

## Faculty Early Career Development (CAREER) Program Proposals for Fiscal Years 2006, 2007, and 2008

(includes the description of the NSF component of the Presidential Early Career Awards for Scientists and Engineers (PECASE))

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### Program Solicitation

NSF 05-579

Replaces Document NSF 02-111



#### National Science Foundation

Directorate for Biological Sciences  
Directorate for Computer and Information Science and Engineering  
Directorate for Education and Human Resources  
Directorate for Engineering  
Directorate for Geosciences  
Directorate for Mathematical and Physical Sciences  
Directorate for Social, Behavioral, and Economic Sciences  
Office of Polar Programs

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

#### 2005

July 19: BIO, CISE, EHR  
July 20: ENG  
July 21: GEO, MPS, SBE, OPP

#### 2006

July 18: BIO, CISE, EHR  
July 19: ENG  
July 20: GEO, MPS, SBE, OPP

#### 2007

July 17: BIO, CISE, EHR  
July 18: ENG  
July 19: GEO, MPS, SBE, OPP

### SUMMARY OF PROGRAM REQUIREMENTS

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#### General Information

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#### Program Title:

Faculty Early Career Development (CAREER) Program  
Proposals for Fiscal Years 2006, 2007, and 2008  
(includes the description of the NSF component of the Presidential Early Career Awards for Scientists and Engineers (PECASE))

#### Synopsis of Program:

*CAREER*: The Faculty Early Career Development (CAREER) Program is a Foundation-wide activity that offers the National Science Foundation's most prestigious awards in support of the early career-development activities of those teacher-scholars who most effectively integrate research and education within the context of the mission of their organization. Such activities should build a firm foundation for a lifetime of integrated contributions to research and education. NSF encourages submission of CAREER proposals from junior faculty members at all CAREER-eligible organizations and especially encourages women, members of underrepresented minority groups, and persons with disabilities to apply.

PECASE: Each year NSF selects nominees for the Presidential Early Career Awards for Scientists and Engineers (PECASE) from among the most meritorious new CAREER awardees. The PECASE program recognizes outstanding scientists and engineers who, early in their careers, show exceptional potential for leadership at the frontiers of knowledge. This Presidential Award is the highest honor bestowed by the United States Government on scientists and engineers beginning their independent careers.

**Cognizant Program Officer(s):**

- Please see the full text of this funding opportunity for contact information.

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

- 47.075 --- Social, Behavioral and Economic Sciences
- 47.078 --- Office of Polar Programs
- 47.049 --- Mathematical and Physical Sciences
- 47.050 --- Geosciences
- 47.041 --- Engineering
- 47.076 --- Education and Human Resources
- 47.070 --- Computer and Information Science and Engineering
- 47.074 --- Biological Sciences

**Eligibility Information**

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- **Organization Limit:**

Proposals may be submitted by academic institutions in the U.S., its territories or possessions, and the Commonwealth of Puerto Rico, that award degrees in a field supported by NSF. Non-profit, non-degree-granting organizations such as museums, observatories or research labs may also be eligible to submit proposals, if the eligibility requirements of the PI's position are satisfied (see Section III for additional eligibility information).

- **PI Eligibility Limit:**

Special eligibility criteria apply. Please see Section III of this document for details on these eligibility criteria.

- **Limit on Number of Proposals:** There is no limit on the number of proposals that an organization may submit. However, each Principal Investigator may only submit one CAREER proposal per annual competition. In addition, Principal Investigators may not participate in more than three annual competitions. Please see Section III for additional information.

**Award Information**

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- **Anticipated Type of Award:** Standard or Continuing Grant
- **Estimated Number of Awards:** 300 to 400
- **Anticipated Funding Amount:** \$85,000,000 This number is approximate and subject to the availability of funds. Funds will be distributed across all Directorates of NSF and the Office of Polar Programs.

**Proposal Preparation and Submission Instructions**

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**A. Proposal Preparation Instructions**

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

**B. Budgetary Information**

- **Cost Sharing Requirements:** Cost Sharing is not required by NSF.
- **Indirect Cost (F&A) Limitations:** Not Applicable.
- **Other Budgetary Limitations:** Other budgetary limitations apply. Please see the full text of this solicitation for further information.

