

# Deep Underground Science and Engineering Laboratory Site and Conceptual Design

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## Program Solicitation

NSF 05-506



### National Science Foundation

Directorate for Mathematical and Physical Sciences

Division of Physics

Directorate for Geosciences

Division of Earth Sciences

Directorate for Engineering

Division of Civil and Mechanical Systems

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

January 10, 2005

## SUMMARY OF PROGRAM REQUIREMENTS

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### General Information

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#### Program Title:

Deep Underground Science and Engineering Laboratory Site and Conceptual Design

#### Synopsis of Program:

This Solicitation invites proposals for candidate sites and for the development of a conceptual design of the infrastructure for a Deep Underground Science and Engineering Laboratory (DUSEL). The purpose of a DUSEL is to enable the broad range of science and engineering research that requires a deep underground location for reasons such as shielding from cosmic rays or direct access to physical/chemical/biological/engineering processes that occur deep underground. The scientific scope of the multidisciplinary program enabled by such a DUSEL and the resulting infrastructural requirements are the subject of a parallel solicitation (Solicitation-1): "Deep Underground Science and Engineering Program and Technical Requirements." Responses to the present solicitation (Solicitation-2) will propose a specific site or sites and a plan to develop a conceptual design of the infrastructure necessary to meet the technical requirements being developed in response to Solicitation-1. In addition, the conceptual design will include the identification of an initial suite of experiments that could be installed in the proposed site(s) and the vision for a longer-term (30 year) program. A third solicitation (Solicitation-3) is planned through which detailed technical designs will be developed for the most promising combinations of site and conceptual design resulting from this solicitation.

#### Cognizant Program Officer(s):

- Richard N. Boyd, Program Director, Directorate for Mathematical & Physical Sciences, Division of Physics, 1015 N, telephone: (703) 292-7381, fax: (703) 292-9078, email: [rboyd@nsf.gov](mailto:rboyd@nsf.gov)
- Eugene C. Loh, Program Director, Directorate for Mathematical & Physical Sciences, Division of Physics, 1015 N,

telephone: (703) 292-7379, fax: (703) 292-9078, email: [eloh@nsf.gov](mailto:eloh@nsf.gov)

- David Lambert, Program Director, Directorate for Geosciences, Division of Earth Sciences, 785 S, telephone: (703) 292-8558, email: [dlambert@nsf.gov](mailto:dlambert@nsf.gov)
- Richard J. Fragaszy, Program Director, Directorate for Engineering, Division of Civil & Mechanical Systems, 545 S, telephone: (703) 292-8360, email: [rfragasz@nsf.gov](mailto:rfragasz@nsf.gov)

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

- 47.041 --- Engineering
- 47.050 --- Geosciences
- 47.049 --- Mathematical and Physical Sciences

#### Eligibility Information

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- **Organization Limit:**

Proposals may be submitted by universities and colleges in the United States, or by non-profit non-academic organizations in the United States, with research and education programs in at least some of the areas of research relevant to an underground laboratory. Collaborations that include a large fraction of the relevant research areas are encouraged. In proposals involving multiple organizations, a single organization must submit the proposal as the lead organization, and accept overall management responsibility. Although their organizations may not serve as the lead organization, collaborators may also be affiliated with state governments or national laboratories.

- **PI Eligibility Limit:**

An individual may be the Principal Investigator (PI) for only one proposal.

- **Limit on Number of Proposals:** None Specified.

#### Award Information

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- **Anticipated Type of Award:** Standard Grant
- **Estimated Number of Awards:** 3 to 5
- **Anticipated Funding Amount:** \$1,500,000 ---Up to \$500,000 per award, to a total of approximately \$1,500,000 subject to availability of funds.

#### Proposal Preparation and Submission Instructions

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##### A. Proposal Preparation Instructions

- **Full Proposal Preparation Instructions:** This solicitation contains information that deviates from the standard Grant Proposal Guide (GPG) proposal preparation guidelines. Please see the full text of this solicitation for further information.

##### B. Budgetary Information

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

##### C. Due Dates

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

## Proposal Review Information

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

## Award Administration Information

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- **Award Conditions:** Standard NSF award conditions apply.
- **Reporting Requirements:** Standard NSF reporting requirements apply.

