Postdoctoral Fellowships in Polar Regions Research

National Science Foundation
Office of the Director
Office of Polar Programs

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

June 29, 2004
Fellowship proposal deadline

September 02, 2004
Travel grant proposal deadline

March 02, 2005
Fellowship proposal deadline

September 07, 2005
Travel grant proposal deadline

March 01, 2006
Fellowship proposal deadline

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Postdoctoral Fellowships in Polar Regions Research

Synopsis of Program:

Postdoctoral Fellowships in Polar Regions Research, offered by the Office of Polar Programs (OPP), to support training and research on any aspect of scientific study of the Antarctic and/or the Arctic.

The program separately offers travel grants so that persons otherwise eligible to apply for the fellowships may first visit prospective sponsoring scientists at their organizations.

The program develops and trains new investigators in polar regions research with concomitant goals to:

- Support innovative research in emerging areas;
- Encourage interdisciplinary research;
- Foster activities that create broader impacts for science and society; and
- Increase the participation of underrepresented groups.

Cognizant Program Officer(s):

- Bernhard Lettau, Ocean & Climate System Program Manager, Office of the Director, Office of Polar Programs, 755 S, telephone: (703) 292-8033, fax: (703) 292-9079, email: blettau@nsf.gov

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

- 47.078 --- Office of Polar Programs

Eligibility Information

- **Organization Limit:**

  Each candidate must identify one or more sponsoring scientists and a U.S. host organization before submitting a proposal. Examples of appropriate host organizations are colleges and universities, government and national laboratories and facilities, and publicly and privately sponsored organizations such as nonprofit institutes, museums, and for-profit organizations.

- **PI Eligibility Limit:**

  Fellowships: The fellowship candidate submits his or her fellowship proposal directly to NSF. Fellowships are awards to individuals.

  Eligibility limitations apply. Please see the full text of this solicitation for further information.

  Travel Grants: The fellowship candidate submits his or her travel grant proposal directly to NSF. Travel grants are awards to individuals.

- **Limit on Number of Proposals:** Fellowship candidates may submit only one fellowship proposal per year. There is no limit on the number of candidates or fellows that an organization may host.

Award Information

- **Anticipated Type of Award:** Other - Fellowship and Travel Grants
- **Estimated Number of Awards:** 5 to 10 - for Fellowships in FY 2004 and 10 to 15 for Travel Grants in FY 2005 (Travel Grants are not available in FY 2004)
- **Anticipated Funding Amount:** $700,000 -- up to this amount in FY 2004 pending availability of funds

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

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

B. Budgetary Information

- **Cost Sharing Requirements:** Cost Sharing is not required.
- **Indirect Cost (F&A) Limitations:** Indirect costs are not allowed in either fellowships or travel grants. Fellowships provide an institutional allowance of $5,000 in lieu of indirect costs.
- **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):
  June 29, 2004
  > Fellowship proposal deadline
  September 02, 2004
  > Travel grant proposal deadline
  March 02, 2005
  > Fellowship proposal deadline
  September 07, 2005
  > Travel grant proposal deadline
  March 01, 2006
  > Fellowship proposal deadline

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:** Additional reporting requirements apply. Please see the full text of this solicitation for further information.

TABLE OF CONTENTS

I. INTRODUCTION

National Science Foundation postdoctoral fellowships provide opportunities for recent doctoral scientists to obtain additional training and career development guidance, to gain research experience under the sponsorship of established scientists that furthers the transition to independence, to undertake synergistic activities that foster development of skills and progress towards career goals, and to broaden scientific horizons beyond the experiences gained during undergraduate and graduate training. Postdoctoral fellowships help new scientists direct their research in and across traditional disciplinary lines. They provide research opportunities at unique sites and facilities.

II. PROGRAM DESCRIPTION

Fellowships

The Office of Polar Programs (OPP) offers Postdoctoral Fellowships in Polar Regions Research to highly qualified individuals in U.S. host organizations to support training and research on any aspect of scientific study of the Antarctic and/or the Arctic. The fellowship program develops and trains new investigators in polar regions research with concomitant goals to:

- Support innovative research in emerging areas;
- Encourage interdisciplinary research;
- Foster activities that create broader impacts for science and society; and
- Increase the participation of underrepresented groups in polar regions research.

