CISE Computing Research Infrastructure (CRI)

Program Solicitation
NSF 04-588

National Science Foundation
Directorate for Computer and Information Science and Engineering
Division of Computer & Network Systems

Letter of Intent Due Date(s) *(required for large proposals only (over $800,000)):*

August 02, 2005

Fourth Monday in July

annually

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

August 22, 2005

Fourth Monday in August

annually

REVISIONS AND UPDATES

LOI due date has been changed.

Cost Sharing has been eliminated.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

CISE Computing Research Infrastructure (CRI)

Synopsis of Program:

The Computer and Information Science and Engineering (CISE) Computing Research Infrastructure
program supports the acquisition, development, enhancement, and operation of research infrastructure that

enables discovery, learning, and innovation in all computing fields supported by CISE. Supported infrastructure includes instrumentation needed by a few research or research and education projects, major experimental facilities for an entire department or for multi-institutional projects, and testbeds or data archives for an entire subfield of CISE researchers.

One goal of the CISE Computing Research Infrastructure (CRI) program is to provide infrastructure that enables high-quality computing research and education. A second goal is to extend the set of individuals and departments that are able to conduct such activities. The CRI program is committed to maintaining a broad portfolio that supports research and education across a diverse population and lessens the digital divide. The program encourages proposals that are from or that include minority-serving institutions.

The CRI program will support a variety of infrastructure needs, such as general or specialized research equipment, technical support, and/or software. CRI will also support the development of infrastructure that can be used by others, such as data archives or libraries of software tools. The primary criteria are that the infrastructure facilitates the conduct of high-quality research and related education, and that it cannot be acquired or developed without funding resources beyond those available from individual research and education grants and the host institution.

The CRI program will make three kinds of awards.

- **Infrastructure Acquisition**. These awards have budgets up to $2,000,000.
- **Community Resource Development**. These awards have budgets from $300,000 to $2,000,000: medium from $300,000 to $800,000 and large over $800,000. Development projects create a resource for an entire CISE research community, such as a testbed for evaluating research results or a large data resource that contains problems a community is trying to solve (e.g., annotated speech data).
- **Planning**. These awards facilitate the preparation of a proposal for a medium or large infrastructure acquisition grant. They have budgets up to $50,000 for one institution or up to $100,000 if more than one institution is involved.

The CRI program replaces and expands upon three previous programs: Minority Institutional Infrastructure (MII), Research Infrastructure (RI), and Research Resources (RR). The most significant new features are that CRI will support resource development grants in addition to infrastructure acquisition grants and that personnel may be supported when well justified.

Cognizant Program Officer(s):

- Stephen R. Mahaney, Senior Advisor, Directorate for Computer & Information Science & Engineering, Division of Computer and Network Systems, 1115 N, telephone: (703) 292-8910, fax: (703) 292-9059, email: smahaney@nsf. gov
- Rita V. Rodriguez, Program Manager, Directorate for Computer & Information Science & Engineering, Division of Computer and Network Systems, 1175 N, telephone: (703) 292-8950, fax: (703) 292-9010, email: rrodrigu@nsf.gov

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

- 47.070 --- Computer and Information Science and Engineering

Eligibility Information

- **Organization Limit:**

  Proposals may be submitted by both U.S. graduate-degree-granting institutions and U.S. four-year institutions that have research and education programs in areas supported by CISE research programs.

- **PI Eligibility Limit:**

  An individual may appear as PI, Co-PI, or Senior Personnel on no more than two CRI proposals per year and no more than one large (over $800,000) proposal per year.

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

Award Information

- **Anticipated Type of Award:** Standard or Continuing Grant
- **Estimated Number of Awards:** 25 to 35 - Up to 30 infrastructure acquisition awards, up to 8 community resource development awards, up to 5 planning awards
- **Anticipated Funding Amount:** $15,000,000 in FY 05 subject to the availability of funds.

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **Letters of Intent:** Submission of Letters of Intent is required for large proposals only (over $800,000). Please see the full text of this solicitation for further information.
- **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:** Not Applicable.
- **Other Budgetary Limitations:** Not Applicable.

