



NSF-NATO Postdoctoral Fellowships for Scientists from NATO Partner Countries (NSF-NATO)

Program Solicitation

NSF 02-178

Replaces Document NSF 01-163

Directorate for Education and Human Resources
Division of Graduate Education

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

December 10, 2002

Second Tuesday in December, Annually, by 5:00 p. m. proposer's local time

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

NSF-NATO Postdoctoral Fellowships for Scientists from NATO Partner Countries (NSF-NATO)

Synopsis of Program:

On behalf of the North Atlantic Treaty Organization (NATO), the National Science Foundation (NSF) invites proposals for 12-month postdoctoral research fellowships from beginning scientists, mathematicians, and engineers. Awards are made to US institutions to host scientists from NATO Partner Countries (Albania, Armenia, Azerbaijan, Belarus, Bulgaria, Croatia, Estonia, Georgia, Kazakhstan, Kyrgyz Republic, Latvia, Lithuania, Moldova, Romania, Russian Federation, Slovak Republic, Slovenia, Tajikistan, Turkmenistan, the former Yugoslav Republic of Macedonia, Ukraine, and Uzbekistan). Citizens from the Czech Republic, Hungary and Poland will have Partner Country status for this Program Announcement. Eligible fields of research are those supported by NSF including: mathematics, engineering, computer and information science, geosciences, the physical, biological, social, behavioral, and economic sciences, the history and philosophy of science, and interdisciplinary areas comprised of two or more of these fields. Research in the teaching and learning of science, mathematics, technology, and engineering is also eligible for support. The annual proposal deadline is the second Tuesday in December. Awards will be announced the following May.

Cognizant Program Officer(s):

- Terry S. Woodin, Program Director, Directorate for Education & Human Resources, Division of Graduate Education, 907 N, telephone: (703) 292-8697, fax: (703) 292-9048, email: twoodin@nsf.gov
- Carolyn L. Piper, Assistant Program Director, Directorate for Education & Human Resources, Division of Graduate Education, 907 N, telephone: (703) 292-8697, fax: (703) 292-9048, email: cpiper@nsf.gov

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

- 47.076 --- Education and Human Resources

Eligibility Information

- **Organization Limit:**

NATO Partner country nominees may conduct research at US universities or scientific research laboratories.

- **PI Eligibility Limit:**

Proposals for scientists from NATO Partner countries must be submitted by an eligible US host institution. A Principal Investigator (PI) from the host US institution must submit the proposal on behalf of the NATO Partner country nominee.

Nominees must:

1. identify a host sponsoring scientist (Principal Investigator);
2. be citizens of a NATO Partner country;
3. be living in or working in their home country or another NATO Partner country at the time the proposal is submitted; and,
4. have completed all the requirements for the Ph.D. or equivalent by the due date of this competition but not earlier than five (5) years before the due date of this competition.

- **Limit on Number of Proposals:** One proposal per Principal Investigator (PI) or institutional department. Recipients of previous NSF-NATO Postdoctoral Fellowships are not eligible as nominees for additional or subsequent NSF-NATO Fellowships including cost related extensions of their fellowship.

Award Information

- **Anticipated Type of Award:** Fellowship
- **Estimated Number of Awards:** 15
- **Anticipated Funding Amount:** \$650,000.00

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **Full Proposal Preparation Instructions:**

Supplemental Preparation Guidelines

- The program announcement/solicitation contains supplements to the standard Grant Proposal Guide (GPG) proposal preparation guidelines. Please see the full program announcement/solicitation for further information.

B. Budgetary Information

- **Cost Sharing Requirements:** Cost Sharing is not required.
- **Indirect Cost (F&A) Limitations:** Not Applicable.
- **Other Budgetary Limitations:** Not Applicable.

C. Due Dates

- **Full Proposal Deadline Date(s)** (due by 5 p.m proposer's local time):
December 10, 2002
Second Tuesday in December, Annually, by 5:00 p. m. proposer's local time

D. FastLane Requirements

- **FastLane Submission:** Full proposal submission is required.
- **FastLane Contact(s):**
 - Sheryl T. Balke, Program Analyst, Directorate for Education & Human Resources, Division of Graduate Education, 907 N, telephone: (703) 292-8630, fax: (703) 292-9048, email: sbalke@nsf.gov

Proposal Review Information

- **Merit Review Criteria:** National Science Board approved criteria. Additional merit review considerations apply. Please see the full funding opportunity document for further information.

