

# Frontiers in Integrative Biological Research (FIBR)

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## Program Solicitation

NSF 02-154



National Science Foundation  
Directorate for Biological Sciences

### Preliminary Proposal Due Date(s) (required):

November 01, 2002

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

February 28, 2003  
Planning Grant Proposal: November 12, 2002

## SUMMARY OF PROGRAM REQUIREMENTS

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### General Information

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#### Program Title:

Frontiers in Integrative Biological Research (FIBR)

#### Synopsis of Program:

The Frontiers in Integrative Biological Research (FIBR) Program seeks to support integrative research which addresses major questions in the biological sciences. FIBR encourages investigators to identify major under-studied or unanswered questions in biology and to develop innovative approaches to address them by integrating the scientific concepts and research tools of biology, math and the physical sciences, engineering, social sciences and the information sciences. Applicants are encouraged to focus on the biological significance of the question, to describe the integrative approaches, and to develop a research plan, which is not limited by conceptual, disciplinary, or organizational boundaries. Particularly encouraged are the inclusion of young scientists trained in an interdisciplinary environment or in non-biological disciplines, and partnerships with minority serving and primarily undergraduate institutions and community colleges.

#### Cognizant Program Officer(s):

- Dr.Christopher Greer, FIBR Program Director, telephone: (703)292-8470, email: [biofibr@nsf.gov](mailto:biofibr@nsf.gov)

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

- 47.074 --- Biological Sciences

## Eligibility Information

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- **Organization Limit:** Proposals are invited from U.S. academic institutions, U.S. non-profit research institutions, and consortia of such institutions with appropriate research and educational facilities (see GPG, Chapter I. Section C). When a consortium of eligible institutions submits a proposal, it should be submitted as a single proposal with one institution serving as the lead institution and the other institutions as subawardees. The same team of investigators may not submit both planning grant proposals and preliminary proposals in the same year. An individual researcher may be involved with only one planning grant and one research grant in the same year.
- **PI Eligibility Limit:**
- **Limit on Number of Proposals:** None Specified.

## Award Information

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- **Anticipated Type of Award:** Standard or Continuing Grant
- **Estimated Number of Awards:** Not Specified.
- **Anticipated Funding Amount:** \$0 \$12 million in FY 2003 pending availability of funds

## Proposal Preparation and Submission Instructions

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### A. Proposal Preparation Instructions

- **Preliminary Proposals:** Submission of Preliminary Proposals is required. 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.
- **Indirect Cost (F&A) Limitations:** Not Applicable.
- **Other Budgetary Limitations:** Not Applicable.

### C. Due Dates

- **Preliminary Proposals (required) :**  
November 01, 2002
- **Full Proposal Deadline Date(s)** (due by 5 p.m. proposer's local time):  
February 28, 2003  
Planning Grant Proposal: November 12, 2002

## Proposal Review Information

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

## Award Administration Information

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

## Summary of Program Requirements

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### **I. INTRODUCTION**

The Directorate for Biological Sciences (BIO) of the National Science Foundation (NSF) announces its intention to support integrative research addressing major questions in the biological sciences at any temporal and/or spatial scales. Frontiers in Integrative Biological Research (FIBR) projects must be of a scale which requires a group of researchers and tools to approach a major biological question. 21st Century Biology is multidimensional, multidisciplinary, integrative, data-driven, education oriented and global, encompassing conceptual and experimental approaches much different from those of the last Century. During the last decade major breakthroughs in biology, math, engineering and other sciences have positioned biologists to tackle complex conceptual and technological challenges, which could not previously be addressed. Advances in areas such as genomics, information technology, high throughput instrumentation, imaging and wireless technologies, sensors and GIS now enable novel and integrative approaches to major challenges in biology. As a result, biological research has become increasingly integrative, using a wide variety of interdisciplinary approaches. While existing BIO programs support these new directions in biological research, FIBR is designed to fund larger and more complex projects than would be funded by any single program. Through FIBR BIO intends to support groups of researchers to capitalize on synergistic interactions and to employ diverse tools to achieve an integrative understanding of a clearly defined, important biological question. Please note that BIO does not provide support for bioscience research with disease related goals, including work on the etiology, diagnosis and treatment of physical and mental disease, abnormality, or malfunction in human beings or animals. Animal models of such conditions and the development and testing of drugs and other procedures for their treatment also are not eligible for support.