Fellowships promote human resource development in conjunction with advancing scientific knowledge and understanding and attracting new technologies and expertise to polar regions research. In collaboration with sponsoring scientists, fellowship candidates are encouraged to propose research and training plans that outline opportunities relevant to their career goals, such as developing novel conceptual approaches, enhancing technical skills, gaining field or teaching experience, participating in education and outreach activities, or forming industry partnerships. It is not expected that each fellowship candidate will propose a research and training plan that meets *all* of the fellowship program goals; rather, candidates should identify activities that contribute their knowledge and skills to the scientific study of polar regions, that foster their research interests and talents, that promote the development of skills and competencies appropriate to their career goals, and that address the merit review criteria identified in this solicitation.

Each candidate must identify the support and commitment of a sponsoring scientist and a U.S. host organization before preparing a fellowship proposal. Co-sponsors and multiple research/training sites are permitted and may be particularly appropriate to pursue collaborative opportunities such as interdisciplinary research, industry partnerships, teaching experiences, or outreach activities. Regardless of the number of sponsoring scientists and research/training sites proposed, a lead sponsor should be identified and a primary host organization must be declared to receive the institutional allowance. The candidate is responsible for making all prior arrangements with the sponsoring scientist(s) and host organization(s).

Fellows' research and training may be conducted at any appropriate U.S. host organization, including colleges and

universities, government and national laboratories and facilities, and publicly and privately sponsored organizations such as nonprofit institutes, museums and for-profit organizations.

Travel grants

Beginning in FY 2005, travel grants will be competitively available to eligible candidates to meet prospective sponsoring scientists in their host organizations before submitting a postdoctoral fellowship proposal. Travel grants, which support travel and per diem expenses, facilitate visits to one or two organizations to meet prospective mentors and colleagues, to present seminars, to discuss mutual research and/or education interests, to evaluate facilities and professional development opportunities, and to initiate collaborative relationships.

Proposals for travel grants, which should follow preliminary discussions between candidates and their prospective sponsoring scientists, require justifications for the selection of the proposed host organization(s) and sponsoring scientist(s), the purpose of each trip, and the anticipated travel budget. At the time of the proposal, prospective sponsoring scientists must indicate both agreement with the proposed travel plans and support for the candidate's potential affiliation with the host organization as a Postdoctoral Fellow.

Workshops for selected fellows and their sponsoring scientists

OPP anticipates hosting workshops, beginning in FY 2005, for fellows and their sponsoring scientists to promote the development of skills, to facilitate connections among fellows as developing scientists and as members of the polar research and education communities, to provide opportunities to meet NSF program officers and support staff, and to enable participants to contribute to the development of the postdoctoral fellowship program. The participation of both fellows and their sponsoring scientists in these workshops is an important part of the fellowship program.

III. ELIGIBILITY INFORMATION

Fellowships and travel grants are awards to individuals. Fellowship candidates submit both types of proposals directly to NSF. Candidates may submit only one fellowship proposal per year, but there is no limit on the number of candidates or fellows that an organization may host.   Appropriate host organzations include colleges and universities, government and national laboratories and facilities, and such publicly and privately sponsored organizations as nonprofit institutes, museums, and for-profit organizations.

An individual is eligible to apply for a Postdoctoral Fellowship in Polar Regions Research and an (optional) associated travel grant if all of the following criteria are met:

- The candidate is a U.S. citizen, national, or permanent resident alien in the United States.
- The candidate has earned the doctoral degree in an appropriate scientific field or will complete a doctoral degree no more than 1 year after the proposal deadline date.
- The candidate has not participated in postdoctoral training for a combined full-time-equivalent duration of more than three years or provides a statement that justifies further postdoctoral training.
- The candidate proposes a sponsoring U.S. organization that differs from the doctoral-granting institution or provides a statement that justifies continuing at his or her doctoral-granting institution.
- The candidate proposes a research and training plan that falls within the program areas supported by OPP (described in Antarctic Research and Arctic Research Opportunities).
- The candidate has not previously held a Federal research grant, with the exception of graduate fellowships and other sources of individual student support.
- The candidate submits a research plan that has not been submitted in another proposal to any Federal agency.