Award Administration Information

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

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I. INTRODUCTION

In 1996 at the inception of the NATO Partner Country component, both US and NATO Partner Country scientists were eligible to be nominated for Fellowships. Due to a change in policy, only scientists from NATO Partner countries are now eligible to be nominated for NATO Postdoctoral Fellowship. US scientists are not eligible for these fellowships.

The National Science Foundation (NSF), on behalf of the North Atlantic Treaty Organization (NATO), invites proposals for 12-month postdoctoral fellowships on behalf of beginning scientists, mathematicians, and engineers. These Fellowships have the following goals:

- to promote the progress of science and closer collaboration between scientists and engineers of NATO Partner countries, and scientists and engineers in the United States;
- to recognize the accomplishments to date of beginning scientists and engineers; and
- to provide an experience in the US which will increase professional competence.

Submission to this competition will be:

- proposals submitted by US institutions on behalf of scientists or engineers from NATO Partner countries (Albania, Armenia, Azerbaijan, Belarus, Bulgaria, Croatia, Estonia, Georgia, Kazakhstan, Kyrgyz Republic, Latvia, Lithuania, Moldova, Romania, Russian Federation, Slovak Republic, Slovenia, Tajikistan, Turkmenistan, the former Yugoslav Republic of Macedonia, Ukraine, and Uzbekistan) for postdoctoral research at the submitting institution. Citizens of the Czech Republic, Hungary and Poland are eligible as Partner Countries for this competition.

II. PROGRAM DESCRIPTION

Award of NSF-NATO fellowships will be made for work in the fields supported by NSF including mathematics, engineering, computer and information science, geosciences, the physical, biological, social, behavioral, and economic sciences, the history and philosophy of science, and interdisciplinary areas comprised of two or more of these fields. Research in the teaching and learning of science, mathematics, technology, and engineering is also eligible for support.

NSF-NATO does not support technical assistance, pilot plan efforts, research requiring security classification, the development of products for commercial marketing or market research for a particular project or invention. Individuals working in clinical, education (except research in the teaching and learning of science, mathematics, technology and engineering) or business fields, or in history (except the history or philosophy of science), social work or public health, and individuals who propose to use the Fellowship to support residency training or similar work that may lead to qualification or certification in a clinical field are NOT eligible. These fellowships are not intended to support the preparation of prior research results for publication or the writing of textbooks as a primary objective.

Bioscience research with disease-related goals, including work on the etiology, diagnosis, or treatment of physical or mental diseases, abnormality, or malfunction in human beings or animals is not supported. Animal models of such conditions, or the development or

testing of drugs or other procedures for their treatment, are not eligible for support. However, research in bioengineering with diagnosis or treatment-related goals, that applies engineering principles to problems in biology and medicine while advancing engineering knowledge is eligible for support. Bioengineering research to aid persons with disabilities is also eligible.

NSF-NATO Fellowships are administered by the National Science Foundation, an agency of the United States Government, at the request of the US Department of State. Approximately 15 awards will be made to US institutions that would like to host a scientist from a NATO Partner Country.

III. ELIGIBILITY INFORMATION

The categories of proposers identified in the [Grant Proposal Guide](#) are eligible to submit proposals under this program announcement/solicitation.

1. Eligibility Information:

1. Institutional Eligibility

- NATO Partner country scientists may conduct research at US universities or scientific research laboratories.
- Eligible institutions include colleges and universities, government and national laboratories and facilities, and privately-sponsored nonprofit institutes and museums.

2. PI Eligibility

- NATO Partner country nominees must identify a specific US scientific advisor holding a full-time position at a US institution to serve as his/her sponsor. The US scientific advisor will be the Principal Investigator (PI) on the fellowship application. The PI will be responsible for assuring the completeness of the application material.
- Must be a scientist, mathematician or engineer holding a full time position at an eligible US institution

3. Nominee Eligibility

1. citizen of a NATO Partner country;
2. living or working in their home country or another NATO Partner country at the time the proposal is submitted;
3. have completed all the requirements for the Ph.D. or equivalent by the due date of this competition but not earlier than five (5) years before the due date of this competition.

