Multi-User Equipment and Instrumentation Resources for Biological Sciences (MUE) Program

National Science Foundation
Directorate for Biological Sciences
    Division of Biological Infrastructure

Full Proposal Target Date(s):

July 06, 2005

First Wednesday in July

    annually thereafter

REVISIONS AND UPDATES

PLEASE NOTE: THE MUE PROGRAM IS NO LONGER ACCEPTING PROPOSALS. THE JULY 2005 AND FUTURE TARGET DATES HAVE BEEN CANCELLED.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Multi-User Equipment and Instrumentation Resources for Biological Sciences (MUE) Program

Synopsis of Program:

The Multi-User Equipment and Instrumentation Resources for Biological Sciences (MUE) Program aids organizations in the purchase of expensive items of research equipment to be shared by a number of independent investigators who have actively-funded research projects in areas supported by the Directorate for Biological Sciences (BIO). Proposals may request aid in the purchase of a single item of research equipment or of several items if they constitute an integrated system, including any necessary software; two or more unrelated equipment items may not be requested with one proposal. The minimum request is $40,000, and the maximum is $400,000.

Cognizant Program Officer(s):

- Helen G Hansma, MUE Program Director, Directorate for Biological Sciences, Division of Biological Infrastructure, telephone: 703-292-8470, fax: 703-292-9063, email: dbiiid@nsf.gov

- Gerald B Selzer, MUE Program Director, Directorate for Biological Sciences, Division of Biological Infrastructure, telephone: 703-292-8470, fax: 703-292-9063, email: dbiiid@nsf.gov

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

- 47.074 --- Biological Sciences

Eligibility Information

- **Organization Limit:**

  Proposals are accepted from colleges, universities and independent non-profit research organizations that conduct research and education activities in areas supported by the NSF Directorate for Biological Sciences (see full text for details).

- **PI Eligibility Limit:**

  At least one of the Principal Investigators (PI or co-PIs) must have an active NSF award at the time of submission. This requirement is waived for proposals submitted by Research in Undergraduate Institutions (RUI) eligible academic organizations (see full text for details).

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

Award Information

- **Anticipated Type of Award:** Standard Grant
- **Estimated Number of Awards:** 20 to 25
- **Anticipated Funding Amount:** $3,500,000 (approximately) will be available for new MUE awards in FY 2006, pending availability of funds.

Proposal Preparation and Submission Instructions

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 by NSF.
- **Indirect Cost (F&A) Limitations:** No indirect costs are provided.
- **Other Budgetary Limitations:** Other budgetary limitations apply. Please see the full text of this solicitation for further information.

C. Due Dates

- **Full Proposal Target Date(s):**
  July 06, 2005
  First Wednesday in July
  annually thereafter

Proposal Review Information

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

Award Administration Information

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

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Summary of Program Requirements

I. INTRODUCTION

For over 20 years, the Directorate for Biological Sciences (BIO) at the National Science Foundation (NSF) has aided academic and non-profit research organizations in the purchase of multi-user equipment through its Multi-User Equipment and Instrumentation Resources for Biological Sciences (MUE) Program. MUE provides support to organizations for the purchase of expensive items of equipment to be shared by three or more independent investigators with actively-funded research programs in areas of basic research supported by BIO. Eligible equipment includes, but is not limited to, analytical instruments, microscopes, other devices used for synthesis, detection, characterization or measurement of biological molecules, and specialized equipment needed to maintain or alter the environment in which organisms are grown or studied. Portable instruments and other special purpose equipment used in the field are also eligible. The MUE program expects that projects it supports will improve access to modern instrumentation for use in research and in the training or education of undergraduate, graduate and/or postdoctoral students.   Therefore, in the selection of projects for support, the program emphasizes projects that will be conducted in academic environments.

II. PROGRAM DESCRIPTION

The Multi-User Equipment and Instrumentation Resources for Biological Sciences (MUE) Program aids groups of investigators in the purchase of shared-use, special purpose research equipment with awards of up to $400,000. Requested equipment must be intended for use by three or more independent investigators who have actively-funded research projects in areas of research eligible for support by the Directorate for Biological Sciences.

The program will support:

- the purchase of a single item of eligible equipment or the purchase of several related items;
- the establishment of instrumentation resources (core facilities) consisting of several items of equipment with a related purpose, or the purchase of additional equipment for such resources;
- shared computational resources, including workstations, clusters and other computing equipment dedicated to broad research needs; and
- controlled environment systems.