In the event of being selected for an award, an individual who had not yet received the doctoral degree at the time of submitting the proposal must, before beginning the fellowship at the host organizations, demonstrate that all academic requirements have been completed.

OPP anticipates annually awarding 5 to 10 fellowships and 10 to 15 travel grants. Fellowships are awarded for a continuous period of up to 3 years. In FY 2004, OPP anticipates that up to $700,000 will be available, depending on availability of funds.

Candidates should justify the length requested for the fellowship in the proposal. OPP anticipates that fellowships typically will be 1 to 2 years long; 3-year fellowships may be justified for research and training plans that, for example, include field research.

Fellowships cannot be renewed. Interruptions in tenure or extensions without additional cost to NSF are permitted in concurrence with the host organization for extenuating circumstances such as sick leave or family leave.

One- and 2-year fellowships will be awarded as standard grants. Three-year fellowships will be awarded as continuing grants, with each having a 2-year initial increment followed by a 1-year continuing increment.

The fellowship amount can be as much as $70,000 per year consisting of four components:

- an annual stipend of $45,000, paid monthly directly to the fellow;
- an annual research allowance of up to $11,000, provided to the fellow, in support of proposed research and training activities such as materials and supplies, equipment, subscription fees, publication expenses, recovery costs for databases, computing resources, and travel;
- an annual institutional allowance of $5,000 for expenses incurred in support of the fellow such as general purpose supplies, the use of equipment and facilities and fringe benefits exclusive of health insurance;
- an annual health insurance allowance of up to $3,600 for a single fellow, up to $6,000 for a fellow with one dependent, and up to $9,000 for a fellows with two or more dependents. Health insurance is anticipated to include basic health insurance and dental insurance provided through either a group plan offered by the host organization or an individual plan secured by the fellow. The anticipated cost and recipient of the allowance (i.e., fellow or host organization) should be identified in the proposal.

For field research, funding is available in addition to the annual $70,000 amount. Candidates must document the scope and the costs of proposed fieldwork as described in section V (see "Instructions for proposing fieldwork in polar regions") of this solicitation.

Travel grants, available beginning in FY 2005, shall not exceed $3,000 per recipient in support of travel and per diem expenses incurred during visits to one or two prospective host organizations before submitting a postdoctoral fellowship proposal.

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

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.

The following instructions deviate from the GPG guidelines.

Fellowship proposal instructions

Fellowship proposals must be submitted electronically via the NSF FastLane system. Only one proposal is permitted per individual. A proposal consists of many parts, requiring input from the fellowship candidate, the sponsoring scientist(s), and references. Candidates are advised to begin the proposal well in advance of the deadline and to submit it as early as possible. FastLane procedures allow candidates to save partially completed proposals for future completion and submission. FastLane does not permit the submission of incomplete or late proposals.

Before starting a proposal in FastLane, a candidate must register as an independent Principal Investigator (PI). Postdoctoral fellowship candidates can find information regarding this process at https://www.fastlane.nsf.gov/n1/N1IndvReg.html.

Proposals should be developed in collaboration with the sponsoring scientist(s) and must include all of the following items in the order given below. If requirements here differ from those in Chapter II of the *Grant Proposal Guide*, this solicitation takes precedence.

Instructions for completing a *Postdoctoral Fellowship in Polar Regions Research* proposal are available from the FastLane homepage by clicking on the link for Postdoctoral Fellowships and Other Programs. From this web location, fellowship candidates, sponsoring scientists, and authors of letters of reference may provide their components by following the links identified by their authorship status.

Submitted by the Fellowship candidate in FastLane, a complete postdoctoral lellowship proposal consists of:

