activities inform our understanding of how students effectively learn mathematics and science such that

successful approaches can be broadly disseminated and emulated in educational practice.

**Cognizant Program Officer(s):**

- Kathleen Bergin, telephone: (703) 292-5171, e-mail: [kbergin@nsf.gov](mailto:kbergin@nsf.gov).
- Joyce Evans, telephone: (703) 292-8613, e-mail: [jevans@nsf.gov](mailto:jevans@nsf.gov).
- Jim Hamos, telephone: (703) 292-4687, e-mail: [jhamos@nsf.gov](mailto:jhamos@nsf.gov).
- Joan Prival, telephone: (703) 292-4635, e-mail: [jprival@nsf.gov](mailto:jprival@nsf.gov).

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

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

**ELIGIBILITY INFORMATION**

- **PARTNERS DEFINITION AND ELIGIBILITY INFORMATION .**

MSP proposals are developed by partnerships that must include CORE Partners and may also include SUPPORTING Partners.

**CORE Partners**

Core partner organizations share responsibility and accountability for the MSP project. Core partner organizations ARE REQUIRED to provide evidence of their commitment to undergo the coordinated institutional change necessary to sustain the partnership effort beyond the funding period. This is what distinguishes core partner organizations from other supporting partner organizations.

Core partner organizations in each partnership MUST include:

- At least one K-12 local or regional school district AND
- At least one higher education institution (including 2-year and 4-year colleges and universities).

Community colleges and minority-serving institutions are encouraged to participate as core partner organizations in MSP projects because of the strong role they play in the preparation and professional development of a diverse K-12 mathematics and science teacher workforce.

Core partner organizations may also include other stakeholder organizations in K-12 mathematics and science education, such as state education agencies, business and industry organizations, community organizations, science centers and museums, professional societies, research laboratories, dissemination and implementation centers, district-level educational support centers, social service agencies, private foundations, and other public and private organizations such as educational research organizations, business roundtables or chambers of commerce. The participation of mathematicians, scientists and/or engineers from these core partner organizations is encouraged.

Mathematics, science and/or engineering faculty from higher education core partner organizations ARE REQUIRED to participate in MSP project activities.

### **SUPPORTING Partners**

Supporting partners include important stakeholders and stakeholder organizations in K-12 mathematics and science education, including parents and families and the types of partner organizations described above. The main distinction between core and supporting partners is that while supporting partners clearly add value to the proposed project, they are not required to commit to the coordinated institutional change necessary to sustain project activities beyond the funding period.

### **• LEAD PARTNER DEFINITION AND ELIGIBILITY INFORMATION**

One of the core partner organizations serves as the LEAD partner and submits the MSP proposal on behalf of the partnership. The lead partner accepts management and fiduciary responsibility for the project.

The lead partner organization MUST be one of the following:

- a K-12 school district or education organization (local, tribal, regional or state); or
- an institution of higher education (including 2-year and 4-year colleges and universities); or
- a higher education system or consortium; or
- an educational consortium, private foundation, or other public or non-profit private school or organization focused on K-12 education.

### **• PARTNERSHIP LEADERSHIP TEAM DEFINITION AND ELIGIBILITY INFORMATION**

The Partnership Leadership Team MUST include those individuals identified in the proposal as Principal Investigator and co-Principal Investigators. One or more of these individuals MUST be representative(s) from the higher education core partner organization(s) and one or more of these individuals MUST be representative(s) from the K-12 core partner organization(s). Furthermore, at least one of the Principal or co-

Principal Investigators MUST be a mathematics, science and/or engineering faculty member in a higher education core partner organization.

The Partnership Leadership Team should also include a Project Director who is responsible for day-to-day management of the project; the Project Director need not be identified as a Principal Investigator or co-Principal Investigator.

- **PARTNER ORGANIZATION PROPOSAL LIMIT**

For this competition, organizations may submit only one proposal as a LEAD partner. School districts are eligible to be partners in up to two proposal submissions; school districts may participate as partners in no more than one Comprehensive proposal submission.

## **AWARD INFORMATION**

- **Anticipated Type of Award:** Comprehensive awards will be made as Cooperative Agreements; Targeted awards will be made as Standard or Continuing Grants or as Cooperative Agreements.
- **Estimated Number of Awards:** Up to 10 Comprehensive Awards and up to 30 Targeted Awards, pending the availability of funds for the MSP program.
- **Anticipated Funding Amount:** For this solicitation, \$100 million - \$140 million in FY 2003, pending the availability of funds for the MSP program.

## **PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS**

### ***A. Proposal Preparation Instructions***

- **MSP Project Data Registration:** MSP Project Data Registration is strongly encouraged. Please see the full program solicitation for further information.
- **Full Proposals:** Deviations From Standard Preparation Guidelines
  - The program announcement/solicitation contains deviations from the standard Grant Proposal Guide (GPG) proposal preparation guidelines. Please see the full solicitation for further information.

### ***B. Budgetary Information***

- **Cost Sharing Requirements:** Cost Sharing is not required.
- **Indirect Cost (F&A) Limitations:** Not Applicable.
- **Other Budgetary Limitations:** Not Applicable.