In selecting projects for support, the MUE program gives priority to equipment that has multiple identified users with active NSF support. Funds are not provided for purchase of personal computers, workstations or printers, except as part of an integrated system, or for general use equipment such as refrigerators, autoclaves and dishwashers. MUE will provide support for costs of equipment set-up, if included in the quoted price of the equipment. Other costs of installation, including any necessary renovation or new construction of space to be used to house equipment, or for removal of existing equipment, are ineligible for support. The minimum request to this program is $40,000. While there is no upper limit on the cost of eligible equipment, the maximum amount that can be requested of NSF is $400,000.

Consistent with BIO policy, the MUE program will not simultaneously review proposals that duplicate a separate request to another Federal agency or to another NSF program. However, in cases where the cost of the proposed equipment exceeds the maximum provided through an MUE award, parallel proposals may be sent to the MUE program and to one or more other Federal agencies for simultaneous review. Proposals may also be sent to another NSF program if the cost of the equipment also exceeds the upper limit in that program. Proposers intending to submit parallel proposals must obtain prior written approval from one of the MUE program directors. At the time of submission, it is important to identify on the Cover Sheet the other agencies to which parallel proposals have been submitted, in order to facilitate coordinated funding if an award is made. Proposers who have already submitted a parallel proposal to another Federal agency, or who expect to do so while the MUE proposal is pending, should contact one of the MUE program directors for guidance. Parallel proposals may not be submitted to MUE and another NSF program without prior written approval of one of the MUE program directors and of the cognizant program director of the other NSF program.

REQUIREMENTS FOR SHARING OF MULTI-USER EQUIPMENT

MUE proposals must include an assurance that the requested equipment will be used by a minimum of three independent investigators, termed major users, and their associated students and support staff. Proposals may identify and describe the research programs of up to five major users and their group members; additional minor users may be identified. It is expected that a majority of the major user groups will have outside, peer-reviewed funding and that some of the major users will have active or recent NSF research funding. At least one Principal Investigator (PI or co-PI) named on the cover sheet must have active NSF funding, unless the proposal is submitted by an RUI-eligible academic institution (see below). Use of this equipment in educational activities is encouraged, consistent with the needs of the research uses discussed in the proposal. Responsibility for managing use of the proposed equipment must lie with an individual who is competent to independently operate the equipment. Some major or minor users may use the equipment through collaboration with a qualified operator; however, in no case may more than 60% of the equipment time be allocated to one research group and its collaborators. The MUE program encourages proposals from user groups that include individuals from several departments and/or organizations.

Equipment requests not meeting these guidelines should be addressed to a disciplinary research program in the Directorate for Biological Sciences or other appropriate NSF program. Individuals interested in single-user equipment should consult a program officer with responsibility for the area of research corresponding to their interests.

SUBMISSION OF PROPOSALS BY RUI-ELIGIBLE INSTITUTIONS

The MUE Program accepts proposals from Research in Undergraduate Institutions (RUI) eligible academic institutions, directly in response to this announcement, or in response to the RUI program announcement (see NSF 00-144). Although MUE proposals are normally required to have at least one PI with an active NSF award, this requirement is waived for proposals submitted by RUI-eligible institutions, provided that (1) the user group is conducting research in BIO-supported areas, and (2) the user group is able to show adequate research support from other funding sources (including institutional research funds) to sustain the research activities used to justify the request.

III. ELIGIBILITY INFORMATION

Organization Limit: Proposals are accepted from colleges, universities and independent non-profit research organizations that conduct research and education activities in areas supported by the NSF Directorate for Biological Sciences (see full text for details).

PI Eligibility Limit: At least one of the Principal Investigators (PI or co-PIs) must have an active NSF award at the time of submission. This requirement is waived for proposals submitted by RUI-eligible academic organizations (see full text for details).

Limit on Number of Proposals: None Specified.

The budget of the MUE program is approximately $3.5 million per year. An estimated 20-25 standard grants will be awarded in FY 2006. The program budget and number of awards depends on the number of proposals received and funds available to the program, both of which may change from year to year.

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

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/publications/pub_summ.jsp?ods_key=gpg. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from pubs@nsf.gov.

MUE proposals must be prepared in accordance with general guidance provided in the GPG, all applicable Fastlane guidelines, and the instructions that follow below. Where these instructions and those in the GPG do not agree, these instructions take precedence. If the proposal is being preparing in response to the RUI program announcement, follow the special RUI instructions for preparing the cover page and include any additional information required by the RUI program announcement (see NSF 00-144).