**C. Due Dates**

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

**2005**

July 19: BIO, CISE, EHR  
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**2007**

July 17: BIO, CISE, EHR  
July 18: ENG  
July 19: GEO, MPS, SBE, OPP

**Proposal Review Information**

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- **Merit Review Criteria:** National Science Board approved criteria apply.

**Award Administration Information**

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- **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.

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## I. INTRODUCTION

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To sustain and strengthen the Nation's science, mathematics, and engineering capabilities and to promote the use of those capabilities in service to society, the National Science Foundation (NSF) works in partnership with individuals and their organizations to support the early career-development activities of those teacher-scholars who most effectively integrate research and education within the context of their organization. NSF established the Faculty Early Career Development (CAREER) program in 1994 in recognition of the critical roles played by faculty members in integrating research and education, and in fostering the natural connections between the processes of learning and discovery. This program is a Foundation-wide activity that offers the National Science Foundation's most prestigious awards for junior faculty members. The intent of the program is to provide stable support at a sufficient level and duration to enable awardees to develop careers as outstanding teacher-scholars in the context of the mission of their organization. NSF encourages submission of CAREER proposals from eligible junior faculty at all CAREER-eligible organizations and especially encourages women, members of underrepresented minority groups, and persons with disabilities to apply.

## II. PROGRAM DESCRIPTION

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### A. CAREER Program

This premier program emphasizes the importance the Foundation places on the early development of academic careers dedicated to stimulating the discovery process in which the excitement of research is enhanced by inspired teaching and enthusiastic learning. Effective integration of research and education at all levels generates a synergy in which the process of discovery stimulates learning and assures that the findings and methods of research are quickly and effectively communicated in a broader context and to a larger audience.

The CAREER program embodies NSF's commitment to encourage faculty to practice, and academic institutions to value, integration of research and education. Successful PIs will propose creative, integrative, and effective research and education plans, developed within the context of the mission, goals and resources of their organization, and which will build a firm foundation for a lifetime of contributions to the integration of research and education.

NSF recognizes that there is no single formula for developing an integrated research and education plan. Rather, these plans should reflect both the proposer's own interests and goals, and the needs within his or her organization. Multiple approaches can be successful at implementing the overall goal of fostering the integration of research and education. Similarly, the potential for leadership can be manifested at various levels, including setting new standards for others to follow, serving as a role model for one's peers, or inspiring future generations of students to follow in one's footsteps. Because there may be different expectations within different disciplinary fields and/or different organizations, a wide range of projects may be appropriate for the CAREER program, all of which should have an integrated research and education plan at their core. Proposers are encouraged to communicate with the CAREER contact in the division closest to their area of research to discuss the expectations and approaches that are most appropriate for that area (see <http://www.nsf.gov/crssprgm/career/contacts.jsp> for a list of CAREER contacts by division).

NSF encourages PIs to include international dimensions where appropriate (e.g., visits to foreign research facilities, collaborations with foreign research partners, and development of international educational activities). The education and research activities proposed may also include collaborations with partners from other sectors (for example, partnerships with industry, national laboratories, or schools and school districts). NSF especially encourages the inclusion of women, members of underrepresented minority groups, and persons with disabilities in research and educational activities. However, partners cannot participate as co-investigators. Proposals submitted with co-investigators will not be reviewed or considered for funding.

Proposals submitted to the National Science Foundation are evaluated through the use of two merit review criteria, which all proposals must address explicitly. One relates to intellectual merit and the other relates to broader impacts of the activities. The following URL contains examples illustrating activities that are likely to demonstrate the broader impacts: <http://www.nsf.gov/pubs/gpg/broaderimpacts.pdf>. CAREER proposers may find these examples useful as they develop their proposals.