Proposals to support a scientist from NATO Partner countries may be subject to security review by the United States Committee on Exchanges (COMEX) according to government policy. This review may be necessary before the State Department will issue a visa. The US host scientific advisor (PI) is responsible for obtaining research permits and import/export documents, where applicable.

IV. AWARD INFORMATION

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

Fellowship grants for NATO Partner country scientists are made to US institutions and not directly to individuals. The host institution will be responsible for the disbursement of all funds associated with a fellowship award.

TENURE LIMITATIONS

A Fellow will have a full-time tenure of 12 months. Requests to divide tenure between two institutions should be clearly described in the application and will be handled on a case-by-case basis.

A recipient of a postdoctoral fellowship must begin tenure on or after July 1 of the year the award is made, but normally not later than October 1 of the same year. A nominee already working under another fellowship abroad in a NATO Partner country, at the time of application, may request a delay of the start date in order to complete the previous fellowship. An awardee who declines a fellowship because she/he is unable to begin tenure by the specified time period may re-apply to the program as long as she/he remains eligible. This declination will not prejudice any subsequent application.

STIPEND AND SPECIAL ALLOWANCE

The stipend is \$2,750 per month for 12 months for the Fellow. Fellows are also provided with dependency allowances of \$200 per month for a dependent spouse and for each of not more than two dependent children for 12 months. The level of funding for Fellows will be determined based on the Fellow's status at the time of application. Any increase in the number of dependents after the deadline date of submission of the proposal will not qualify for the dependency allowance. Adjustment for individuals entitled to sabbatical leave pay or whose employer wishes to supplement the stipend to match regular salary will be considered. NSF-NATO funding in such instances will be determined on a case-by-case basis.

In addition, the Fellow is provided with \$1,200 (\$100 for each month of tenure) to aid in defraying costs of research and special travel such as short visits to other laboratories or scientific meetings. This special allowance is expendable at the Fellow's discretion.

All Fellows are entitled to the full stipend and special research allowance provided by the fellowship.

TRAVEL ALLOWANCE

A travel allowance to assist fellows to cover travel costs to their fellowship institution and back will be provided as specified below. All travel must be by US flag carriers if such service is available, even though other carriers may be more convenient or less expensive.

The total round trip allowance from the Fellow's place of residence in the Partner country, at the time of application, to the US host institution to begin tenure and later to return will be as follows: \$3,000 for the Fellow; \$3,000 for an accompanying spouse; and \$1,200 each for up to two accompanying dependent children.

INSTITUTIONAL ALLOWANCE

THE US HOST INSTITUTION DOES NOT RECEIVE AN INSTITUTIONAL ALLOWANCE. OVERHEAD EXPENSES ARE NOT PROVIDED AS PART OF THE FELLOWSHIP.

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

Full Proposal Instructions:

Proposals submitted in response to this program announcement/solicitation should be prepared and submitted in accordance with the general guidelines contained in the NSF *Grant Proposal Guide* (GPG). The complete text of the GPG is available electronically on the NSF Website at: <http://www.nsf.gov/cgi-bin/getpub?gpg>. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from pubs@nsf.gov.

A. Proposal Preparation Instructions

Proposals submitted in response to this program solicitation should be prepared and submitted in accordance with the general guidelines contained in this solicitation.

A COMPLETE proposal must be submitted via FastLane Postdoctoral Fellowship.

1. Postdoctoral Fellowship Cover Page

The Cover Page must be completed in accordance with the FastLane Postdoctoral Research Fellowship Application instructions.

2. **Application Form B. Complete this data using the codes specified in Fields of Specialization - Section X.**
3. **Summary of Doctoral Dissertation (Limit: 1 Page)**
4. **Project Summary (Limit: 1 page)**
5. **Project Description (Limit: 5 Pages) Footnotes and references are to be included in the References Cited section.**

The project description should be a relatively non-technical statement understandable by non-specialist experts. This statement should BRIEFLY include the nominee's 1) educational objectives and 2) long-range professional goals. The proposal should describe in detail the activities expected to be undertaken during tenure and should also comment on the appropriateness of both the institution/country selected. Finally, the proposal should indicate what plans have been made to date for the projected tenure period.