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## I. INTRODUCTION

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The science and engineering disciplines address an extraordinary range of issues across a broad spectrum of spatial and temporal scales. Making advances in these disciplines frequently requires unusual environments. Scientists and engineers sometimes create those environments artificially; in some instances they can exploit naturally-existing environments with particular characteristics, provided there is appropriate access and infrastructure.

In the past several years research communities in physics, geosciences, and engineering have developed powerful scientific motivations to develop a research infrastructure capability deep underground. A series of reports (see, e.g., *Connecting Quarks with the Cosmos*, *Physics of the Universe*, *Quantum Universe*, the NRC report *Neutrinos and Beyond*, *Proceedings of the International Workshop on Neutrinos and Subterranean Science 2002*, and *EarthLab*) provides the ground work for developing the scientific and engineering cases for a deep underground laboratory. The Division of Physics of the Mathematical and Physical Sciences Directorate is taking the lead for NSF, in partnership with the Directorates for Geosciences and Engineering, to work with the relevant communities to implement a sequence of steps that might lead to the creation of such a laboratory.

A previous solicitation: “Deep Underground Science and Engineering Programs and Technical Requirements” (Solicitation-1) invited proposals for definition of the research program that could be performed with a DUSEL, as well as of the technical requirements of the many experiments that could be performed therewith. This Solicitation is the second in the series of three Solicitations that make up the process toward the possible development of a DUSEL.

## II. PROGRAM DESCRIPTION

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This Solicitation invites proposals for candidate sites and for the development of a conceptual design of the infrastructure for a Deep Underground Science and Engineering Laboratory (DUSEL). The purpose of a DUSEL is to enable the broad range of science and engineering research that requires a deep underground location for reasons such as shielding from cosmic rays or direct access to physical/chemical/biological/engineering processes that occur deep underground. The scientific scope of the multidisciplinary program enabled by such a DUSEL and the resulting infrastructural requirements are the subject of a parallel solicitation (Solicitation-1): “Deep Underground Science and Engineering Program and Technical Requirements.” Responses to the present solicitation (Solicitation-2) will propose a specific site or sites and a plan to develop a conceptual design of the infrastructure necessary to meet the technical requirements being developed in response to Solicitation-1. In addition, the conceptual design will include the identification of an initial suite of experiments that could be installed in the proposed site(s) and the vision for a longer-term (30 year) program. Note that, while the planning of a DUSEL at a single site is the main focus of this program, plans that involve two sites will be considered if the efficacy of such a plan can be demonstrated.

Proposals submitted in response to this solicitation will be peer-reviewed by a panel of experts in the relevant specialties. The most competitive proposals will combine a site having good potential for meeting DUSEL technical requirements with a strong plan for developing the conceptual design. After submission of the site/conceptual design final reports, further panel review will select those to be invited to prepare a full technical design in response to Solicitation-3. Support of proposals through this solicitation does not imply the funding or creation of an underground laboratory.

## III. ELIGIBILITY INFORMATION

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Proposals may be submitted by universities and colleges in the United States, or by non-profit non-academic organizations in the United States, with research and education programs in at least some of the areas of research relevant to an underground laboratory. Collaborations that include a large fraction of the relevant research areas are encouraged. In proposals involving multiple organizations, a single organization must submit the proposal as the lead organization, and accept overall management responsibility. Although their organization may not serve as the lead organization, collaborators may also be affiliated with state governments or national laboratories.

## IV. AWARD INFORMATION

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Estimated program budget, number of awards and average award size/duration are subject to the availability of funds. Up to a total of approximately \$1,500,000 will be targeted in FY05. Standard grants for six months not to exceed \$500,000 each will be made.

## V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

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### A. Proposal Preparation Instructions

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#### Full Proposal Instructions:

Proposals submitted in response to this program announcement/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/cgi-bin/getpub?gpg>. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from [pubs@nsf.gov](mailto:pubs@nsf.gov).

The program announcement/solicitation contains deviations from the standard Grant Proposal guide (GPG) proposal preparation guidelines. The only deviations are in the specific information requested in the project description and in the additional review criteria, as indicated below.