### B. Presidential Early Career Award for Scientists and Engineers (PECASE)

The Presidential Early Career Award for Scientists and Engineers (PECASE) is the highest honor bestowed by the United States Government on outstanding scientists and engineers beginning their independent careers, who show exceptional potential for leadership at the frontiers of knowledge. Individuals cannot apply for a PECASE, these awards are initiated by the participating federal agencies. At NSF, up to twenty nominees for this award are selected each year from among the PECASE-eligible CAREER awardees who are most likely to become the academic leaders of the 21<sup>st</sup> century. The White House Office of Science and Technology Policy makes the final selection and announcement of the awardees.

### III. ELIGIBILITY INFORMATION

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#### A. CAREER Program

Proposers for the FY 2006-2008 competitions must meet all of the following eligibility requirements:

- By the Directorate's July deadline for submission of CAREER proposals:
  - Hold a doctoral degree in a field of science or engineering supported by NSF;
  - Be untenured;
  - Have not previously received an NSF PECASE or CAREER award (prior or concurrent Federal support for other types of awards or for non-duplicative research does not preclude eligibility); AND
- By October 1st following the July deadline for submission of CAREER proposals:
  - Be employed in a tenure-track position (or tenure-track-equivalent position) as an assistant professor (or equivalent title) at an institution in the U.S., its territories, or possessions, or the Commonwealth of Puerto Rico, that awards degrees in a field supported by NSF;  
OR
  - Be employed in a tenure-track position (or tenure-track-equivalent position) as an assistant professor (or equivalent title) at an organization in the U.S., its territories, or possessions, or the Commonwealth of Puerto Rico, that is a non-profit, non-degree-granting organization such as a museum, observatory, or research lab.
- Proposers may submit only one CAREER proposal per annual competition, and may not participate in more than three CAREER competitions. Proposals that are not reviewed (i.e., are withdrawn or are returned without review) do not count toward the three-competition limit.

Note: For a position to be considered a tenure-track-equivalent position, it must meet all of the following requirements: (1) the employing department or organization does not offer tenure; (2) the employee is engaged in research in an area of science or engineering supported by NSF; (3) the appointment is a continuing appointment; (4) the appointment has substantial educational responsibilities; and (5) the proposed project relates to the employee's career goals and job responsibilities as well as to the goals of the department/organization.

**NO EXEMPTIONS FROM THESE ELIGIBILITY CRITERIA WILL BE GRANTED.**

#### B. PECASE

In addition to meeting the eligibility requirements of the CAREER program listed above, PECASE nominees must be U.S. citizens, nationals, or permanent residents who hold such status on or before their Directorate's July deadline for submission of CAREER proposals. An individual may only receive one PECASE award in their career, therefore, persons who have received PECASE awards through other agencies are no longer eligible.

### IV. AWARD INFORMATION

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- **Duration.** 5 years.
- **Amount.**
  - **CAREER.** The minimum CAREER award, including indirect costs, will total \$400,000 for the 5-year duration with the following exception. Proposers to the Biological Sciences Directorate (BIO) must submit budget requests for a minimum of \$500,000 for the 5-year duration.
  - **PECASE.** The PECASE award is an honorary award for all NSF recipients and does not provide additional funds.
- **Supplemental Funding.** CAREER awards are eligible for supplemental funding, as described in the GPG, Section V. B.4.

### A. Proposal Preparation Instructions

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#### 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](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](mailto:pubs@nsf.gov).

#### Proposal Content

This program solicitation contains supplemental instructions to the standard GPG proposal preparation guidelines. All standard sections of the proposal as outlined in the GPG are required (i.e., the cover sheet, project summary, table of contents, project description, references cited, biographical sketch, budget, budget justification, current and pending support, facilities/equipment/other resources, and supplementary documentation). The following instructions supplement the guidelines in the GPG for the specified sections.

#### The Cover Sheet:

- **Program Solicitation Number.** Select the CAREER program solicitation, NSF 05-579, from the drop-down menu.
- **Unit of Consideration.** Select at least one specific disciplinary program from the drop-down list in FastLane as the unit of consideration. For assistance in determining which program to choose, refer to the NSF [Guide to Programs](#), which provides descriptions of NSF's research-supporting programs.
- **Project Title.** The project title must begin with "CAREER:" and follow with an informative title.
- **Co-PIs.** No co-PIs are permitted.
- **PI eligibility information.** As part of the cover sheet entry, proposers **must** complete and submit the CAREER and PECASE certifications, thereby self-certifying their eligibility for the CAREER Program and their eligibility to be considered for the PECASE award, if desired. Note: information regarding PECASE eligibility will not be released to reviewers.