### *C. Deadline/Target Dates*

- **MSP Project Data Registration (strongly encouraged):** December 2, 2002
- **Full Proposal Deadline Date(s):**  
January 7, 2003, 5.00 p.m. local time

### *D. FastLane Requirements*

- **FastLane Submission:** Required
- **FastLane Contact(s):**
  - Fastlane Help Desk, telephone: (800) 673-6188, e-mail: [fastlane@nsf.gov](mailto:fastlane@nsf.gov).

## **PROPOSAL REVIEW INFORMATION**

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

## **AWARD ADMINISTRATION INFORMATION**

- **Award Conditions:** Additional award conditions apply. Please see the program announcement/solicitation for further information.
- **Reporting Requirements:** Additional reporting requirements apply. Please see the full program announcement/solicitation for further information.

## **I. INTRODUCTION**

The Math and Science Partnership (MSP) program supports innovative partnership-driven projects developed to improve K-12 student achievement in mathematics and science. As overall student achievement rises, MSP projects are expected to significantly reduce achievement gaps in the mathematics and science performance of diverse student populations. Successful MSP projects will serve as models that can be widely replicated in educational practice to improve the mathematics and science achievement of all the Nation's students.

K-20 education organizations (that is, K-12 schools and school districts, and institutions of higher education) are critical partners in all MSP projects. Specifically, administrators, mathematics and science teachers and guidance counselors in K-12 partner organizations join forces with disciplinary faculty in mathematics, science and/or engineering, education faculty and administrators in higher education partner organizations in activities developed to effect deep, lasting improvement in K-12 mathematics and science education. Furthermore, K-20 partner organizations commit to implementing the coordinated K-20 institutional change necessary to sustain partnerships' successes in the long-term; this includes the continued participation of mathematics, science and engineering faculty in work that clearly results in improved K-12 student and teacher learning.

Other partners and partner organizations are also involved in MSP projects, and may include parents and families, business and industry organizations, community organizations, state education agencies, science centers and museums, professional societies, research laboratories, dissemination and implementation centers, district-level educational support centers, social service agencies, private foundations, and other public and private organizations with interests in K-12 mathematics and science education such as educational research organizations, business roundtables or chambers of commerce. The participation of mathematicians, scientists and/or engineers from such organizations is encouraged.

Mathematicians, scientists, and engineers, particularly mathematics, science and engineering faculty in higher education partner organizations, play substantial roles in MSP-funded projects; it is their substantial involvement in these projects that distinguishes the MSP program from others seeking to improve K-12 student outcomes in mathematics and science.

## **II. PROGRAM DESCRIPTION**

The MSP program seeks to improve K-12 student achievement through a sharp focus on three inter-related issues:

- Ensuring that all students have access to, are prepared for, and are encouraged to participate and succeed in, challenging and advanced mathematics and science courses;
- Enhancing the quality, quantity and diversity of the K-12 mathematics and science teacher workforce; and
- Developing evidence-based outcomes that contribute to our understanding of how students effectively learn mathematics and science.

## **TYPES OF PROJECTS**

In this solicitation, NSF is seeking to support two types of MSP projects: those that are **COMPREHENSIVE** in nature and those that are **TARGETED** in focus.

**COMPREHENSIVE** projects are designed to improve student achievement across the K-12 continuum. Comprehensive projects focus on the following:

- Improved student achievement in mathematics and science across the K-12 continuum; or
- Improved student achievement in mathematics across the K-12 continuum; or
- Improved student achievement in science across the K-12 continuum.

**TARGETED** projects target student achievement gains in a specific grade range and/or disciplinary emphasis in mathematics and/or science. Targeted proposals describe action plans within the context of other mathematics and/or science efforts of the partners. For example, if a proposed MSP project seeks to improve student achievement in Algebra in grades 7-9, data describing the mathematics achievement of students in grades K-6 and student participation rates in advanced mathematics courses in grades 9-12 in core partner schools and school districts would be described in addition to data relevant to student performance in grades 7-9, to place the proposed work in its appropriate context. Furthermore, in addition to the proposed work targeted to the 7-9 grades, the proposal narrative would also describe ongoing partner activities that influence student achievement in K-12 mathematics broadly, including for example, mathematics teacher preparation and professional development activities focused at the K-6 and 9-12 grades and other contributions being made by the partners to improve student outcomes in mathematics at the K-12 levels.

In both comprehensive and targeted proposals, funding requested must directly correlate with the scale and complexity of the proposed project, including the numbers of K-12 students and pre-service and in-service teachers directly engaged in and impacted by the proposed activities.

To be cost-effective, partnerships are encouraged to develop projects likely to impact 10,000 students or more.

## **KEY FEATURES**

Both comprehensive and targeted MSP projects are motivated by K-12 student achievement and teacher workforce baseline data, and focus on improved K-12 student outcomes in mathematics and/or science. All projects incorporate a depth and quality of creative, strategic actions that extend beyond commonplace approaches to improve K-12 mathematics and science education. Project action plans promise significant improvement in student and teacher workforce outcomes that can be attributable to the work of the partnership.

Comprehensive and targeted MSP projects incorporate ALL of the following Key Features.