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### **II. PROGRAM DESCRIPTION**

FIBR will support integrative research that enables significant new advances in biological understanding. FIBR encourages investigators to identify major questions in biology and to develop integrative approaches to address them by integrating all available scientific concepts and research tools both from within and outside of the biological sciences. Projects might integrate across levels of organization or complexity, across time and space, over a range of organisms or processes, or integrate experimental and theoretical research, for instance, by experimental testing of data-driven predictive models. It is essential that there be an integrative conceptual model to link each element of the research plan to overall goals, and to serve as a framework for analysis of hypotheses being tested. When preparing a FIBR proposal, applicants are encouraged to focus on the biological significance of the question, to describe the best integrative approaches, and to develop a plan which is not constrained by any perceived or real barriers and limitations, be they conceptual, disciplinary, organizational or budgetary. Particularly encouraged is inclusion of

young scientists trained in an interdisciplinary environment or in non-biological disciplines as co-PIs or postdoctoral research associates. The FIBR program also encourages partnerships with community colleges, baccalaureate and comprehensive institutions, and minority-serving institutions. It is often the case that development of novel tools leads to significant breakthroughs, which advance the frontiers of science. In biological sciences, multi-photon microscopy, the use of PCR, gene transformation technology, automated DNA sequencers, GIS/remote sensing, and other technological advances have been revolutionary. Similarly, the development of ultra-sensitive analytical tools, in the physical sciences, capable of atomic and molecular resolution, as well as corresponding developments originating in the computational, mathematical, and statistical sciences, and engineering are providing a uniquely powerful framework upon which to build the biology of the 21st Century. Thus, BIO encourages including the development of novel tools that may be needed to answer the questions under investigation in FIBR proposals. In FY2003, FIBR will support the following activities: 1. Research Projects that address a major conceptual challenge in biology. Review is a two-stage process. All applicants must submit a preliminary proposal that outlines the project as described below. Based upon review of preliminary proposals by a panel of outside experts, selected applicants will be invited to submit a full proposal to the program. Those not invited may submit full proposals, although this is not encouraged. Full proposals submitted without a corresponding preliminary proposal will not be accepted. 2. Planning Grants that provide an opportunity for interested investigators to develop a well thought-out project plan. The outcome of a planning grant is expected to be an innovative, integrative research project that is different from ongoing research in the individual participants' laboratories. Preliminary proposals are not required for planning grant proposals.

### **III. ELIGIBILITY INFORMATION**

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Proposals are invited from U.S. academic institutions, U.S. non-profit research institutions, and consortia of such institutions with appropriate research and educational facilities (see GPG, Chapter I. Section C). When a consortium of eligible institutions submits a proposal, it must be submitted as a single proposal with one institution serving as the lead institution and all other institutions as subawardees. The same team of investigators may not submit both planning grant proposals and preliminary research proposals in the same year. An individual researcher may be involved with only one planning grant and one research grant in the same year.

### **IV. AWARD INFORMATION**

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It is anticipated that approximately \$12 million will be available for new Planning Grants and Research Grants in FY2003, contingent upon the quality of proposals received, and pending the availability of funds. The award size for Planning Grants will be up to \$50,000 for one year.

Funding decisions for Planning Grant proposals are anticipated by late December 2002, with awards expected to start in February 2003.

The award size for Research Grants will be up to a total of \$5 million for up to five years. Research Grants will be made as standard or continuing awards. Funding decisions for full proposals are anticipated by the end of July 2003, with awards expected to start in September 2003.

### **V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS**

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

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##### **Preliminary Proposals (required):**

Preliminary proposals are only required for Research Grants. Preliminary proposals are not required for Planning Grants. Proposals that are not compliant with the guidelines may not be reviewed. It is the submitting institution's responsibility to ensure that the proposal is compliant with all applicable guidelines.

Preliminary proposals must contain the items listed below and strictly adhere to the specified page limitations. No additional information may be provided by links to web pages, and font size must be at least 10 point. At the preliminary proposal stage, no letters of commitment or endorsement from the submitting or other organizations may be submitted.