#### Project Summary:

Summarize the **integrated education and research activities** of the proposed CAREER project. Note that the Project Summary must clearly address in separate statements how the proposal meets both the Intellectual Merit and Broader Impact review criteria.

#### Project Description:

The Project Description section should contain a well-argued and specific proposal for activities that will, over a 5-year period, build a firm foundation for a lifetime of contributions to integrated research and educational activities in the context of the PI's organization. Note that the Project Description may not exceed 15 pages.

The Project Description should be developed in consultation with the department head or equivalent organizational official and should include:

- a description of the proposed research project, including preliminary supporting data where appropriate, specific objectives, methods and procedures to be used, and expected significance of the results;
- a description of the proposed educational activities, including plans to evaluate their impact;
- a description of how the research and educational activities are integrated with one another; and
- results of prior NSF support, if applicable.

Successful applicants will propose creative, effective, and integrated research and education plans. While excellence in both education and research is expected, activity of an intensity that leads to an unreasonable workload is not. The research and educational activities do not need to be addressed separately, if the relationship between the two is such that the presentation of the integrated project is better served by interspersing the two throughout the Project Description.

Proposed research activities may be in any area of science, mathematics, engineering and education normally supported by NSF. To help determine the appropriateness of the project for NSF (and simultaneously to identify the disciplinary program to which it should be submitted), proposers are urged to refer to the NSF [Guide to Programs](#). Program information can also be found on Directorate web pages, which can be accessed from the NSF home page ([www.nsf.gov](http://www.nsf.gov)). For guidance on submitting information about field work proposed in the Arctic or Antarctic, proposers should contact the program officer in the Office of Polar Programs who is associated with the program most closely aligned with the research being proposed.

Proposed education activities may be in a broad range of areas and may be directed to any level: K-12 students, undergraduates, graduate students, and/or the general public, but should be related to the proposed research. Some examples are: designing innovative courses or curricula; supporting teacher preparation and enhancement; conducting outreach and mentoring activities to enhance scientific literacy or involve students from groups that have been traditionally underrepresented in science; researching pedagogy or students' learning and conceptual development in the discipline; incorporating research activities into undergraduate courses; linking education activities to industrial, international, or cross-disciplinary work; and implementing innovative methods for evaluation and assessment. Education activities may also include designing new educational materials and practices or adapting and implementing effective educational materials and practices developed elsewhere. Such activities should be consistent with research and best practices in curriculum, pedagogy, and evaluation. A helpful document for information on NSF programmatic goals for evaluating education activities is the NSF publication *The 2002 User-Friendly Handbook for Project Evaluation* ([NSF 02-057](#)).

#### References Cited:

Provide references in support of both research and education aspects of the CAREER project.

#### Biographical Sketch of Principal Investigator:

The Biographical Sketch should be prepared following the instructions in the GPG, and should include **both** research and education activities and accomplishments. As stated in the GPG, the list of publications should include no more than ten publications, including up to five publications most closely related to the proposed project and up to five other significant publications, whether or not they are related to the proposed project. The Biographical Sketch may not exceed two pages in length.

#### Special Information and Supplementary Documentation:

*Scan the signed original(s) of the following document(s) into the Supplementary Documents section of the proposal. Do not send paper copies to NSF.*

**1. Departmental Letter.** In recognition of the teacher-scholar role of beginning faculty members, NSF encourages organizations to value and reward the integration of research and education. This integration of research and education requires close collaboration between the CAREER principal investigator and his/her organization throughout the award. To demonstrate the department's support of the integrated research and education plan of the CAREER awardee, the proposal must include one (and only one) letter from the PI's department head (or equivalent organizational official). The letter, which will be included as part of the consideration of the overall merits of the proposal, should demonstrate an understanding of, and a commitment to, the effective integration of research and education as a primary objective of the CAREER award. A letter that fails to acknowledge institutional commitment to the professional development and mentoring of the PI may disadvantage an otherwise outstanding proposal.