- **Partnership-Driven** - Projects are designed and implemented by partnerships that unite administrators, teachers, and guidance counselors in participating K-12 core partner organizations AND disciplinary faculty in mathematics, science and/or engineering, education

faculty, and administrators in higher education core partner organizations. Partnerships draw upon the disciplinary expertise of faculty in mathematics, science and/or engineering, undergraduate students (including pre-service teachers), graduate students, and postdoctoral candidates in the higher education core partner organizations, and link these individuals with in-service teachers, administrators and guidance counselors in K-12 core partner organizations. Scientists, mathematicians, engineers and individuals from other core and supporting partner organizations may also play significant roles in project activities. Core partners are deeply engaged in the effort at both the institutional and individual levels, and share goals, responsibilities and accountability for the project.

· **Teacher Quality, Quantity and Diversity** - Projects enhance and sustain the number, quality and diversity of K-12 teachers of mathematics and/or science. Drawing upon the expertise of scientists, mathematicians and/or engineers in partner organizations, pre-service and in-service K-12 teachers are engaged in activities to develop strong mathematics and/or science content knowledge and related pedagogical methods and skills. These activities support the challenging courses and curricula implemented in the K-12 core partner organizations. Partnerships also develop and implement innovative strategies that include: increasing the diversity of the K-12 teacher workforce; recruiting qualified individuals to the teaching profession; influencing the teacher certification process; providing for the effective induction of new teachers; establishing policies and procedures that appropriately impact teacher qualification requirements and placement; and/or increasing teacher retention rates. Project activities ensure that K-20 educators develop the knowledge and skills necessary to effectively match local and state standards with challenging courses and curricula, instructional strategies, learning technologies, and assessments.

· **Challenging Courses and Curricula** - Projects ensure that K-12 students are prepared for, have access to, and are encouraged to participate and succeed in, challenging mathematics and/or science courses and curricula. Challenging coursework helps all students develop deeper understanding of mathematics and/or science. Innovative approaches that integrate understanding, reasoning, problem-solving, terminology, and procedures are applied, and where appropriate, draw upon computer-communications technology to enhance student and teacher access and performance. The implementation of challenging courses and curricula that are aligned with local and/or state standards results in a greater number of students participating and succeeding in advanced courses. Project activities ensure that K-12 students develop sufficient depth and breadth of content knowledge, skills and ways of thinking to allow them to continue to apply the mathematics and/or science knowledge and skills acquired throughout life.

· **Evidence-Based Design and Outcomes** - Project design is informed by the current literature on learning and teaching, and project outcomes promise to make evidence-based contributions to the learning and teaching knowledge base. Through participation in the MSP Learning Network, projects make contributions to large-scale research on teaching and learning so that research findings and successful evidence-based strategies can be broadly disseminated to improve educational practice. Projects also link assessment (classroom, local and state) and accountability measures. Data collection activities develop data disaggregated by race, ethnicity, socio-

economic status, gender and disability, and include both student and teacher indicators in mathematics and/or science. Indicators that measure the effectiveness of the partnership, the impact of science, mathematics and/or engineering faculty, the effect of new institutional policies and practices, and other important factors are developed, collected and analyzed to inform the continuous refinement of the project.

· **Institutional Change and Sustainability** - To ensure project sustainability, K-20 core partner organizations redirect resources and design and implement new policies and practices to result in well-documented, inclusive and coordinated K-20 institutional change at both the college/university and the local school district level. Higher education core partner organizations commit to engaging mathematics, science and/or engineering faculty in activities that strengthen their teaching practices and their roles in K-20 mathematics and science education, including K-12 teacher preparation and professional development. K-12 core partner organizations commit to providing environments for teachers, guidance counselors and administrators that support an evidence-based approach, and that recognize and reward exemplary contributions, to mathematics and science learning and teaching. Other core partners commit to engaging mathematicians, scientists and/or engineers and other individuals in activities that strengthen their roles in K-12 mathematics and science education for the long-term.

## **MSP LEARNING NETWORK**

Funded comprehensive and targeted partnerships participate in the MSP Learning Network through which they are linked with other researchers and practitioners in the study and evaluation of educational innovations designed to improve K-12 student achievement in mathematics and science. The MSP Learning Network contributes to the Nation's capacity to engage in and understand large-scale education innovation, and includes research, evaluation and technical assistance components.

## **III. ELIGIBILITY INFORMATION**

### **• PARTNERS DEFINITION AND ELIGIBILITY INFORMATION**

MSP proposals are developed by partnerships that must include CORE Partners and may also include SUPPORTING Partners.

#### **CORE Partners**

Core partner organizations share responsibility and accountability for the MSP project. Core partner organizations **ARE REQUIRED** to provide evidence of their commitment to undergo the coordinated institutional change necessary to sustain the partnership effort beyond the funding period. This is what distinguishes core partner organizations from other supporting partner organizations.

Core partner organizations in each partnership **MUST** include:

- At least one K-12 local or regional school district **AND**
- At least one higher education institution (including 2-year and 4-year colleges and universities).

Community colleges and minority-serving institutions are encouraged to participate as core partner organizations in MSP projects because of the strong role they play in the preparation and professional development of a diverse K-12 mathematics and science teacher workforce.