- NSF cover page (NSF Standard FastLane Form 1207).
- Information about Principal Investigators/Project Directors (NSF Standard FastLane Form 1225). This form will be generated automatically by FastLane.
- Table of Contents (NSF FastLane Form 1359). This form will be generated automatically by FastLane.
- Project Summary, which provides for an abstract up to 250 words describing the candidate's research and training plan.
- Project Description, not to exceed 10 single-spaced pages, which must include the following components of the candidate's research and training plan:
    - research objectives, methods, and significance;
    - training objectives and a personal statement of career goals;
    - relation of the proposed research and training plan to the candidate's doctoral thesis and training;
    - an explanation of how the described fellowship activities will enhance the candidate's skill development and achievement of career goals;
    - justification for the proposed duration of the fellowship, including a timeline of research and other activities that demonstrates the candidate's ability to conclude the project during the fellowship tenure; and
    - justification for the choice of sponsoring scientist(s) and host organization(s), including identification of collaborating scientist(s) and mentors, the relation of the proposed work to current research and activities at the host organization(s), and a description of available facilities and resources.
    - If the plan includes components such as fieldwork, teaching, undergraduate mentoring, industry collaborations, or outreach, the proposal must state how these activities will be performed during the tenure of the fellowship. Also, proposals with multiple sponsoring scientists and/or research/training sites should identify a lead sponsor and must declare a primary host organization to receive the institutional allowance.
- References cited (a complete list of references to source materials used or cited in preparing the Project Description).
- A two-page Curriculum Vitae and a list of publications with full title and complete references.
- Budget. The project budget document, no more than 2 pages, should be uploaded in FastLane as a supplemental document. It should account for the proposed duration of the fellowship and document and justify the estimated costs as organized into the budget components described in section IV.
- A *single* statement by the sponsoring scientist(s), not to exceed 4 single-spaced pages (uploaded as a

supplemental document) that includes:

- an explanation of how the candidate's research and training plan fits into the current program(s) of the sponsor(s) and host organization(s);
- a mentoring plan to develop the candidate's skills and future independent research career; and
- a descriptive list of personnel with whom the Fellow would work and collaborate.

Regardless of the number of sponsors and/or research and training sites proposed, the fellowship candidate must submit a single sponsoring-scientist statement. If more than one sponsor or site is proposed, the sponsoring-scientist statement must integrate information from all sponsors and about all locations.

- For *each* sponsoring scientist, a Biographical Sketch, limited to 2 pages and uploaded in supplemental documents, as outlined in the NSF Grant Proposal Guide (GPG). Besides the information and format requested in the GPG, each biographical sketch must also contain a list of the sponsor's previous trainees (graduate and postdoctoral students) over the last five years.

Letters of reference

Letters of reference are required from three individuals, including the doctoral advisor who can provide personal knowledge of the candidate's abilities and potential for career advancement. References should comment specifically on the candidate's ability to pursue and benefit from the proposed activities in the research and training plan.

The candidate will assign passwords to the letter-of-reference writers within FastLane as part of proposal preparation.

The letter-of-reference writer's last name, the temporary proposal number, and the password are used to provide secure access to FastLane programs for preparing and submitting the letters of reference. Reference writers change the provided password upon accessing FastLane to submit their letters. To submit references in FastLane, the writer

- fills out and saves the rating (**Step One)**
- uploads the letter of reference (**Step Two**)
- submits the completed reference (rating sheet and letter of reference) (**Step Three**)

Instructions for proposing fieldwork in polar regions

If the candidate's research and training plan proposes fieldwork in the Arctic and/or in Antarctica, the fieldwork must be described in the project description in sufficient detail (*e.g.*, approximate dates of fieldwork, locations, types of collections to be made, laboratory analysis to be performed) for external reviewers to fully assess the candidate's research and training plan. ***Proposals with antarctic fieldwork***

With appropriate justification, OPP through the United States Antarctic Program will support antarctic fieldwork proposed by postdoctoral fellows. Support in Antarctica is managed by OPP's Polar Research Support Section. Generally, fieldwork should be accomplished by the fellow and, if needed, a field assistant, but the work may be associated with an existing field program of the sponsoring scientist(s).

Fellowship candidates may request antarctic fieldwork

- with a sponsoring scientist who has an existing award
- with a sponsoring scientist who has submitted a new research proposal (the fellowship candidate's proposal will be considered under separate merit review)
- by planning fieldwork that can be accomplished by the fellow and a field assistant at or near a U.S. Antarctic Program research station or remote field site or on an antarctic research vessel.

Project description. Proposed fieldwork must be described and justified in the project description. In addition, funds to cover medical and dental screening (not to exceed $2,000/person), per diem expenses for travel to and from Antarctica (not

to exceed $1,000/person), incidental field expenses, and, if necessary, a field assistant must be included in the budget request. The U.S.Antarctic Program separately funds operational support in Antarctica (including airline tickets from the United States); fieldwork costs are not to be included in the fellowship proposal.