C. Due Dates

- **Letters of Intent** *(required for large proposals only (over $800,000))*:
  August 02, 2005
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  annually
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  August 22, 2005
  Fourth Monday in August
  annually

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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I. INTRODUCTION

One of the barriers to high-quality research and education is the lack of an adequate computing infrastructure. The CISE Computing Research Infrastructure (CRI) program is thus designed to (1) enable high-quality research and related education, and (2) extend the set of individuals and departments that are able to conduct such activities. The CRI program is committed to maintaining a broad portfolio that supports research and education across a diverse population and that lessens the digital divide.

The CRI program supports both the *acquisition* of infrastructure that will be used by the PIs and the *development* of infrastructure that will be used by the PIs and others. For example, state-of-the-art research and education projects often require computing equipment that is too expensive to be funded by individual grants. Large-scale facilities---such as networks, cluster computers, or massive storage repositories---are best utilized by being shared among research groups. Some projects require specialized equipment, such as hardware monitoring tools, spectrum analyzers, specialized robots, or cameras and display units. Some span multiple institutions, such as peer-to-peer distributed computing or grid computing projects. Finally, some projects create resources that could be useful to the broad research and education community, such as software libraries, data repositories of various sorts, programmable wireless radios, and sensors.

II. PROGRAM DESCRIPTION

The CRI program provides support for the acquisition, creation, and dissemination of computing infrastructure that enhances research and education capabilities, that is not normally fundable under individual research and education grants, and that is beyond the infrastructure available at the host institution(s). To qualify for a CRI grant, the proposing team must have an existing set of active research and education projects in the core CISE disciplines as described in the NSF Guide to Programs. The CRI program also supports multidisciplinary proposals as long as they enable significant research and education in core CISE disciplines.

Proposals may request infrastructure ranging from single instruments to major experimental facilities, or develop infrastructure ranging from a single data repository to a major research testbed. Proposals may be submitted by PIs from the same department, PIs from different departments in the same institution, or PIs from multiple institutions. Successful projects will clearly indicate that the infrastructure provided or developed by the CRI grant will enable important scientific advances that would not otherwise be possible. Prospective PIs are also encouraged to consider applying to the NSF-wide Major Research Instrumentation (MRI) program or the Course, Curriculum, and Laboratory Improvement (CCLI) program in the Education and Human Resources directorate.

There are three kinds of proposals: infrastructure acquisition, community resource development, and planning.

CRI proposals that request funding to acquire infrastructure are expected to:

- Describe the infrastructure that will be acquired and the research and education activities it will enable.

- Explain how the proposed infrastructure will enable new achievements that would not otherwise be possible.

- Demonstrate synergy among activities and participants that would not otherwise be found.

- Produce leverage by, for example, enabling new sources of research support, increasing recognition of the research

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group in the host institution and national community, increasing industry participation, or developing linkages between institutions.

- Describe how the proposed infrastructure will expand the set of individuals and departments that are able to contribute to the CISE research base.

- Have sound plans for managing the development, implementation, and evaluation of the infrastructure and ensuring that research and education projects enabled by the infrastructure are successful.

CRI proposals that request funding for community resource development are expected to:

- Describe the infrastructure that will be developed and the research and education activities it will enable.

- Explain how the proposed infrastructure will enable new achievements that would not otherwise be possible.

- Provide justification for why the infrastructure is needed and evidence that a broad research and education community is prepared to use it.

- Describe how the proposed infrastructure will expand the set of individuals and departments that are able to contribute to the CISE research base.

- Have sound plans for managing the development and distribution of the infrastructure. The distribution plan should address dissemination, technical support, maintenance, and updates, as appropriate.

- Explain how the infrastructure will continue to be supported after completion of the NSF award.

The CRI program will also support a limited number of planning awards. These are intended to facilitate the preparation of competitive proposals for medium ($300,000 to $800,000) or large (over $800,000) CRI infrastructure acquisition awards submitted by PIs or institutions that have not previously received an award from the CRI, Minority Institutional Infrastructure (MII), Research Infrastructure (RI), or Research Resources (RR) programs. Groups that are considering applying for a planning grant should first consult with a cognizant program officer identified in this solicitation.

A CRI award can support a variety of project sizes ranging from a small team, through medium size groups in a single department, to large groups in multiple departments or institutions. The CRI program allows PIs to craft the support they need to develop, acquire, and deploy the proposed infrastructure in terms of budget size, duration, personnel, and facilities. Each item must be justified in the proposal as vital to the support of CISE-related research and education.

A CRI proposal may request:

- Funds to purchase or develop equipment, instrumentation, software, and data repositories; and to pay for services, maintenance, or other infrastructure that enables CISE-related research and education.