Core partner organizations may also include other stakeholder organizations in K-12 mathematics and science education, such as state education agencies, business and industry organizations, community organizations, science centers and museums, professional societies, research laboratories, dissemination and implementation centers, district-level educational support centers, social service agencies, private foundations, and other public and private organizations such as educational research organizations, business roundtables or chambers of commerce. The participation of mathematicians, scientists and/or engineers from these core partner organizations is encouraged.

Mathematics, science and/or engineering faculty from higher education core partner organizations ARE REQUIRED to participate in MSP project activities.

### **SUPPORTING Partners**

Supporting partners include important stakeholders and stakeholder organizations in K-12 mathematics and science education, including parents and families and the types of partner organizations described above. The main distinction between core and supporting partners is that while supporting partners clearly add value to the proposed project, they are not required to commit to the coordinated institutional change necessary to sustain project activities beyond the funding period.

- **LEAD PARTNER DEFINITION AND ELIGIBILITY INFORMATION**

One of the core partner organizations serves as the LEAD partner and submits the MSP proposal on behalf of the partnership. The lead partner accepts management and fiduciary responsibility for the project.

The lead partner organization MUST be one of the following:

- a K-12 school district or education organization (local, tribal, regional or state); or
- an institution of higher education (including 2-year and 4-year colleges and universities); or
- a higher education system or consortium; or
- an educational consortium, private foundation, or other public or non-profit private school or organization focused on K-12 education.

- **PARTNERSHIP LEADERSHIP TEAM DEFINITION AND ELIGIBILITY INFORMATION**

The Partnership Leadership Team MUST include those individuals identified in the proposal as Principal Investigator and co-Principal Investigators. One or more of these individuals MUST be representative(s) from the higher education core partner organization(s) and one or more of these individuals MUST be representative(s) from the

K-12 core partner organization(s). Furthermore, at least one of the Principal or co-Principal Investigators **MUST** be a mathematics, science and/or engineering faculty member in a higher education core partner organization.

The Partnership Leadership Team should also include a Project Director who is responsible for day-to-day management of the project; the Project Director need not be identified as a Principal Investigator or co-Principal Investigator.

- **PARTNER ORGANIZATION PROPOSAL LIMIT**

For this competition, organizations may submit only one proposal as a LEAD partner. School districts are eligible to be partners in up to two proposal submissions; school districts may participate as partners in no more than one Comprehensive proposal submission.

#### **IV. AWARD INFORMATION**

**COMPREHENSIVE AWARDS:** For projects seeking to improve student achievement in:

- Mathematics and science across the K-12 continuum, awards for amounts up to \$35 million over 5 years will be made.
- Mathematics across the K-12 continuum, awards for amounts up to \$20 million over 5 years will be made.
- Science across the K-12 continuum, awards for up to \$20 million over 5 years will be made.

Comprehensive MSP awards will be of 5-year duration. Awards will be made as cooperative agreements and will undergo annual reviews and a broad mid-point review with continuing funding dependent on satisfactory progress at various stages of the project.

**TARGETED AWARDS:** Targeted awards will be made for up to 5-year durations and for average annual budgets of up to \$2.5M. Targeted awards will be made as standard or continuing grants or as cooperative agreements, and will be subject to annual review and special award conditions.

For both comprehensive and targeted projects, funding requested must directly correlate with the scope and complexity of the project as well as with the numbers of K-12 students and teachers impacted by or engaged in the project. Projects that have high dollar cost and that impact a small number of students and teachers do not hold as much promise for broad dissemination and thus are less likely to offer as much value as other more cost-effective approaches.

To be cost-effective, partnerships are encouraged to develop projects likely to impact 10,000 students or more.

## V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

### A. Proposal Preparation Instructions

**MSP Project Data Registration:** Lead partners, working on behalf of partnerships intending to submit proposals to this competition, ARE STRONGLY ENCOURAGED TO enter the following data in the MSP Data Registry by December 2, 2002: PIs and co-PI names; lead and other core partner organizations; supporting partners; comprehensive or targeted proposal designation; population of students, pre-service and in-service teachers to be directly engaged in project activities; math, science or math & science focus; disciplinary focus (if any for targeted proposals); and grade range focus. The registry can be accessed at <http://www.ehr.nsf.gov/msp/msppartner/>. At the time of proposal submission on or before January 7 2003, partnerships must review and update where necessary, the information entered in the MSP Data Registry, to assure it accurately reflects the project proposed.

### Full Proposal:

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 Web Site at: <http://www.nsf.gov/cgi-bin/getpub?gpg>. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone (301) 947-2722 or by e-mail from [pubs@nsf.gov](mailto:pubs@nsf.gov).

All lead partner organizations must register with NSF as a FastLane organization by selecting "Registration Information" from the FastLane homepage (<https://www.fastlane.nsf.gov>).

After selecting the MSP program solicitation number (NSF 02-190) on the Cover Sheet, the "NSF Unit Consideration" must be specified - select either Comprehensive Award OR Targeted Award.

Table of Contents. The Table of Contents will be created automatically in FastLane.

### ALL PROPOSALS MUST CONTAIN THE FOLLOWING SECTIONS:

- **PROJECT SUMMARY.**

Provide a one-page summary that includes a heading and the project abstract. The heading should include the title of the proposed endeavor, the name of the lead partner, the name(s) of the additional core partner organizations, and the numbers of students and teachers to be directly engaged in the project. The project abstract should not exceed 200 words, and should briefly describe the project vision, goals and activities to be undertaken. Note that the abstract MUST address both NSB-approved merit review criteria in separate statements. Effective October 1, 2002, NSF will return without review proposals that do not address both merit review criteria in separate statements.

