

Chemistry Research Instrumentation and Facilities: Departmental Multi-User Instrumentation (CRIF:MU)

Program Solicitation

NSF 03-563

Replaces Document NSF 00-81



National Science Foundation

Directorate for Mathematical and Physical Sciences

Division of Chemistry

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

July 03, 2003

Fourth Monday in June
annually thereafter

REVISIONS AND UPDATES

NSF 00-81, Chemical Research Instrumentation and Facilities, included three components. These have now been separated:

CRIF:MU Departmental Multi-user Instrumentation -- covered by this program solicitation

CRIF:ID Instrumentation Development -- a separate program solicitation will be issued in Fall 2003

CRIF:CRF Chemistry Research Facilities -- a separate program solicitation will be issued in Fall 2003

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Chemistry Research Instrumentation and Facilities: Departmental Multi-User Instrumentation (CRIF:MU)

Synopsis of Program:

The Chemistry Research Instrumentation and Facilities Program (CRIF) is structured to enable the National Science Foundation's Division of Chemistry to respond to a variety of needs for infrastructure--instrumentation and facilities--that promotes research and education in areas traditionally supported by the Division (see the NSF Guide to Programs for more information). The Departmental Multi-User Instrumentation component of CRIF provides funds to universities, colleges, and consortia thereof for the purchase of multi-user instruments. Institutional cost sharing is required for requests exceeding \$100,000.

Other components of CRIF include:

- **CRIF:ID** Instrumentation Development - a separate program solicitation will be issued in Fall 2003
- **CRIF:CRF** Chemical Research Facilities - a separate program solicitation will be issued in Fall 2003

Instrumentation for allied fields of research is provided through other NSF programs.

Cognizant Program Officer(s):

- Joan M. Frye, Program Director, Directorate for Mathematical & Physical Sciences, Division of Chemistry, 1055 S, telephone: (703) 292-4953, fax: (703) 292-9037, email: jfrye@nsf.gov
- Katharine J. Covert, Program Officer, Directorate for Mathematical & Physical Sciences, Division of Chemistry, 1055 S, telephone: (703) 292-4950, fax: (703) 292-9037, email: kcovert@nsf.gov

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

- 47.049 --- Mathematical and Physical Sciences

Eligibility Information

- **Organization Limit:**

Proposals may be submitted by US universities and colleges; or consortia thereof.

- **PI Eligibility Limit:**

PI must be department chair or equivalent.

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

Award Information

- **Anticipated Type of Award:** Standard Grant
- **Estimated Number of Awards:** 30 - Three year standard grants
- **Anticipated Funding Amount:** \$6,000,000 Approximately \$6 million per fiscal year, pending the availability of funds

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **Full Proposal Preparation Instructions:** This solicitation contains information that supplements 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 Specialized. Please see the full text of this solicitation for further information.
- **Indirect Cost (F&A) Limitations:** Not Applicable.
- **Other Budgetary Limitations:** Other budgetary limitations apply. Please see the full text of this solicitation for further information.

C. Due Dates

- **Full Proposal Deadline Date(s)** (due by 5 p.m. proposer's local time):
July 03, 2003
Fourth Monday in June
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:** Additional award conditions apply. Please see the full text of this solicitation for further information.
- **Reporting Requirements:** Standard NSF reporting requirements apply.

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I. INTRODUCTION

The Chemistry Research Instrumentation and Facilities Program (CRIF) is structured to enable the National Science Foundation's Division of Chemistry to respond to a variety of needs for infrastructure--instrumentation and facilities--that promotes research and education in areas traditionally supported by the Division (see the NSF Guide to Programs for more information). The Departmental Multi-User Instrumentation component of CRIF provides funds to universities, colleges, and consortia thereof for the purchase of multi-user instruments. Institutional cost sharing is required for requests exceeding \$100,000.

- **CRIF:ID** Instrumentation Development - a separate program solicitation will be issued in Fall 2003
- **CRIF:CRF** Chemical Research Facilities - a separate program solicitation will be issued in Fall 2003

Instrumentation for allied fields of research is provided through other NSF programs.