- Funds to design, build, and possibly disseminate new equipment, repositories, or databases that will facilitate new research and education activities and that are not available commercially.

- Technical support personnel for the design, development, deployment, operation, and maintenance of the requested resources.

- Travel expenses necessary for training technical support staff in the operation and maintenance of the infrastructure or for coordination in multi-institutional awards, assuming appropriate justification is presented.

- One month of the PI's salary and associated indirect cost for management of large projects (over $800,000) if the infrastructure is sufficiently complex and appropriate justification is presented. A large proposal from a four-year or minority-serving institution may request up to three months of PI salary, provided the request is well justified.

- Graduate or undergraduate student support for medium ($300,000 to $800,000) and large projects (over $800,000) as long as the students are participating in the design, development, deployment, operation, assessment, or maintenance of the infrastructure.

CRI proposals may *not* request support for the following items:

- General resources such as workstations or upgrades of existing facilities unless the proposers can make a convincing case that the facilities are necessary to the success of the project and that they cannot be expected to be

provided by the host institution(s).

- General-purpose office equipment, software, or databases.

- Salaries for faculty and students (except as allowed above), postdoctoral research associates, or secretarial or clerical personnel.

The NSF encourages all proposers to address the full participation of women, minorities, and persons with disabilities in research and education activities. Examples of activities appropriate to CRI large grants include a departmental effort to recruit students from underrepresented groups, collaboration with an institution that serves an underrepresented group, or development of infrastructure that provides access to persons with disabilities.

The CISE Directorate is particularly interested in increasing information technology research capacity and capability. Consequently, the CRI program encourages proposals from individuals, groups, departments, and institutions where additional infrastructure will have a substantial impact on the institution's research and educational activities. Women, minorities, persons with disabilities, minority-serving institutions, and PIs in EPSCoR jurisdictions are strongly encouraged to submit proposals. (See http://www.nsf.gov/div/index.jsp?div=EPSCOR for information on EPSCoR, the Experimental Program to Stimulate Competitive Research.) Each year, no less than 20% of the CRI budget will be allocated to high-quality proposals that serve underrepresented communities.

III. ELIGIBILITY INFORMATION

Proposals may be submitted by both U.S. graduate-degree-granting institutions and U.S. four-year institutions that have research and education programs in areas supported by CISE research programs.

An individual may appear as PI, Co-PI, or Senior Personnel on no more than two CRI proposals per year and no more than one large (over $800,000) proposal per year.

IV. AWARD INFORMATION

The CRI program will make three types of awards: infrastructure acquisition grants, community resource development grants, and planning grants. These have differing characteristics and requirements as follows:

- **Infrastructure Acquisition**. These awards have budgets up to $2,000,000.
- **Community Resource Development**. These awards have budgets from $300,000 to $2,000,000: medium from $300,000 to $800,000 and large over $800,000. Development projects create a resource for an entire CISE research community, such as a testbed for evaluating research results or a large data resource that contains problems a community is trying to solve (e.g., annotated speech data).
- **Planning**. These awards facilitate the preparation of a proposal for a medium or large infrastructure acquisition grant. They have budgets up to $50,000 for one institution or up to $100,000 if more than one institution is involved.

Award Durations. Planning awards are typically for 1 year; small awards ($100,000 to $300,000) are typically for 2 to 3 years; medium awards (from $300,000 to $800,000) are typically for 3 to 4 years; and large awards (from $800,000 to $2,000,000) are typically for 4 to 5 years.

The estimated program budget, number of awards, and average award size/duration are subject to the availability of funds.

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

Letters of Intent *(required for large proposals only (over $800,000)):*

For large proposals only (over $800,000), a Letter of Intent is required. It will enable NSF staff to plan for merit review. Proposers are required to submit Letters of Intent via the FastLane system. Hard copy will *not* be accepted. A letter of intent must include:

- Proposal title, the name of the lead/submitting institution and department, and the names of any partner organizations/departments.

- Summary of the infrastructure that will be requested.

- Brief descriptions of the research projects that will use the infrastructure.

- List of project team members who will use or develop the requested infrastructure, including their full names, e-mail addresses, departmental, and institutional affiliations.

- List of individuals, with organizational affiliations, who are not members of the project team and whose selection as reviewers might constitute a conflict of interest due to involvement in proposal development, thesis supervision, co-publication or authorship in the past 48 months, co-PI relations on other projects, and other usual conflict of interest relationships.