- **PROJECT DESCRIPTION.**

Provide a Project Description that does not exceed 20 SINGLE-SPACED PAGES FOR COMPREHENSIVE proposals or 15 SINGLE-SPACED PAGES FOR TARGETED proposals. The text font size must be 10 point or larger (See GPG, Chapter II, Proposal Margin and Spacing Requirements). Proposals that do not comply with these formatting requirements may not be reviewed or considered for funding.

The Project Description should incorporate ALL of the MSP Key Features described in this solicitation, Section II, and should be sub-divided as described below.

- **Vision, Goals and Outcomes**

Describe the partnership's vision, goals and projected quantitative outcomes for the project; the vision, goals and projected outcomes must be clearly motivated by local needs that are supported by baseline student and teacher data (baseline data and quantitative outcome goals and annual benchmarks must be provided in the Special Information and Supplementary Documentation section of the proposal). Describe the number of K-12 students, pre-service and in-service teachers in the core partner organizations and describe the number of K-12 students, pre-service and in-service teachers to be directly engaged in the project activities.

In a critical partnership self-assessment that objectively analyzes strengths, weaknesses, opportunities and challenges in the current K-20 core partner environments, describe:

- The specific needs and opportunities in the partner K-12 systems, explicating the attributes and challenges associated with student performance and the teacher workforce in mathematics and/or science. Supporting student and teacher indicator data, disaggregated by race, gender, socio-economic factors, and disability, must be provided in the Special Information and Supplementary Documentation section of the proposal.
- The specific challenges and opportunities in the higher education core partner environments in consideration of contributions made to date in the K-12 partner schools and school districts, including educating mathematics and/or science teachers and students at the K-12 levels. The prior involvement of mathematics, science and engineering faculty in K-12 education must be specified. The readiness and capacity of the higher education partners must be supported by faculty and teacher workforce data provided in the Special Information and Supplementary Documentation section of the proposal.

Describe the process by which the partnership performed the self-assessment leading to the development of the project vision, goals and projected outcomes. The process should ensure the participation of

project stakeholders including teachers, mathematics, science and/or engineering faculty, administrators, guidance counselors and other key individuals in project design. Describe participants, committees, and other working groups established; milestones, obstacles, kinds and scope of data used to inform decisions; and other mechanisms used to develop the proposed project plans.

As appropriate, relate the vision, goals and projected outcomes to the MSP Key Features described earlier in the solicitation, and to local, state, regional, and national programs that might be relevant to the efforts being proposed.

- **Results From Prior NSF Funding**

If any of the core partners have received funding from NSF in the last five years, information on the prior award is required **IF RELEVANT TO THE PROPOSED SCOPE OF WORK** (see Grant Proposal Guide NSF 02-2). In this case, provide evidence and data-informed results from previous support, including a discussion of lessons learned from both successes and failures. Specifically indicate how the proposed work differs from, yet is informed by, prior efforts.

- **Action Plan**

Describe in detail **HOW** the partnership will achieve the project vision, goals and projected quantitative outcomes.

Consistent with the Evidence-Based Design and Outcomes Key Feature, describe the conceptual foundation or research base on which the proposed work is built and explain why the proposed action plan will produce evidence-based outcomes that further inform the learning and teaching knowledge base.

Describe a depth and quality of innovative strategies and approaches that extend beyond traditional approaches and that promise significant improvement in student and teacher workforce outcomes attributable to the work of the partnership. In contrast to a collection of disparate, loosely-related activities, describe a coherent set of strategic actions that address and integrate the Challenging Courses and Curricula and Teacher Quality, Quantity and Diversity Key Features. The proposed teacher preparation, recruitment and professional development activities should support the implementation of challenging courses and curricula to result in improved K-12 student achievement in mathematics and/or science.

Consistent with the Partnership-Driven Key Feature, indicate how each partner will contribute to the proposed activities, placing particular emphasis on the contributions scientists, mathematicians and/or engineers will make. Where possible, demonstrate connections with other K-12 educational initiatives supported by NSF and/or other private or public funds.

Provide a project timeline that encompasses the actions described in the narrative and that supports the quantitative outcome goals and annual benchmarks described in the Special Information and Supplementary Documentation section of the proposal.

- **Evaluation Plan**

Describe the evaluation plan that will guide the annual assessment of project progress and will measure the impact of the work described in the action plan. Include the means by which the partners will document, measure, and report on project progress toward realizing improved student and teacher outcomes. Data described in the Special Information and Supplementary Documentation section of the proposal should support the evaluation plan. In the formative sense, evaluation should provide evidence of the strengths and weaknesses of the project, informing the partnership's understanding of what works and what does not in order to inform project evolution and success. The evaluation should also be designed to respond to the summative need for an objective analysis of qualitative and quantitative data, in order to determine the effectiveness of the project in contributing to positive student and teacher outcomes and K-20 institutional change.