Preliminary proposals are a prerequisite for full Research Grant proposal submission. Based on the evaluation by a panel of outside experts, approximately 20 Principal Investigators (PIs) will be invited to submit full proposals. Those not invited may submit full proposals, although this is not encouraged.

By December 15, 2002 the program will e-mail PIs whose preliminary proposals were recommended for full proposal submission by the

preliminary proposal review panel.

Preliminary proposals should provide a brief overview of the project and should include sufficient information to allow assessment of the main ideas and approaches. Preliminary proposals must include the following items in the order described:

- FastLane Cover Sheet: Select the program solicitation number, NSF 02-154, from the pull down list. The FIBR program will automatically be selected. An informative title for the proposed FIBR project, that begins with "FIBR Preliminary Proposal:", must be provided. Check the box indicated for preliminary proposal. The principal investigator and at most four co-principal investigators can be designated. For more FastLane instructions see section D below.
- Project Summary (1-page limit). Provide a brief (300 words or less) description of the research program. This summary should be intelligible to a general audience. **Be sure to include both the scientific objectives and anticipated broader impacts. If the scientific objectives and anticipated broader impacts are not addressed the proposal will be returned without review.** Please read the NSF advisory which can be found at ([https://www.fastlane.nsf.gov/jsp/homepage/advisory\\_copy.jsp?id=150000000000124](https://www.fastlane.nsf.gov/jsp/homepage/advisory_copy.jsp?id=150000000000124)). At the top of this page include the title of the project, the name of the PI and the lead institution, list of Co-PIs and other key participants with their institutions.
- Project Description. The project description will include:
  1. Description of the integrative vision for the project, the goals of the proposed research, the proposed creative approaches to attain the goals, expected outcomes, and how the proposed project will advance the frontiers of biology (Maximum 5 pages).
  2. Education and Training Plan (maximum 2 pages). Describe how the proposed research will be integrated with educational activities and how these activities promote diversity as an integral component. Indicate how students trained in this research will be better able to handle emerging research problems in biological areas.
- References Cited
- List of key personnel involved (maximum 3 pages), with a description of what each person uniquely brings to the project and how individual efforts are integrated to produce positive synergy
- Biographical sketches for key personnel (2 pages each). Use the format described in GPG
- Current and Pending Support (NSF Form 1239) for the PI and Co-PI(s)
- No budget is required

#### 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 (301) 947-2722 or by e-mail from [pubs@nsf.gov](mailto:pubs@nsf.gov).

The following exceptions and additions apply to proposals submitted to this Program:

Full proposals will be accepted only from the PIs who had submitted preliminary proposals. By December 15, 2002 the program will e-mail PIs whose preliminary proposals were recommended for full proposal submission by the preliminary proposal review panel.

- FastLane Cover Sheet: Select the program solicitation number, NSF 02-154, from the pull down list. The FIBR program will automatically be selected. An informative title for the proposed FIBR project, that begins with "FIBR:", must be provided. The principal investigator and at most four co-principal investigators can be designated. For more FastLane instructions see section D below.
- Project Summary (1-page limit). This summary should be intelligible to a general audience. Provide a brief (300 words or less) description of the research program. At the top of this page include the title of the project, the name of the PI and the lead institution. Also list any other Co-PIs and key participants with their institutions. The project summary must identify the related preliminary proposal NSF project ID number. **Be sure to include both the scientific objectives and anticipated broader impacts. If both items are not addressed the proposal will be returned without review.** Please read the NSF advisory which can be found at([https://www.fastlane.nsf.gov/jsp/homepage/advisory\\_copy.jsp?id=150000000000124](https://www.fastlane.nsf.gov/jsp/homepage/advisory_copy.jsp?id=150000000000124)).
- Table of Contents: generated by FastLane cannot be edited by the PI.
- Project Description (maximum 15 pages).
  1. Results from Prior Research: Describe prior research of PI or co-PIs funded by NSF that is directly relevant to the proposed project.
  2. Proposed Research: Describe the vision and goals of the proposed research, approaches to attain the goals, any new techniques or tools expected to be developed, expected outcomes, and how the proposed project will advance the frontiers of biology. Articulate unifying and integrative aspects of the proposed research as well as the innovative ideas of the

research.