The departmental letter should be approximately one page in length, and must be signed by the PI's department head (or equivalent organizational official). The official's name, title, and date must appear below the signature. The letter should contain the following elements:

- An indication that the PI's proposed CAREER activities are supported by and integrated into the educational and research goals of the department and the organization, and that the department is committed to the support and professional development of the PI;
- A description of a) the relationship between the CAREER project, the PI's career goals and job responsibilities, and the goals of his/her department/organization, and b) the ways in which the department head (or equivalent) will ensure the appropriate mentoring of the PI, in the context of the PI's career development and his/her efforts to integrate research and education throughout the period of the award and beyond;
- Verification that the PI is eligible for the CAREER program.

**2. Letters of Collaboration.** If applicable, the proposal should include short letters of commitment from collaborators to support proposed collaborations as stated in the proposal. The letters should only describe the planned collaborative effort (s). **Letters of recommendation are not permitted, and will be removed from the proposal prior to review.**

### **Pre-Submission Checklist**

CAREER proposals must be in compliance with the special requirements outlined in this solicitation. A proposal that is not submitted to the CAREER solicitation (i.e., the CAREER solicitation number does not appear on the cover sheet) will not be reviewed as a CAREER proposal, but will be reviewed according to the guidelines associated with the program announcement or solicitation to which the proposal was submitted or, at the request of the principal investigator, will be withdrawn and not reviewed. Proposals that are non-compliant for the following reasons will be returned without review:

- Co-PIs listed on the cover page
- CAREER eligibility certification missing
- Departmental Letter missing (be careful to put this in the Supplementary Documents section, **not** the Single Copy Documents section)
- Submitted after the relevant deadline has passed

In addition, CAREER proposals will be checked for compliance with formatting instructions in the Grant Proposal Guide. Please refer to the following list of items for which proposals often are non-compliant:

- Font and margin requirements are not met
- Project summary exceeds one page
- Project summary does not address both merit review criteria (intellectual merit and broader impact) in separate statements
- Project description exceeds 15 pages
- Project description does not include a separate section describing results from prior NSF support (if appropriate)
- Project description does not describe, as an integral part of the narrative, the broader impacts resulting from the proposed activities
- Biographical sketch of the PI is not prepared in the appropriate NSF format and/or exceeds two pages
- Budgets do not adhere to the appropriate minimum award size and/or are not for five years
- Budget Justification section is missing
- Current and Pending Support form for PI is missing

Proposers are reminded to identify the program announcement/solicitation number (05-579) 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 by NSF in proposals submitted under this Program Solicitation.

#### **Other Budgetary Limitations:**

The minimum CAREER award size is \$400,000 for a five-year period for all directorates except BIO. For proposals submitted to the BIO directorate, the minimum award size is \$500,000 over five years. Before preparing a CAREER proposal, PIs are strongly encouraged to contact their disciplinary program director or the appropriate division's CAREER contact to discuss appropriate budget requests for their proposed CAREER activities, and typical funding levels for their discipline. A list of CAREER Contacts can be found on the CAREER web page at <http://www.nsf.gov/home/crssprgm/career/contacts.htm>.

No salary support for other Senior Personnel (i.e., Budget Category A) is permitted, in either the primary budget or in any subawards. All other allowable costs, as described in the Grant Proposal Guide, are permitted.

#### **Budget Preparation Instructions:**

A Budget Justification (limit three pages) should be included as part of the CAREER proposal.

### **C. Due Dates**

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

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

**2005**

July 19: BIO, CISE, EHR  
July 20: ENG  
July 21: GEO, MPS, SBE, OPP

**2006**

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**2007**

July 17: BIO, CISE, EHR  
July 18: ENG  
July 19: GEO, MPS, SBE, OPP

Any CAREER proposal received after the Directorate/Office deadline will be returned without review. Please note that NSF program officers are not authorized to grant extensions to the deadline for the CAREER program. For proposals that are submitted for consideration by more than one unit with different deadline dates, the deadline date associated with the primary unit of consideration will be enforced (i.e., the program listed first on the FastLane cover sheet).