- **Partnership Management/Governance Plan**

Describe the capacity and readiness of the core and supporting partners to work together to realize the project vision and goals. Examples of successful past collaborations among the partners should be presented as appropriate. Describe the rationale for the partnership's selection of the lead partner.

Describe the management strategies and approaches designed to ensure that the partnership realizes the project vision, goals and projected outcomes, and to ensure full engagement of all partners in the partnership. Provide a schematic diagram representing the partnership management/governance approach.

Describe in detail the specific roles and responsibilities of the members of the Partnership Leadership Team. Also describe the number of scientists, mathematicians and/or engineers participating in the project and provide detailed information on their roles and responsibilities. Summarize this information in two or more tables in the Special Information and Supplementary Documentation section of the proposal.

- **Institutional Change and Sustainability**

Consistent with the Institutional Change and Sustainability Key Feature, describe how the partnership plans will effect coordinated institutional change within the K-20 and other core partner organizations to ensure sustainability of the education innovation work proposed. Describe the core partner organizations' plans to redirect resources and to develop and implement policies and practices critical to the work of the partnership and necessary to ensure project sustainability. Supporting evidence of institutional commitment to change must be provided by

senior administrator(s) (equivalent to a Dean or higher) in the higher education core partner(s), by senior administrator(s) (equivalent to a Chief Academic Officer or higher) in the school district core partner(s), and by senior officials in other core partner organizations. This evidence must be provided in the Special Information and Supplementary Documentation section of the proposal.

- **BIOGRAPHICAL SKETCH.**

Provide a Biographical Sketch for the Principal Investigator and co-Principal Investigators and for no more than five additional individuals with major administrative, instructional, or consulting responsibility. Individual biographical sketches must not exceed two pages and may include a list of up to five publications most closely related to the proposed endeavor.

- **CURRENT AND PENDING SUPPORT.**

Provide a Statement of Current and Pending Support for the Principal Investigator and co-Principal Investigators.

- **SPECIAL INFORMATION AND SUPPLEMENTARY DOCUMENTATION.**

In FastLane, Supplementary Documentation should be uploaded as a separate PDF file totaling **NO MORE THAN 40 PAGES**. Include in this documentation:

(1.) **Baseline Data.** The narrative of the proposal should make specific references to the baseline data described below. Legends, footnotes, and other identifying characteristics must be included to provide full explanations of data. Partnerships **must synthesize available data and provide summary tables** that contain pertinent student achievement and teacher workforce data as follows:

- **Student Achievement Data** - Provide disaggregated student participation and achievement data from the core partner school district(s) to describe the current mathematics and/or science performance of subgroups of students. Data must be provided on the most recent student achievement in mathematics and/or science in comparison to state and/or national averages. The data should identify the type of test (norm- or criterion-referenced) and indicate each of the grade levels in which system-wide science and/or mathematics assessments were administered. They should include achievement scores disaggregated by race/ethnicity, socio-economic status, gender, and disability, the percentage of students tested against grade-level enrollment, and the appropriate categories for reporting test results (quartiles, mean percentiles, proficiency levels, or above or below cut scores). Data should also include, where appropriate, course enrollment and completion rates, as well as college matriculation rates.

- **Teacher Workforce Data** - Provide data describing the availability of teachers of

mathematics and/or science in the core partner school district(s). The data should relate to quantity, diversity and quality (e.g., baccalaureate/masters degrees, teaching out of the certification field, retention, professional development hours) of teachers in the system(s). Also provide teacher preparation and/or professional development data that describe the current capacity of the core partner institution(s) of higher education to serve the teacher professional continuum needs of the school district core partner(s). Data should describe the number of mathematics and/or science teachers that are produced annually (through traditional pre-service and/or alternative routes), placement and support of new teachers in their initial teaching appointments, number of teachers impacted by professional development activities provided by the core partner institution(s) of higher education, etc.

(2.) Outcome Goals and Annual Benchmarks. The narrative of the proposal should make reference to the outcome goals and annual benchmarks against baseline data for outcomes related to the goals of the proposed project. Provide a summary of quantitative outcome goals and annual benchmarks here.

(3.) Partnership Leadership Team and Disciplinary Partner Tables. Summarize the specific roles and responsibilities of the members of the Partnership Leadership Team and of all the scientists, mathematicians and/or engineers to be directly engaged in project activities in two or more tables. Provide names of the scientists, mathematicians and/or engineers in the Disciplinary Partner Table(s) where possible.

(4.) Institutional Commitment to Change. Provide evidence of institutional commitment to change in the form of one or more letters signed by senior administrator(s) (equivalent to a Dean or higher) in the higher education core partner(s), one or more letters signed by senior administrator(s) (equivalent to a Chief Academic Officer or higher) in the school district core partner(s), and one or more letters signed by senior officials in the other core partner organizations. These letters should describe core partner organizations' plans to redirect resources and to develop and implement policies and practices critical to the work of the partnership and necessary to ensure project sustainability.

(5.) Other Letters of Substantive Commitment. As space will allow, provide letters of substantive commitment from other project partners.

Proposers are reminded to identify the program solicitation number (NSF 02-190) in the program announcement/solicitation block on the proposal Cover Sheet. Compliance with this requirement is critical to determining the relevant proposal processing guidelines. Failure to submit this information may delay processing.