- Optional list of suggested reviewers, with organizational affiliations, who have the expertise to review the proposal and who have no affiliations that would cause conflicts.

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.

There are special requirements for CRI proposals. The requirements for specific sections are specified below. For other sections, the normal GPG guidelines apply.

Title

Project titles should begin with "CRI:". This will help NSF staff track proposals and awards.

Project Description

For medium ($300,000 to $800,000) and large proposals (over $800,000) only, the normal limit of 15 pages for the Project Description is replaced by a limit of 20 pages. In addition, the Project Description in medium and large proposals should contain the following sections:

- **Overview**. Summarize the research and education activities to be enabled.
- **Infrastructure**. Describe the infrastructure that will be acquired or developed and how it will be managed.
- **Projects**. Describe the research and education projects that will use the infrastructure or be enabled by it, and how the infrastructure will enable progress that would not otherwise be possible.
- **Results from prior support**. Describe results from recent infrastructure and regular awards that are most closely related to the proposed work.

Biographical Sketches

Include biographical sketches for the PI, Co-PI(s), and senior personnel who will be directly involved in the development or use of the infrastructure.

Budget and Budget Justification

Include one budget page for each year of the project and a summary page for the entire project. In the budget justification section of the proposal include an explanation of each budget item in sufficient detail for reviewers to be able to understand the item; for equipment, include a representative manufacturer and model number if possible.

To aid reviewers, please also prepare (1) a table that summarizes the relationships between the projects and the infrastructure, and (2) a spreadsheet that shows the entire budget, for each year and all years. In Fastlane, upload these into the supplementary documents section of the proposal.

Current and Pending Support

Provide information for all the individuals for whom biographical sketches are provided.

Facilities, Equipment, and Other Resources

Describe the infrastructure that is currently available to the PIs and the projects described in the proposal.

Supplementary Documentation

As described in the Budget section above, submit a table summarizing the relationship between projects and infrastructure and a spreadsheet showing the entire budget.

Proposals that involve multi-institutional arrangements should submit supplementary documents that describe the relationship and that are signed by appropriate scientific and administrative officers of each institution.

Proposers are reminded to identify the program announcement/solicitation number (04-588) 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.

C. Due Dates

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

Letters of Intent *(required for large proposals only (over $800,000)):*

> August 02, 2005

> Fourth Monday in July
> > annually

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

> August 22, 2005

> Fourth Monday in August
> > annually

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

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 considerations in evaluating all proposals are:

- Whether the requested infrastructure will enable the proposers and/or a broader community to undertake important work that would not be possible without the infrastructure.
- Whether there is strong synergy present in the proposal that would not be found in individual grants.
- Potential impact on broadening participation of underrepresented groups in the CISE research and education enterprise.

Site visits may be used in addition to panel review to help select the large (over $800,000) infrastructure acquisition and community resource development projects.

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:

- Stephen R. Mahaney, Senior Advisor, Directorate for Computer & Information Science & Engineering, Division of Computer and Network Systems, 1115 N, telephone: (703) 292-8910, fax: (703) 292-9059, email: smahaney@nsf.gov
- Rita V. Rodriguez, Program Manager, Directorate for Computer & Information Science & Engineering, Division of Computer and Network Systems, 1175 N, telephone: (703) 292-8950, fax: (703) 292-9010, email: rrodrigu@nsf.gov

For questions related to the use of FastLane, contact:

- Beverly P. Baker, Senior Program Assistant (On-Detail to CISE Front Office), Directorate for Computer & Information Science & Engineering, Division of Computer and Network Systems, 1175 N, telephone: (703) 292-8950, fax: (703) 292-9010, email: bbaker@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 Programs:

- Course, Curriculum, and Laboratory Improvement (CCLI) (NSF 05-559)

- Major Research Instrumentation Program (NSF 05-515)

ABOUT THE NATIONAL SCIENCE FOUNDATION

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

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

Facilitation Awards for Scientists and Engineers with Disabilities (FASED) provide funding for special assistance or equipment to enable persons with disabilities (investigators and other staff, including student research assistants) to work on NSF-supported projects. See the GPG Chapter 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** (703) 292-5111
  (NSF Information Center)**:**

- **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

PRIVACY ACT AND PUBLIC BURDEN STATEMENTS

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