Fieldwork synopsis.   Fellowship candidates proposing Antarctic fieldwork must also **submit a supplemental document**, not to exceed 2 single-spaced pages, that summarizes the major field support requirements. Operational support requirements should be developed in collaboration with the sponsoring scientist(s) and should offer sufficient detail for OPP program staff to determine the scope of the required field support and the potential environmental considerations that may accompany the proposed activities. Operational Requirements Worksheets (ORW) described in *Antarctic Research* are NOT required for fieldwork proposed by postdoctoral fellows.

For more information regarding budget, facilities, logistics, operational support, environmental protection, and medical and dental standards, see *Antarctic Research*. Candidates are encouraged to contact OPP staff if more information is required to determine the operational feasibility of a prospective field plan.

Proposals with arctic fieldwork

Costs of field support. Support of arctic fieldwork is available to postdoctoral fellows through the Arctic Research Support and Logistics (RSL) program. Candidates proposing arctic fieldwork should outline the field plan, including a schedule, in the research and training plan and should describe the associated costs of the fieldwork in the budget justification. Costs for field support must be described in a separate document and include who (*e.g.*, arctic logistics contractor VECO or other similar logistics providers) will be providing such field support. This document should be uploaded as a supplemental document in FastLane.

For more information regarding the Arctic RSL program, see the *Arctic Research Opportunities* program solicitation, NSF 03-574, and the RSL web site. Recommendations regarding arctic fieldwork and additional information resources, including online resources for logistics providers, are provided in these documents, which will help candidates define their proposed fieldwork in collaboration with their sponsoring scientists.

Travel grant proposal instructions

Individuals who meet the eligibility requirements for a Postdoctoral Fellowship in Polar Regions Research may apply for a grant to support travel and per diem expenses incurred during visits to the host organization(s) of one or two prospective sponsoring scientists. Travel grants are awarded directly to the individual and may not exceed $3,000 per recipient. Indirect costs are not allowed.

Travel grants and fellowships are awarded independently. The awarding of a travel grant provides no assurance of a fellowship. Travel grant proposals are optional; if a sponsoring scientist has already been selected, a candidate may apply directly for a fellowship without applying for a travel grant.

In order to submit a travel grant proposal, a candidate must be registered in FastLane as an independent Principal Investigator. Candidates can find information regarding this process in FastLane at https://www.fastlane.nsf.gov/n1/N1IndvReg.html.

Submitted by the Fellowship candidate in FastLane, travel grant applications must include all of the following items in the order given below:

- Cover page (NSF Standard FastLane Form 1207).
- An abbreviated Curriculum Vitae, limited to 2 pages, and a list of publications with full title and complete references.
- Project Summary, no more than 100 words, that summarizes the travel grant request.
- Project Description, which includes both (1) a personal statement (limited to 2 single-spaced pages) describing the

candidate's career goals and the rationale for selecting the proposed sponsoring scientist(s) and host organization(s) and (2) a travel plan that includes an itinerary of proposed travel dates and the purpose of each trip.
- Budget. Travel grants may not exceed $3,000.
- A statement, limited to two single-spaced pages, from *each* prospective sponsoring scientist at the proposed host organization(s) that indicates agreement with the travel plan and support for the candidate's potential affiliation with the host organization as a postdoctoral fellow. Upload these statements as supplemental documents in FastLane.

A complete travel grant application also includes a **letter of reference from one individual**, preferably the doctoral advisor, who can provide personal knowledge of the candidate's abilities and potential for career advancement.   The candidate assigns a password to the letter-of-reference writer as part of preparing the proposal.

The letter also may comment specifically on the candidate's ability to benefit from the proposed travel and the prospective affiliation(s) with the sponsoring scientist(s) and host organization(s) to be visited.

The temporary proposal number and a password are used to provide secure access to FastLane programs for preparing and submitting the letter of reference. Reference writers change the provided password upon accessing FastLane to submit their letters.

Proposers are reminded to identify the program announcement/solicitation number (04-566) 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 in proposals submitted under this Program Solicitation.

Indirect Cost (F&A) Limitations:

Indirect costs are not allowed in either fellowships or travel grants. Fellowships provide an institutional allowance of $5,000 in lieu of indirect costs.