The proposal must include the following elements:

1. Cover Sheet

   Provide a cover sheet as described in the *GPG*. Indicate the number of this solicitation in the appropriate box. Begin the title of the proposal with "MUE:" followed by the name of the item of equipment or category of equipments, in the case of a group of related items), for example, "MUE: A confocal microscope for research in ...." Avoid unnecessary language, such as "Purchase of a..." or the name of the institution. Designate a primary principal investigator (PI) and up to four additional co-principal investigators (co-PIs) on the cover sheet. The PI and co-PIs (if any) should be selected from among the major users. If requested equipment will be placed in an instrumentation resource (core-facility), the manager of the resource may be named as the PI, or one of the co-PIs, even if she/he does not have an independent research program. Requested duration should be 36 months. Anticipated start date may be 6 - 7 months from the date of submission.

2. Project Summary (not more than 1 page in length)

   Provide a brief summary that includes the type of equipment to be purchased, the research activities in which the equipment will be used, the significance of the equipment for that research, and the overall significance of the entire activity to the organization or the field at large. A scientifically literate reader should understand the summary. The project summary must clearly address in separate statements: (1) the intellectual merit of the planned activities that will use the equipment, and (2) the broader impacts expected as a result of the planned activities.

3. Project Description (not more than 15 pages in length - including figures, images, and tables)

   This section should describe the equipment to be purchased, the research to be accomplished with the requested equipment, any additional uses in research training or education, and management of the equipment.

   The following information should be provided in this order:

   Proposed equipment: Identify the requested equipment, and the general needs that motivate the request. Two or more unrelated equipment items may not be requested with one proposal. Where the equipment will replace or augment existing equipment available to the users, it is important to document usage of the existing equipment or the cost of alternate strategies for obtaining the needed information or services. Especially in the case of high throughput equipment, quantitative analysis of the potential impact of the requested equipment on the research productivity of the users should be provided. If a similar item of equipment is already present at the organization but not available to the users, explain why. If the requested

equipment will be used to provide a service (e.g., DNA sequencing provided through an on-campus instrumentation resource) that is commonly available on a fee-for-service basis, explain why existing commercial services are inadequate or inappropriate for the proposed uses.

If a specific model has been selected, explain why. If similar equipment is available from the same or another manufacturer, provide a rationale for the model chosen in terms of features and cost. If a specific model has not been selected in advance, describe available models that are of interest, their cost, and the strategy to be used to make the final selection. Provide a detailed breakdown of the components (or configuration) of any complex item of equipment, and justify each component (such as lenses, light sources, detectors, ancillary software, etc.) when special purpose components, non-standard configurations or optional features are requested. Include an itemized list of such components and their prices in the budget justification and as part of the quote presented in the "Supplementary documents" section (see below). It is appropriate to request multiple pieces of equipment related by a common purpose, but "shopping lists" of unrelated items are inappropriate.

Requests for equipment to be used primarily for instructional purposes should be addressed to the Course, Curriculum, and Laboratory Improvement (CCLI) Program in the NSF Directorate for Education and Human Resources (EHR) (see http://www.ehr.nsf.gov/ for additional information). Requests for small single items of equipment to be used in research should be addressed to the disciplinary research program(s) that support the research.

Intended Research Uses: For up to five major users, provide a concise description of the research projects to be pursued with the use of the requested equipment. Describe the importance of the equipment to the development of those projects. Provide sufficient details of the experimental or other approaches for reviewers to judge the match between the proposed equipment, including any special components, and project needs. The need for the equipment (such as a requirement for higher capacity, increased sensitivity, or new capabilities) should be clearly detailed and closely connected with the research projects that are described for each investigator. The descriptions should include representative literature references to work in the research field (compiled in the References Cited section, see below) and should discuss the results of prior NSF support, but only to the extent relevant to the current request. No separate section with results of prior support should be presented. For other major or minor users, give names, project titles and a very brief (one-paragraph or less) summary of research related to the need for the equipment. Information about these other users may be presented in tabular format.

Present preliminary data, such as images acquired using a proposed microscope, whenever possible. Such data can be important in justifying a choice of model and configuration, and can be helpful in convincing reviewers that the PIs understand the challenges and benefits of using the requested equipment. Manufacturers' applications laboratories, regional instrumentation facilities, and colleagues at other organizations are potential sources of assistance in obtaining preliminary data.