1. NSF Cover Sheet. Indicate the total amount requested for the six months of NSF support in the box entitled "requested amount."
2. List each senior investigator (faculty level or equivalent) by full name, and his or her institutional and departmental affiliation. Include a biographical sketch for each senior participant, listing up to ten publications or other professional accomplishments most pertinent to this proposal. Enter in the "Biographical Sketch" FastLane Form.
3. Project description. (Limited to 15 pages) This forms the core of the proposal. It should:
  - Provide a summary of extant information on the proposed site(s) with respect to its suitability for a DUSEL, e.g., with respect to its current size and, if necessary, suitability for expansion, geological characterization, availability of the site for the desired purpose, environmental issues, accessibility, current and previous use, and distinctive characteristics *vis-a-vis* other known potential sites both inside and outside of the US.
  - Describe the qualifications of the team relevant to developing the conceptual design for a DUSEL, including scientific expertise and expertise in mining engineering and underground construction.
  - Describe the plan for developing the conceptual design of the DUSEL, including:
    - Determining the match with preliminary information on technical requirements of the science and engineering, including:
      - The plan for developing an initial suite of experiments;
      - The longer-term (30 year) capability of the site beyond the initial suite of experiments;
      - The plan for integrating the relevant scientific and engineering communities; and
      - The possibilities for international cooperation.
    - Developing a comprehensive plan to address site-based issues including:
      - Determining the geological characterization of the site(s), with specifications as to the funding sources for this work;
      - Developing, producing, and publicizing an environmental assessment of the site(s), as well as a publication and dissemination strategy for that assessment;
      - Addressing safety and health issues;
      - Determining the necessary permitting needed for construction, including rock disposal;
      - Assessing the level of support of the local public, and planning for obtaining the necessary letters of support;
      - Sharing infrastructure, if relevant, with a non-laboratory entity, e.g., a mining activity;
      - Developing a plan to accommodate uncertainty, *i.e.*, changed conditions encountered during construction; and

- Timeliness and costs of carrying out such activities.
  - Developing, operating, and maintaining the infrastructure.
  - Incorporating education, human resource development, and outreach.
- Describe the management plan for the planning effort, including:
  - Responsibilities of the PI and co-PIs in the planning process; and
  - The timeline and cost for carrying out the various aspects of the planning.

Proposers are reminded to identify the program announcement/solicitation number (05-506) 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

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### Cost Sharing:

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

## C. Due Dates

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

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

January 10, 2005

## D. FastLane Requirements

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Proposers are required to prepare and submit all proposals for this announcement/solicitation through the FastLane system. Detailed instructions for proposal 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](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 announcement/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

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### A. NSF Proposal Review Process

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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 judgments.

**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 addition to the standard NSF review criteria of Intellectual Merit and Broader Impacts, proposals will also be reviewed, both in an absolute sense and relative to other proposals, against the following additional review criteria:

### **1. What is the potential of the proposed site(s) to satisfy the needs of a world-class, cost effective, timely, and multidisciplinary candidate site for a DUSEL? What are the strengths and weaknesses? Specifically:**

- How strong is the plan for matching the proposed site(s) to the preliminary information on technical requirements of a DUSEL research program?
- What are the team's strengths, weaknesses, and breadth for developing a credible DUSEL conceptual design? For developing an initial research plan and a longer-range science vision?
- What are the possibilities for international collaboration?

### **2. What are the strengths and weaknesses of the plan to identify and provide a comprehensive plan to address site-based issues? Specifically:**

- To what extent does the extant information on the site, e.g., its geological and hydrological characterization and its accessibility to airports and roads, support this particular candidate site?
- How comprehensive is the set of issues to be addressed?
- How realistic is the planned process to determine the timelines and cost estimates?
- What are the unique features of the proposed site(s) relative to existing or alternative sites that would justify placing a DUSEL there?