II. PROGRAM DESCRIPTION

The NSF Division of Chemistry recognizes that opportunities for expanding the frontiers of knowledge and for education of our technical workforce require access to start-of-the-art instrumentation. The CRIF:MU program is the vehicle for these investments. Because acquiring and upgrading instruments can be costly, the Division leverages its investment by making awards to groups of chemical scientists and by cost sharing with institutions on instrument costs exceeding \$100,000.

Reflecting these considerations, additional review criteria for the CRIF: Departmental Multi-User Instrumentation Program are:

- How does the proposed new or upgraded instrumentation impact the technical work of the department? Will research conducted with the requested instrumentation advance knowledge and understanding in the relevant fields? Do prior research results from this user community indicate that the instrumentation will be used effectively? Will the results of the research conducted using the instrumentation be broadly disseminated?
- Does the department have the technical expertise and infrastructure to make effective use of the new or enhanced instrumentation? Is the plan for management and maintenance of the instrumentation appropriate and does it facilitate multi-user accessibility? If multiple institutions are involved, are accessibility plans appropriate?
- Is there a plan to use the new or enhanced instrumentation in teaching, training and learning? How will the instrumentation impact the educational programs of the user communities? Will participation by underrepresented groups be enhanced by the instrumentation?

In cases of comparable merit, priority will be given to requests that strengthen research activities already supported by the Division of Chemistry.

III. ELIGIBILITY INFORMATION

Proposals may be submitted by universities, colleges, or consortia thereof.

The Principal Investigator must be the Department Chair or equivalent.

IV. AWARD INFORMATION

We anticipate approximately \$6 million per fiscal year will be available for the CRIF:MU Program. Estimated program budget, number of awards

and average award size/duration are subject to the availability of funds. Awards will be made as three-year standard grants.

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/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.

Additional Instructions for CRIF:MU proposals

Cover Sheet: The title of the proposal should include the type of instrument(s) requested, but not the manufacturer or the model number. An example of an appropriate title is: "Purchase (or Upgrade) of an X-Ray Diffractometer." Effective dates may be February 1 (or later) of the year following submission of the proposal. The anticipated duration of the CRIF:MU awards is 36 months.

Project Description: The project description should address the general NSF review criteria (intellectual merit and broader impacts) as well as the CRIF:MU-specific review criteria.

The Project Description must address the following topics. The number of pages indicated in the parentheses below is only a suggestion; the total length of the Project Description cannot exceed fifteen (15) pages. Non-conforming proposals will be returned without review.

- **Results from Prior NSF Support** (1 pages). Results of all NSF instrumentation awards in the last five years made to the proposing department through CRIF:MU and CHE-administered Major Research Instrumentation (MRI) programs must be included, regardless of the identity of the PI on the prior award(s). Reviewers will be asked to comment on the quality of the prior work described in this section of the proposal.
- **Description of Instrument(s) and Rationale for Selection** (2 pages). Describe in this section the instrument(s)/upgrade(s) requested. Special features needed in the requested instrument and any necessary accessories should be justified, both in this section and in the descriptions of research projects. For example, in a proposal for a high-field, multi-nuclear NMR spectrometer, the need for high-resolution, dispersion, and multi-nuclear capabilities must be justified by the proposed research uses and by departmental development strategies. If similar or related instruments exist in the department or elsewhere in the institution, the relation to the requested instrument should be indicated and the need for the additional instrument justified through usage data and by reference to new capabilities or enhanced capacity. Any inter-institutional cooperation for leveraging the effectiveness of this investment in infrastructure should be described.
- **Operation and Maintenance** (2 pages). This section should specify how and by whom the requested instrumentation is to be operated and maintained. For related existing instrumentation within the user community, information on usage and downtime should be included. Pertinent data on income from, and cost of, instrument services for the preceding year, including user charges, salaries of support personnel, maintenance contracts, shop charges, and other expenses, should be included. Operation or maintenance charges may not be included in the proposal budget.
- **Proposed Research** (10 pages). This section should summarize pertinent research projects in the context of the broad research themes of the major users of the proposed instrument(s). Projects currently supported by the Division of Chemistry should be identified. Research project summaries of major users should provide enough information for reviewers to assess scientific merit, the projected use of the proposed instrument, and the need for special features or accessories. Research descriptions should be provided for no more than six major users; other users should be listed by name only. Projects ineligible for NSF support (e.g., drug development work) should not be included.