The research needs used to justify a request for equipment should fall within the scope of activities supported by the BIO Directorate. Consistent with BIO policy, equipment to be used primarily in the conduct of disease-oriented research, including the etiology, diagnosis or treatment of physical or mental disease, abnormality or malfunction in human beings or animals, or the design and testing of drugs for treatment of such conditions is not appropriate for consideration.

Broader Impacts: Describe the potential contribution of the proposed equipment to education and research training in biological sciences at the undergraduate, graduate, and/or postdoctoral levels, and any plans for other uses such as public outreach. Describe the expected impact in recruitment, training and education of new students and faculty, including individuals from under-represented groups. Additional information about broader impacts, including examples, can be found at http://www.nsf.gov/pubs/2003/nsf032/bicexamples. pdf. Describe any relevant past accomplishments arising from prior NSF support. Although an educational/ training component is an important element of any proposal, requests for equipment whose purpose is primarily educational are inappropriate for the MUE program.

Management: How will access to the equipment be determined? Describe plans for operation and maintenance of the equipment, including the individual(s) responsible where appropriate. Document expertise in use of the requested (or similar) equipment, and describe how new users will be trained. Describe the expected costs of operation and maintenance, and how funds for these costs will be obtained, including any planned user fees. A clear strategy for supporting the continuing operation and maintenance of the equipment is essential. If an essential component of the equipment, such as a laser, has a predictable useful life, describe the plan for its replacement.

4. References Cited:

Provide references as described in the Grant Proposal Guide (GPG).

5. Biographical sketches

Provide biographical sketches as specified in the Grant Proposal Guide (GPG) for the PI, the Co-PIs (no more than four) and any other major users identified in the proposal. If appropriate, provide a biographical sketch of the person responsible for the operation and maintenance of the equipment if that person is not among the major users. Biographical sketches should conform to the format specified in the GPG and may not exceed two pages per person.

6. Budget and Budget Justification

Provide a budget as specified in the Grant Proposal Guide (GPG). Indicate the amount requested of NSF on line D of the budget. If multiple items are requested, provide a list with the cost of each in the budget justification section. Eligible costs include the cost of requested equipment and up to $15,000 needed for service contracts covering the award period of 36 months, but only if purchased as part of the equipment package and included on line D. Cost of shipment to the organization, charges for equipment set-up if necessary, and any sales taxes, unless normally waived for organizational purchases, may be included in the equipment cost on line D. Costs of removal or disposition of existing equipment, of other installation costs (such as any required renovation or construction), and of new user training are not eligible for support though this program. Similarly, the cost of materials and supplies, technical support, and any other costs of operation are not eligible for support.

Funds requested of NSF must be at least $40,000, but no more than $400,000. In the event that the eligible costs are greater than the amount of the maximum award ($400,000), the source of the needed additional funds should be identified in the budget justification. Cost sharing is not required under this program solicitation, and so the information provided will not be auditable as cost sharing. Copies of letters indicating the sources and availability of these funds should be provided in the Supplementary Documents section. Except in this event, letters certifying availability of organizational funds are not required.

When equipment has been obtained on lease or loan prior to submission of the NSF proposal, the budget justification section must indicate the date on which the equipment was placed in service. In general, the program will not provide funds for purchase of equipment placed in service more than one year before submission of the proposal if the amount requested corresponds to the cost of the equipment when new. In cases where the period of service of leased or loaned equipment represents a significant portion of the expected lifetime, the program may opt to offer support of the depreciated value of the equipment rather than the original purchase price. Proposers planning to request funds for purchase of leased or used equipment should consult the MUE program in advance of preparing the proposal.

7. Current and Pending Support:

Provide current and pending support as specified in the Grant Proposal Guide (GPG) for the PI, any Co-PIs (up to four), and any other major users identified in the proposal (no more than five total).

8. Facilities, Equipment and Other Resources:

Provide a facilities statement as described in the Grant Proposal Guide (GPG). List all existing equipment comparable to the proposed equipment. This survey should be complete and must cover the organization as a whole.

9. Supplementary Documents:

Use this section to provide copies of vendor quotes and other required items. Letters of endorsement, manufacturer's brochures and other informational items may not be provided. Letters promising organizational or other funds towards the cost of equipment are not required, except in the case of expensive equipment where the cost exceeds the amount requested of NSF. Letters certifying availability of material support needed for non-eligible costs (such as installation, renovation, operation or maintenance) may be included if referenced in the proposal. Letters promising help in operation of equipment, if discussed in the proposal, may be included. Letters of participation from any users whose research is described in the proposal, but who are not employed by the submitting organization, should be included.