**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: <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](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.

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**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

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### A. Notification of the Award

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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

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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/awards/managing/>. Paper copies may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 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/publications/pub\\_summ.jsp?ods\\_key=gpm](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>.

#### Special Award Conditions:

The CAREER award must be relinquished if the principal investigator:

- transfers at any time prior to or during the duration of the award to a position that is not tenured, tenure-track, tenure-track equivalent; and/or
- transfers to an organization that is not CAREER-eligible.

In the event that any of the above occur, the CAREER award may not be transferred to a substitute PI. Before transferring a CAREER award to a new organization, NSF will request documentation from the PI's new organization and department head in support of the career goals and departmental partnership as proposed in the original project description.

### C. Reporting Requirements

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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.

The annual and final reports should summarize progress in **both** research and education, and indicate how well these

activities are being integrated. **In addition, all annual reports must include a note from the PI's department head or equivalent, indicating the department's continued commitment to mentoring the PI and supporting his/her efforts to integrate research and educational activities.** This note must be signed by the PI's department head or equivalent and uploaded into the annual report as a PDF file. Instructions for preparing project reports and uploading the departmental note into the project report can be found on the CAREER web page at <http://www.nsf.gov/home/crssprgm/career/report.htm>. For general information about preparing and submitting annual and final reports, refer to the Grant Proposal Guide.

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:

- Division CAREER contacts listed on the CAREER Web page, at <http://www.nsf.gov/crssprgm/career/contacts.jsp>.

For questions related to the use of FastLane, contact:

- FastLane Help Desk, telephone: 1-800-673-6188, email: [fastlane@nsf.gov](mailto:fastlane@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 *MyNSF News Service* (<http://www.nsf.gov/mynsf/>) to be notified of new funding opportunities that become available.

#### ABOUT THE NATIONAL SCIENCE FOUNDATION

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

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

*Facilitation Awards for Scientists and Engineers with Disabilities* (FASSED) provide funding for special assistance or equipment to enable persons with disabilities (investigators and other staff, including student research assistants) to work on

NSF-supported projects. See the GPG Chapter II, Section D.2 for instructions regarding preparation of these types of proposals.

The National Science Foundation promotes and advances scientific progress in the United States by competitively awarding grants and cooperative agreements for research and education in the sciences, mathematics, and engineering.

To get the latest information about program deadlines, to download copies of NSF publications, and to access abstracts of awards, visit the NSF Website at <http://www.nsf.gov>

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

#### PRIVACY ACT AND PUBLIC BURDEN STATEMENTS

The information requested on proposal forms and project reports is solicited under the authority of the National Science Foundation Act of 1950, as amended. The information on proposal forms will be used in connection with the selection of qualified proposals; project reports submitted by awardees will be used for program evaluation and reporting within the Executive Branch and to Congress. The information requested may be disclosed to qualified reviewers and staff assistants as part of the proposal review process; to applicant institutions/grantees to provide or obtain data regarding the proposal review process, award decisions, or the administration of awards; to government contractors, experts, volunteers and researchers and educators as necessary to complete assigned work; to other government agencies needing information as part of the review process or in order to coordinate programs; and to another Federal agency, court or party in a court or Federal administrative proceeding if the government is a party. Information about Principal Investigators may be added to the Reviewer file and used to select potential candidates to serve as peer reviewers or advisory committee members. See Systems of Records, NSF-50, "Principal Investigator/Proposal File and Associated Records," 63 Federal Register 267 (January 5, 1998), and NSF-51, "Reviewer/Proposal File and Associated Records," 63 Federal Register 268 (January 5, 1998). Submission of the information is voluntary. Failure to provide full and complete information, however, may reduce the possibility of receiving an award.

An agency may not conduct or sponsor, and a person is not required to respond to an information collection unless it displays a valid OMB control number. The OMB control number for this collection is 3145-0058. Public reporting burden for this collection of information is estimated to average 120 hours per response, including the time for reviewing instructions. Send comments regarding this burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to: Suzanne Plimpton, Reports Clearance Officer, Division of Administrative Services, National Science Foundation, Arlington, VA 22230.

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