## **B. Budgetary Information**

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

### **C. Deadline/Target Dates**

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

**MSP Project Data Registration (*strongly encouraged*):** December 2, 2002

**Full Proposals by 5:00 PM local time:**

January 7, 2003

### **D. FastLane Requirements**

Proposers are required to prepare and submit all proposals for this Program Solicitation through the FastLane system. Detailed instructions for proposal preparation and submission via FastLane are available at: <http://www.fastlane.nsf.gov/a1/newstan.htm>. For FastLane user support, call the FastLane Help Desk at 1-800-673-6188 or e-mail [fastlane@nsf.gov](mailto: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 announcement/solicitation.

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

## **VI. PROPOSAL REVIEW INFORMATION**

### **A. NSF Proposal Review Process**

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

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

On July 8, 2002, the NSF Director issued Important Notice 127, *Implementation of new Grant Proposal Guide Requirements Related to the Broader Impacts Criterion*. This Important Notice

reinforces the importance of addressing both criteria in the preparation and review of all proposals submitted to NSF. NSF continues to strengthen its internal processes to ensure that both of the merit review criteria are addressed when making funding decisions.

In an effort to increase compliance with these requirements, the January 2002 issuance of the GPG incorporated revised proposal preparation guidelines relating to the development of the Project Summary and Project Description. Chapter II of the GPG specifies that Principal Investigators (PIs) must address both merit review criteria in separate statements within the one-page Project Summary. This chapter also reiterates that broader impacts resulting from the proposed project must be addressed in the Project Description and described as an integral part of the narrative.

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

The two National Science Board approved merit review criteria are listed below (see the [Grant Proposal Guide](#) Chapter III.A for further information). The criteria include considerations that help define them. These considerations are suggestions and not all will apply to any given proposal. While proposers must address both merit review criteria, reviewers will be asked to address only those considerations that are relevant to the proposal being considered and for which he/she is qualified to make 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 and original concepts? How well conceived and organized is the proposed activity? Is there sufficient access to resources?

**What are the broader impacts of the proposed activity?**

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

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

***Integration of Research and Education***

One of the principal strategies in support of NSF's goals is to foster integration of research and education through the programs, projects, and activities it supports at academic and research institutions. These institutions provide abundant opportunities where individuals

may concurrently assume responsibilities as researchers, educators, and students and where all can engage in joint efforts that infuse education with the excitement of discovery and enrich research through the diversity of learning perspectives.

### ***Integrating Diversity into NSF Programs, Projects, and Activities***

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

### **Additional Review Criteria**

In elaboration of the general NSF review criteria, reviewers will also be asked to review MSP proposals while considering the following questions (these questions are aligned with the information to be provided in the Project Description).

- **Vision, Goals and Outcomes**
  - Does the proposal provide evidence of a well-documented need for the project?
  - Are the project vision and related goals appropriately focused on improved achievement in mathematics and/or science for all K-12 students?
  - Assess the overall impact of the partnership with respect to the numbers of both students and teachers to be directly engaged.
  - Are the project quantitative outcomes sufficiently ambitious, yet reasonable?
- **Prior Work**
  - If prior work is described, is there evidence that the partnership has learned from this work and is incorporating lessons learned in the proposed project?
- **Action Plan**
  - Is the project design informed by the current literature on teaching and learning? Is it likely to develop evidence-based outcomes?
  - Are the proposed strategies innovative, do they extend beyond commonplace approaches to improve mathematics and science education, and are they likely to accelerate the attainment of project outcomes ?
  - Are the proposed strategies for improving student achievement and teacher quality, quantity and diversity likely to produce the desired outcomes?
  - Is there evidence that the effort is likely to engage all students in challenging courses and curricula thereby allowing them to attain higher levels of achievement in mathematics and/or science?
  - Is the project timeline feasible?
  - Are mathematicians, scientists and/or engineers playing substantial roles in the effort?
- **Evaluation Plan**
  - Is the evaluation plan comprehensive in nature and does it include both summative and formative components?
  - Is there expertise available to fully implement the evaluation design?

- Does the evaluation plan allow for an objective analysis of the project and will it elucidate what works and what does not in order to inform mid-course project corrections and/or modifications?

- **Partnership Management/Governance Plan**

- What prior history of collaboration exists among the proposed partners and are the results pertinent to this endeavor?
- Are mathematicians, scientists and engineers from higher education institutions playing substantial roles in the proposed activities?
- Has the partnership developed a workable management plan and are all partners engaged?
- Is there evidence that the core partners share goals, responsibility and accountability for the proposed work?
- Does the project leadership team have the expertise necessary to guide the project to success?
- Are proposed sub-awards necessary and has the partnership developed a plan for administering them?

- **Institutional Change and Project Sustainability**

- What is the potential of the proposed partnership to foster and sustain the efforts after the award period ends?
- Do the core partners provide evidence that the project will likely lead to changes in their institutions? What definitive commitments are made by higher education institutions to engage science, mathematics and engineering faculty in practices that strengthen their role in K-12 education and in teacher education and professional development? What are the institutional policies to be developed to support these new roles and responsibilities? Is there evidence that resources will be reallocated within the core partner organizations?