Biographical Sketches: This section should include short biographical sketches (two pages each) for the Principal Investigator (chair or equivalent) and each major user. Each biographical sketch should include a list of up to five publications most closely related to the proposed acquisition. (See the Grant Proposal Guide, Chapter II.C.2.f. for proper format.) To aid the NSF Program Director in identifying conflicts of interest that must be avoided during review, major users must include a list of researchers with whom they have collaborated during the past four

years, and the names of their graduate and postdoctoral advisors.

Budget: Eligible costs are instrument purchase, installation, commissioning, and calibration. For successful proposals, the amount of the NSF award will be based on the net price of the instrumentation to the institution, including all academic discounts and other special purchase arrangements. Single research instruments, research instrumentation systems, and ensembles of research instruments that enable a particular research thrust may be requested. No funds will be provided for instrument maintenance or operation. Line D on the proposal budget should reflect the funds requested from NSF (total cost minus cost sharing, as detailed below in Section V.B., "Cost Sharing"). Cost sharing (if required under this solicitation) should be indicated on Line M on the proposal budget. *Vendor quotes are required and should be included in the Supplemental Documentation.*

Current and Pending Support: A summary of all extant research support from all sources must be provided for the PI and all major users. Disclosure is required if proposals for the same or related instrumentation are planned or pending with other funding sources.

Supplemental Information: Itemized manufacturers quotes for the requested instrumentation are required. They must be scanned into the Supplementary Documents section of the FastLane proposal and submitted electronically as part of the proposal.

Proposers are reminded to identify the program announcement/solicitation number (03-563) 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:

For instrumentation requests of \$100,000 or less, no cost sharing is required. For instrumentation requests in excess of \$100,000, cost sharing is required. The proposer must provide one half of the funds in excess of \$100,000 required for the purchase of the instrumentation.

Examples: An instrument with a purchase price of \$100,000 requires no cost sharing. An instrument whose total purchase price is \$350,000 will require institutional cost sharing of \$125,000; the request to NSF is \$225,000. Matching funds must be in cash, not in-kind, and be used toward the purchase of the requested instrument(s).

The proposed cost sharing must be shown on Line M on the proposal budget. Contributions may be made from any non-Federal source, including non-Federal grants or contracts, must be in cash, and must be used towards the purchase of the instrument(s) (see OMB Circular A-110, Section 23). It should be noted that contributions counted as cost-sharing toward projects of another Federal agency may not be counted towards meeting the specific cost-sharing requirements of the NSF award. All cost-sharing amounts are subject to audit. Failure to provide the level of cost-sharing reflected in the approved award budget may result in termination of the NSF award, disallowance of award costs and/or refund of award funds to NSF.

Other Budgetary Limitations:

Eligible costs are instrument purchase, installation, commissioning, and calibration. For successful proposals, the amount of the NSF award will be based on the net price of the instrumentation to the institution, including all academic discounts and other special purchase arrangements. Single research instruments, research instrumentation systems, and ensembles of research instruments that enable a particular research thrust may be requested. No funds will be provided for instrument maintenance or operation.

When justified by the reviewers' comments, the program director may recommend support at less than the requested level. If the institution feels that the recommended amount is not acceptable, it may reject the offer of an award. The program's recommendation is based on scientific judgment and optimal use of Federal funds and is not to be construed by the institution as negotiation of matching funds.