3. Education and Training Plan: Describe how the proposed research will be integrated with educational activities and how these activities promote diversity as an integral component. Indicate how students trained in this research will be better able to handle emerging research problems in biological sciences. These plans should take advantage of unique aspects of the proposed research and the research environment, with particular emphasis on increasing participation of underrepresented groups or students and faculty from under-served institutions or both.

- References Cited.
- Biographical sketches for key personnel (2 pages for PI and Co-PIs, one page for other key personnel). Use the format described in GPG.
- Budget (NSF 1030): Follow instructions in GPG. Develop a realistic project budget that is consistent with the proposed activities. Provide detailed budget justification.
- Facilities, Equipment: Provide a description of available facilities and priorities for its use. For FIBR projects requiring additional equipment, justify the need for these resources in the context of the innovative work proposed.
- In the Special Information and Supplementary Documentation section, include the following:
  1. List of key personnel involved (maximum 3 pages), with description of what each person uniquely brings to the project and how they are integrated to produce positive synergies;
  2. Provide a detailed management plan (maximum 3 pages) including means of communication and data tracking/management within the group, management of intellectual property resulting from the project, and timeline of activities;
  3. Means of sharing the outcome of the research with the rest of the scientific community, eg. publications, web sites, data bases, etc.. (maximum 2 pages). The description should be specific and describe what, how, and when the community would have access to the outcome of the project. This is particularly important for the projects that will produce tangible research tools and resources;
  4. A list, in a single alphabetized table, with the full names of all people with conflicts of interest for all senior personnel (PI and Co-PI's) and any named personnel whose salary is requested in the project budget. Conflicts to be identified are (1) PhD thesis advisors or advisees, (2) collaborators or co-authors, including postdocs, for the past 48 months, and (3) any other individuals or institutions with which the investigator has financial ties (please specify type).

### Planning Grant Proposal:

Proposals for small planning grants to support focused workshops or virtual meetings, to generate proof of concept, and/or to develop management and research interactions that would ultimately facilitate FIBR research may be submitted. NSF plans to solicit FIBR planning grants only in FY2003 and FY2004. The same team of investigators may not submit both planning grant proposals and preliminary proposals in the same year. An individual researcher may be involved with only one planning grant and one research grant in the same year.

The leader of the group should submit the planning grant proposal through her/his institution. Planning grant proposals should contain the following items:

- FastLane Cover Sheet: Select the program solicitation number, NSF 02-154, from the pull down list. The FIBR program will automatically be selected. An informative title for the proposed FIBR project, that begins with "FIBR: Planning", must be provided. The principal investigator and at most four co-principal investigators can be designated. For more FastLane instructions see section D below.
- Project Summary (1-page limit). Provide a brief (300 words or less) description of the planning activities. At the top of this page include the title of the project, the name of the PI and the lead institution, list of Co-PIs and other key participants with their institutions. This summary should be intelligible to a general audience. **Include both the scientific objectives and anticipated broader impacts. If both items are not addressed the proposal will be returned without review.** Please read an NSF advisory ([https://www.fastlane.nsf.gov/jsp/homepage/advisory\\_copy.jsp?id=1500000000000124](https://www.fastlane.nsf.gov/jsp/homepage/advisory_copy.jsp?id=1500000000000124)).
- Project description (maximum length 5 pages). The project description should be concise and must include clear statements of the proposed activities that would lead to a full-scale FIBR research project addressing a major question in biology in an integrative, innovative and synergistic manner.
- Biographical Sketches. Brief biographical information is required for the PI and Co-PI(s) only, and should include all the information as described in GPG II.C.5.
- Proposal Budget (NSF Form 1030) that is consistent with the proposed activities. Provide a clearly described budget justification. Award size is limited to a maximum of \$50,000 for one year.
- Current and Pending Support (NSF Form 1239) for the PI and Co-PI(s).
- Special Information, if applicable, as described in GPG II.C.9

Proposers are reminded to identify the program announcement/solicitation number (02-154) in the program announcement/solicitation block on

the proposal Cover Sheet. Compliance with this requirement is critical to determining the relevant proposal processing guidelines. Failure to submit this information may delay processing.