- **Budget**

- Is the requested budget appropriate to achieve the proposed outcomes with regard to the number of students and teachers impacted by the proposed activities?
- Does the budget narrative present detailed justifications demonstrating the full involvement of each partner?
- Does the proposal indicate how resources will be coordinated and developed to achieve the project vision and goals?
- If funding is requested to support the purchase of technological tools, are these essential to realize the proposed project outcomes?

## **B. Review Protocol and Associated Customer Service Standard**

All proposals are carefully reviewed by at least three persons outside NSF who are experts in the particular field represented by the proposal. Proposals submitted in response to this solicitation will be reviewed by Panel Review. Following Panel Review, partnerships may be invited to participate in a peer review Site Visit (reverse or on-site).

Reviewers will be asked to formulate a recommendation to either support or decline each proposal. The Program Officer assigned to manage the proposal's review will consider the advice of reviewers and will formulate a recommendation.

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

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

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

## **VII. AWARD ADMINISTRATION INFORMATION**

### **A. Notification of the Award**

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

### **B. Award Conditions**

An NSF award consists of: (1) the award letter, which includes any special provisions applicable to the award and any numbered amendments thereto; (2) the budget, which indicates the amounts, by categories of expense, on which NSF has based its support (or otherwise communicates any specific approvals or disapprovals of proposed expenditures); (3) the proposal referenced in the award letter; (4) the applicable award conditions, such as Grant General Conditions (NSF-GC-1)\* or Federal Demonstration Partnership (FDP) Terms and Conditions;\* and (5) any announcement or other NSF issuance that may be incorporated by reference in the award letter. Cooperative agreement awards also are administered in accordance with NSF

Cooperative Agreement Terms and Conditions (CA-1). Electronic mail notification is the preferred way to transmit NSF awards to organizations that have electronic mail capabilities and have requested such notification from the Division of Grants and Agreements.

\*These documents may be accessed electronically on NSF's Web site at [http://www.nsf.gov/home/grants/grants\\_gac.htm](http://www.nsf.gov/home/grants/grants_gac.htm). Paper copies may be obtained from the NSF Publications Clearinghouse, telephone (301) 947-2722 or by e-mail from [pubs@nsf.gov](mailto:pubs@nsf.gov).

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

### **Special Award Conditions**

Special award conditions will be specified at the time of award..

### **C. Reporting Requirements**

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

Special reporting conditions will be specified at the time of award.

Within 90 days after the expiration of an award, the PI also is required to submit a final project report. Failure to provide final technical reports delays NSF review and processing of pending proposals for 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. This system permits electronic submission and updating of project reports, including information on project participants (individual and organizational), activities and findings, publications, and other specific products and contributions. PIs will not be required to re-enter information previously provided, either with a proposal or in earlier updates using the electronic system.

## **VIII. CONTACTS FOR ADDITIONAL INFORMATION**

General inquiries regarding Math and Science Partnership Program should be made to:

- Kathleen Bergin, telephone: (703) 292-5171, e-mail: [kbergin@nsf.gov](mailto:kbergin@nsf.gov).
- Joyce Evans, telephone: (703) 292-8613, e-mail: [jevans@nsf.gov](mailto:jevans@nsf.gov).

- Jim Hamos, telephone: (703) 292-4687, e-mail: [jhamos@nsf.gov](mailto:jhamos@nsf.gov).
- Joan Prival, telephone: (703) 292-4635, e-mail: [jprival@nsf.gov](mailto:jprival@nsf.gov).

For questions related to the use of FastLane, contact:

- Fastlane Help Desk, telephone: (800) 673-6188, e-mail: [fastlane@nsf.gov](mailto:fastlane@nsf.gov).

## IX. OTHER PROGRAMS OF INTEREST

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

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

NSF programs of particular relevance to the MSP program include:

Centers for Learning and Teaching (CLTs)  
 Science and Technology Centers (STCs)  
 Teacher Enhancement (TE)  
 Instructional and Assessment Materials Development (IMD)  
 Engineering Research Centers (ERCs)  
 Science, Technology, Engineering, and Mathematics Teacher Preparation (STEMTP)  
 Materials Research Science and Engineering Centers (MRSECs)  
 Graduate Teaching Fellows in K-12 Education (GK-12)  
 Grants for Vertical Integration of Research and Education (VIGRE)  
 Research on Learning and Education (ROLE)  
 Interagency Education Research Initiative (IERI)

## **ABOUT THE NATIONAL SCIENCE FOUNDATION**

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

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

*Facilitation Awards for Scientists and Engineers with Disabilities (FASED)* provide funding for special assistance or equipment to enable persons with disabilities (investigators and other staff, including student research assistants) to work on NSF-supported projects. See the GPG Chapter 11, 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, FIRS at 1-800-877-8339.

## **PRIVACY ACT AND PUBLIC BURDEN STATEMENTS**

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

An agency may not conduct or sponsor, and a person is not required to respond to an information collection unless it displays a valid OMB control number. The OMB control number for this collection is 3145-0058. Public reporting burden for this collection of information is estimated to average 120 hours per response, including the time for reviewing instructions. Send comments regarding this burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to: Suzanne Plimpton, Reports Clearance Officer, Information Dissemination Branch, Division of Administrative Services, National Science Foundation, Arlington, VA 22230.

*OMB control number: 3145-0058.*