C. Due Dates

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

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

July 03, 2003

Fourth Monday in June

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: <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. 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

Additional review criteria for the CRIF: Departmental Multi-User Instrumentation Program are:

- How does the proposed new or upgraded instrumentation impact the technical work of the department? Will research conducted with the requested instrumentation advance knowledge and understanding in the relevant fields? Do prior research results from this user community indicate that the instrumentation will be used effectively? Will the results of the research conducted using the instrumentation be broadly disseminated?
- Does the department have the technical expertise and infrastructure to make effective use of the new or enhanced instrumentation? Is the plan for management and maintenance of the instrumentation appropriate and does it facilitate multi-user accessibility? If multiple institutions are involved, are accessibility plans appropriate?
- Is there a plan to use the new or enhanced instrumentation in teaching, training and learning? How will the instrumentation impact the educational programs of the user communities? Will participation by underrepresented groups be enhanced by the instrumentation?

In cases of comparable merit, priority will be given to requests that strengthen research activities already supported by the Division of Chemistry.

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 applicants whether their proposals have been declined or recommended for funding within six months. The time

interval begins on the date of receipt. 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 Website at 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.

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>.

Special Award Conditions:

Instruments funded under this program are intended for the use of a department or a group of investigators. The title to the instrumentation will vest with the awardee institution. The instrumentation will remain at the awardee institution even if the PI, co-PI or other major users transfer to another institution.

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:

- Joan M. Frye, Program Director, Directorate for Mathematical & Physical Sciences, Division of Chemistry, 1055 S, telephone: (703) 292-4953, fax: (703) 292-9037, email: jfrye@nsf.gov
- Katharine J. Covert, Program Officer, Directorate for Mathematical & Physical Sciences, Division of Chemistry, 1055 S, telephone: (703) 292-4950, fax: (703) 292-9037, email: kcovert@nsf.gov

For questions related to the use of FastLane, contact:

- Paul G. Spyropoulos, Computer Specialist, Directorate for Mathematical & Physical Sciences, Division of Chemistry, 1055 S, telephone: (703) 292-4968, fax: (703) 292-9037, email: pspyropo@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 *Custom News Service* (<http://www.nsf.gov/home/cns/start.htm>) to be notified of new funding opportunities that become available.

Related Programs:

- Course, Curriculum, and Laboratory Improvement ([Get funding opportunity document](#))

Other components of CRIF include

- **CRIF:ID** Instrumentation Development - a separate program solicitation will be issued in Fall 2003
- **CRIF:CRF** Chemical Research Facilities - a separate program solicitation will be issued in Fall 2003

See the NSF Chemistry website

Instrumentation primarily for teaching or education is provided through the NSF Division of Undergraduate Education's Course, Curriculum and Laboratory Improvement Program.

RELATED NSF PROGRAMS FOR RESEARCH INSTRUMENTATION

Program Title	Brochure	Telephone
Major Research Instrumentation	NSF 01-171	
Instrumentation for Materials Research	NSF 02-009	703-292-4943
Advanced Technologies and Instrumentation Program, Division of Astronomical Sciences	Astronomical Sciences Website: http://www.nsf.gov/mps/ast/ati.htm	703-292-4892
Scientific Computing Research Environment for the Mathematical Sciences	NSF 01-16	703-292-4863
Earth Sciences Instrumentation and Facilities	Earth Sciences Website: http://www.geo.nsf.gov/ear/if/guide.htm	703-292-8558
Ocean Technology and Interdisciplinary Coordination Program (OTIC)	Ocean Sciences Website: http://www.geo.nsf.gov/cgi-bin/showprog.pl?id=39&div=oce	703-292-8580
Oceanographic Instrumentation Program (Shipboard instrumentation only)	NSF 00-39 http://www.geo.nsf.gov/cgi-bin/showprog.pl?id=47&div=oce	703-292-8580
Instrument Development for Biological Research	NSF 98-119	703-292-8470
Multi-user Biological Equipment and Instrumentation Resources	NSF 98-137	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
Information Technology Research (ITR)	NSF 02-168	703-292-8900
Small Business Innovation Research (SBIR)	NSF 01-28	703-292-8330

Information on the above NSF Instrumentation Programs can be retrieved by accessing the individual Directorate websites on the NSF Home page (<http://www.nsf.gov>).

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 (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 or (800) 281-8749
- **To Order Publications or Forms:**

Send an e-mail to: pubs@nsf.gov

or telephone: (703) 292-7827

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

OMB control number: 3145-0058.