## **B. Budgetary Information**

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### **Cost Sharing:**

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

## **C. Due Dates**

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

### **Preliminary Proposals (required):**

November 01, 2002

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

February 28, 2003  
Planning Grant Proposal: November 12, 2002

## **D. FastLane Requirements**

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Proposers are required to prepare and submit all proposals for this announcement/solicitation through the FastLane system. Detailed instructions for proposal preparation and submission via FastLane are available at: <http://www.fastlane.nsf.gov/a1/newstan.htm>. For FastLane user support, call the FastLane Help Desk at 1-800-673-6188 or e-mail [fastlane@nsf.gov](mailto:fastlane@nsf.gov). The FastLane Help Desk answers general technical questions related to the use of the FastLane system. Specific questions related to this program announcement/solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this announcement/solicitation.

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

## **VI. PROPOSAL REVIEW INFORMATION**

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

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

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

On July 8, 2002, the NSF Director issued [Important Notice 127](#), Implementation of new Grant Proposal Guide Requirements Related to the Broader Impacts Criterion. This Important Notice reinforces the importance of addressing both criteria in the preparation and review of all proposals submitted to NSF. NSF continues to strengthen its internal processes to ensure that both of the merit review criteria are addressed

when making funding decisions.

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

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

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

#### **What is the intellectual merit of the proposed activity?**

How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields? How well qualified is the proposer (individual or team) to conduct the project? (If appropriate, the reviewer will comment on the quality of the prior work.) To what extent does the proposed activity suggest and explore creative and original concepts? How well conceived and organized is the proposed activity? Is there sufficient access to resources?

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

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

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

#### ***Integration of Research and Education***

One of the principal strategies in support of NSF's goals is to foster integration of research and education through the programs, projects, and activities it supports at academic and research institutions. These institutions provide abundant opportunities where individuals may concurrently assume responsibilities as researchers, educators, and students and where all can engage in joint efforts that infuse education with the excitement of discovery and enrich research through the diversity of learning perspectives.

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

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

#### **Additional Review Criteria**

The NSF merit review criteria will apply. The criteria will be interpreted in the context of the goals of the FIBR program. Additional review criteria will address the issues described in Project Description, including: (1) the innovation and cohesion of the research, (2) novelty of the approaches proposed to address major questions in biology, (3) effective integrative focus for all participants, (4) effectiveness in broadening participation, and (5) robustness of the management plan. Preliminary Research Grant proposals will be reviewed by a panel of experts and approximately 20 will be invited to submit full proposals. Preliminary proposals are required for full Research Grant proposal submission. PIs of preliminary proposals that are not invited to submit full proposals, may still submit full proposals, although this is not encouraged. Results of the preliminary proposal review will be sent by email to PIs by December 15, 2002. Both ad hoc and panel reviewers will evaluate full Research Grant proposals. Planning Grant proposals will be reviewed by the same panel of outside experts that review preliminary Research Grant proposals. Decisions on Planning Grant proposals will be made by the end of December 2002.

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

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

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

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

NSF is striving to be able to tell 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.

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## **VII. AWARD ADMINISTRATION INFORMATION**

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### **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.)

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### **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](http://www.nsf.gov/home/grants/grants_gac.htm). Paper copies may be obtained from the NSF Publications Clearinghouse, telephone (301) 947-2722 or by e-mail from [pubs@nsf.gov](mailto:pubs@nsf.gov).

More comprehensive information on NSF Award Conditions is contained in the NSF *Grant Policy Manual* (GPM) Chapter II, available electronically on the NSF 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>.

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### **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**

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General inquiries regarding this program should be made to:

- Dr.Christopher Greer, FIBR Program Director, telephone: (703)292-8470, email: [biofibr@nsf.gov](mailto:biofibr@nsf.gov)

For questions related to the use of FastLane, contact:

- The FastLane Help Desk, telephone: 800-673-6188, email: [fastlane@nsf.gov](mailto:fastlane@nsf.gov)
- The Divisional FastLane Contact answers policy/program announcement questions, telephone: 703 292-8470, email: [biofl@nsf.gov](mailto:biofl@nsf.gov)

#### **IX. OTHER PROGRAMS OF INTEREST**

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

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

#### **ABOUT THE NATIONAL SCIENCE FOUNDATION**

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