Proposers are reminded to identify the program announcement/solicitation number (05-534) 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:

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

Indirect Cost (F&A) Limitations:

No indirect costs are provided.

Other Budgetary Limitations:

The minimum request is $40,000 and the maximum request is $400,000.

C. Due Dates

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

Full Proposal Target Date(s):

July 06, 2005

First Wednesday in July
    annually thereafter

D. FastLane Requirements

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. 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

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 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:

As a part of their consideration of intellectual merit, the reviewers judge the importance of the planned research uses, and the proposer's ability to assure competent use and maintenance of the equipment. As a part of their consideration of the broader impacts, the reviewers consider plans for use in research training, other uses in education, and any provisions to make equipment availabile to users other than those discussed specifically in the proposal.

In addition to the standard review criteria, reviewers also consider the following criteria specific to the MUE program:

1. The adequacy of the users' current research awards and other support for the planned use of the equipment in research;
2. The degree to which the equipment, including all ancillary components, are appropriate and essential for the research and other uses discussed in the proposal;
3. The arrangements for management of the equipment, including day-to-day operation and long-term

maintenance;

4. The number of expected users and appropriateness of the proposed uses to areas of research supported by BIO and to the mission of the NSF; and

5. Qualifications and experience of the individual(s) responsible for oversight of equipment operation and maintenance, if relevant.

B. Review Protocol and Associated Customer Service Standard

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

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 are administered in accordance with NSF Cooperative Agreement Financial and Administrative Terms and Conditions (CA-FATC). 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/awards/managing/. Paper copies of these documents may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from 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/publications/pub_summ.jsp?ods_key=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

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

General inquiries regarding this program should be made to:

- Helen G Hansma, MUE Program Director, Directorate for Biological Sciences, Division of Biological Infrastructure, telephone: 703-292-8470, fax: 703-292-9063, email: dbiiid@nsf.gov

- Gerald B Selzer, MUE Program Director, Directorate for Biological Sciences, Division of Biological Infrastructure, telephone: 703-292-8470, fax: 703-292-9063, email: dbiiid@nsf.gov

For questions related to the use of FastLane, contact:

- Raphael V Brown, Science Assistant, Directorate for Biological Sciences, Division of Biological Infrastructure, telephone: (703) 292-8756, fax: (703) 292-9063, email: biofl@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 Website at http://www.nsf.gov/home/ebulletin, and in individual program announcements/solicitations. Subscribers can also sign up for NSF's MyNSF News Service (http://www.nsf.gov/mynsf/) to be notified of new funding opportunities that become available.

RELATED NSF PROGRAMS FOR RESEARCH INSTRUMENTATION

Program Title	Publication	Telephone
Chemistry Research Instrumentation and Facilities	NSF 03-563	703-292-4953

Instrumentation for Materials Research	NSF 04-503	703-292-4943
Instrumentation for Materials Research - Major Instrumentation Projects (IMR-MIP)	NSF 03-604	703-292-4920
Advanced Technologies and Instrumentation Program, Division of Astronomical Sciences	No Publication # http://www.nsf.gov/mps/ast/ati.htm	703-292-4892
Scientific Computing Research Environment for the Mathematical Sciences	NSF 03-504	703-292-4863
Earth Sciences Instrumentation and Facilities	NSF 04-507	703-292-8558
Ocean Technology and Interdisciplinary Coordination Program (OTIC)	No Publication # Ocean Sciences' Website: http://www.geo.nsf.gov/cgi-bin/geo/showprog.pl?id=39&div=oce	703-292-8580
Oceanographic Instrumentation Program (Shipboard Instrumentation only)	NSF 00-39	703-292-8580
Major Research Instrumentation	NSF 04-511	703-292-8040
Instrument Development for Biological Research	NSF 98-119	703-292-8470
Computer and Information Science and Engineering Minority Institutions Infrastructure (MII)	NSF 96-15	703-292-8980
Computer Information Science and Engineering Research Infrastructure (RI)	NSF 00-5	703-292-8980
Computer and Information Science and Engineering Research Resources (CISE-RR)	NSF 01-100	703-292-8980

Small Business Innovation Research and Small Business Technology Transfer Programs Phase I (SBIR/STTR)	NSF 04-604	703-292-8330

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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 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

   or telephone: (703) 292-7827

- **To Locate NSF Employees:** (703) 292-5111

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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.

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