### **3. How strong is the plan for devising a conceptual design for developing, operating, and maintaining the infrastructure?**

### **4. What are the merits of the plans for developing a conceptual design for education, outreach, and diversity activities in association with the proposed DUSEL? What are the strengths and weaknesses of the proposing team in this area?**

### **5. Based on the proposed plan of action, what is the likelihood that the DUSEL could be constructed in the time frame 2008 to 2012? Are there any specific physical, technical, or management impediments to beginning construction in this time frame?**

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

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All proposals are carefully reviewed by at least three other persons outside NSF who are experts in the particular field represented by the proposal. Proposals submitted in response to this announcement/solicitation will be reviewed by Ad Hoc 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.

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 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 proposers whether their proposals have been declined or recommended for funding within six months. The time interval begins on the closing date of an announcement/solicitation, or the date of proposal receipt, whichever is later. 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

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### A. Notification of the Award

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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

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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 Website 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 (703) 292-7827 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 Website 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 Website at <http://www.gpo.gov>.

### C. Reporting Requirements

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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.

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 the PI and all Co-PIs. 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

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General inquiries regarding this program should be made to:

- Richard N. Boyd, Program Director, Directorate for Mathematical & Physical Sciences, Division of Physics, 1015 N, telephone: (703) 292-7381, fax: (703) 292-9078, email: [rboyd@nsf.gov](mailto:rboyd@nsf.gov)
- Eugene C. Loh, Program Director, Directorate for Mathematical & Physical Sciences, Division of Physics, 1015 N, telephone: (703) 292-7379, fax: (703) 292-9078, email: [eloh@nsf.gov](mailto:eloh@nsf.gov)
- David Lambert, Program Director, Directorate for Geosciences, Division of Earth Sciences, 785 S, telephone: (703) 292-8558, email: [dlambert@nsf.gov](mailto:dlambert@nsf.gov)
- Richard J. Fragaszy, Program Director, Directorate for Engineering, Division of Civil & Mechanical Systems, 545 S, telephone: (703) 292-8360, email: [rfragasz@nsf.gov](mailto:rfragasz@nsf.gov)

General inquiries regarding this solicitation should be made to:

- Dr. Richard Boyd, Particle and Nuclear Astrophysics, telephone: 703-292-7381, e-mail: [rboyd@nsf.gov](mailto:rboyd@nsf.gov).
- Dr. Eugene Loh, Particle and Nuclear Astrophysics, 703-292-7379, e-mail: [eloh@nsf.gov](mailto:eloh@nsf.gov).
- Dr. David Lambert, Earth Sciences, telephone: 703-292-8558, e-mail: [dlambert@nsf.gov](mailto:dlambert@nsf.gov).
- Dr. Richard Fragaszy, Civil and Mechanical Systems, telephone: 703-292-8360, e-mail: [rfragasz@nsf.gov](mailto:rfragasz@nsf.gov).

For questions related to the use of FastLane, contact:

- Ramona Winkelbauer, Directorate for Mathematical and Physical Sciences, telephone: 703-292-7390, fax: 703-292-9078, email: [rwinkelb@nsf.gov](mailto:rwinkelb@nsf.gov)

## IX. OTHER PROGRAMS OF INTEREST

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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 Website 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.

## ABOUT THE NATIONAL SCIENCE FOUNDATION

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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 (FASSED)* 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 II, Section D.2 for instructions regarding preparation of these types of proposals.

The National Science Foundation promotes and advances scientific progress in the United States by competitively awarding grants and cooperative agreements for research and education in the sciences, mathematics, and engineering.

To get the latest information about program deadlines, to download copies of NSF publications, and to access abstracts of awards, visit the NSF Website at <http://www.nsf.gov>

- **Location:** 4201 Wilson Blvd. Arlington, VA 22230
  
- **For General Information** (NSF Information Center): (703) 292-5111
  
- **TDD (for the hearing-impaired):** (703) 292-5090
  
- **To Order Publications or Forms:**
  - Send an e-mail to: [pubs@nsf.gov](mailto:pubs@nsf.gov)
  
  - or telephone: (703) 292-7827
  
- **To Locate NSF Employees:** (703) 292-5111

## PRIVACY ACT AND PUBLIC BURDEN STATEMENTS

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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, Division of Administrative Services, National Science Foundation, Arlington, VA 22230.

OMB control number: 3145-0058.

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