Other Budgetary Limitations:

Fellowship awards are limited to $70,000 annually for up to three years, except for proposals requiring fieldwork. Travel grants are limited to $3,000 per recipient.

Funding, in addition to the annual $70,000 fellowship award, is available for logistical and operational support of field research in polar regions. The structure of the award component for fieldwork differs between the Arctic and the Antarctic. Please see Section V of this solicitation ("Instructions for proposing fieldwork in polar regions") for details related to fieldwork in the research and training plan of a postdoctoral fellowship.

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):

> June 29, 2004
> > Fellowship proposal deadline

September 02, 2004
> Travel grant proposal deadline

March 02, 2005
> Fellowship proposal deadline

September 07, 2005
> Travel grant proposal deadline

March 01, 2006
> Fellowship proposal deadline

Travel grant proposals, accepted for funding that will begin in FY 2005, are due on September 7, 2004. Travel grants are not available for funding before the June 29, 2004, fellowship proposal deadline. The first annual travel grant proposal deadline is thus September 2, 2004. Early proposals for travel grants are encouraged from eligible applicants.

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:

In addition to the above criteria, the following factors will be used in the evaluation process:

- Candidate's abilities and accomplishments and his/her potential for continued professional growth as evidenced by the Curriculum Vitae and reference reports;
- Potential of the proposed research and training plan to impact the candidate's career development;
- Suitability and commitment of the proposed sponsoring scientist(s) and host organization(s), including availability of mentors and facilities, to promote the research and training plan of the candidate;
- Prospective benefits to the activities of the host organization(s); and

- Prospective contributions from the candidate's proposed activities to the stated fellowship program goals.

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:

Candidates selected to receive fellowships will be contacted by NSF and asked to provide additional information, such as completing acceptance forms and starting certificates, before starting their fellowships. Successful candidates who have not completed their doctoral degrees at the time of application must provide certifications of the receipt of the PhD before receiving their fellowship awards.

Normally fellowships will be held at the host organization(s) specified in the proposal; however, under certain circumstances and with suitable justification, fellowships may be transferred to a new organization upon approval by NSF.

A fellow is permitted to receive supplementary funding from his or her host organizations; however, any activities performed must be justified as part of the fellow's research and training plan. No other remuneration from any source may be accepted during the fellowship period without permission of the program officer.

Candidates are encouraged to discuss institutional policies on intellectual property rights with the host organization(s) before submitting an application. Candidates should also discuss the policies of the sponsoring scientist(s) regarding which materials and projects will remain with the host organization(s) and which can be released to the fellow at the conclusion of the fellowship.

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.

Reports, authored by the fellow, are expected to follow comprehensive reviews by the fellow and the sponsoring scientist(s) of the status and progress of the fellow's research and training plan and of the fellow's career and skill development. Reports should include:

- status and progress of the research and training plan;
- a list of authored papers;
- a list of conferences, workshops and professional society meetings attended with notations for presented talks and posters, panel participation or other activities;
- acquired support from research grants or contracts;
- honors and awards; and
- other synergistic and professional activities.

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.

General inquiries regarding this program should be made to:

- Bernhard Lettau, Ocean & Climate System Program Manager, Office of the Director, Office of Polar Programs, 755 S, telephone: (703) 292-8033, fax: (703) 292-9079, email: blettau@nsf.gov

- In OPP for FastLane related questions email ant2004@nsf.gov or lizzard@nsf.gov.

For questions related to the use of FastLane, contact:

- Fastlane Help Desk, telephone: (800) 673-6188, email: fastlane@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.

Research projects funded by the Office of Polar Programs

The fellowships are intended in part to develop scientists capable of competing successfully for NSF-funded polar research project awards. OPP's disciplinary, multidisciplinary, and interdisciplinary programs emphasize the uniqueness of polar regions for scientific study and their importance to global systems. Research support encompasses the life, physical, and social sciences. OPP encourages the application of emerging scientific knowledge and techniques to the study of polar regions.

The NSF documents *Arctic Research Opportunities* and *Antarctic Research* describe these programs.

To stay aware of some developments in polar science, view OPP's list of *Workshops relevant to NSF support of polar research*. For NSF-funded awards related to your field, search the Foundation's awards database.

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

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  (NSF Information Center)**:**

- **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

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

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