6. Biographical Sketch of the Proposed Host Scientific Advisor (Limit: 2 Pages)

This should include but not be limited to information relative to current position and recent publications, honors and grant support related to the contemplated research.

7. Biographical Sketch the Nominee (Limit: 3 Pages)

This information MUST include (but is not limited to) the following sections:

- A. **Education.** This section should list the nominee's educational background beginning with undergraduate and including postdoctoral training: Institution & Location; Degree; Year Conferred; Field of Study.
- B. **Academic Honors.** This section should include fellowships, scholarships, teaching assistantships, mentoring activities, and other relevant positions held or awards received with dates and locations in reverse chronological order.
- C. **Foreign Languages.** This section should indicate the English proficiency of the nominee to conduct research.
- D. **Employment and Experience.** This section should begin with the nominee's current position (e.g. full-time graduate student, postdoctoral Fellow, lecturer, etc. and institution). Relevant professional history should be provided in reverse chronological order.
- E. **Research Accomplishments.** This section should list any research previously pursued, giving the title and reference of any published works. List the titles of any unpublished work in process. Other accomplishments may include, but are not limited to, patent and software credits, papers presented at seminars, workshops, national or international meetings, etc.
- F. **Other Accomplishments.** This section is optional and may include relevant information that the nominee wishes to provide to the reviewers.

8. Letter of Support from the Host Scientific Advisor and/or Institution

A letter of support is required from the proposed scientific advisor and/or institution acknowledging willingness to accept the nominee to conduct the proposed research. Verification of resources being made available to the NATO Partner country scientist (e.g. housing, supplementary travel, equipment, and facilities to be provided by the host institution) should be included in this letter. The sponsoring scientist should also indicate why the NATO Partner country scientist would benefit from such a research opportunity and what contributions this scientist is expected to make. Any host institutional financial commitment of support to the NATO Partner country scientist should also be described. The sponsoring scientist should seek input from whatever sources she/he deems appropriate, and may attach to this statement any external references she/he chooses.

REFERENCE LETTERS

Four references are required. At least two of the four references should be from persons with whom the nominee has worked in his/her major field, including the thesis advisor if possible. List the thesis advisor's name first on the Cover Page. Other Letter of Reference Writers should be in closely allied fields. It is important to send the Letter of Reference Writer a copy of the proposed plan of research for their review and comment in the reference report. If the host advisor is writing an institutional support letter and he/she is also listed as a Letter of Reference Writer, a separate letter addressing the criteria listed in the following paragraph must be included.

Reference letters should CLEARLY include comments on the following: mastery of fundamental knowledge in the applicant's field, design of research projects, laboratory skills and technique, growth during period observed, creativity, originality, self reliance and independence.

Before submitting the letters, the Letter of Reference Writers should indicate whether they wish their comments to be held in confidence and their identity as authors of the letters not revealed. Otherwise, the Foundation may provide the comments to the nominee (if requested) under the Privacy Act of 1974.

The NATO Partner country nominee's current address is the address where the NATO Partner country scientist resides in the NATO Partner country; permanent US address should be the host university address.

Proposers are reminded to identify the program announcement/solicitation number ((02-178)) 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.

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):

December 10, 2002

Second Tuesday in December, Annually, by 5:00 p. m. proposer's local time

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 judgements.

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

1. The nominee's scientific competence in science and engineering, including achievements to date, particularly as attested by academic records and letters of recommendation.
2. The nominee's potential for continued professional growth as demonstrated in the proposed plan of research from the standpoint of its appropriateness to the background and professional goals of the applicant and its feasibility within the time constraints imposed by tenure.
3. The nominee's potential for furthering international collaboration in science including the factors that influenced the applicant's selection of host institution and scientific advisor and the likelihood that the proposed plan of research might result in the establishment of a professional, working relationship between the applicant, foreign scientists and US host scientist.

Consideration will be given to the English language proficiency of the NATO Partner country scientist.

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.

In most cases, proposers will be contacted by the Program Officer after his or her recommendation to award or decline funding has been approved by the Division Director. This informal notification is not a guarantee of an eventual award.

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/>.

C. Reporting Requirements

For all multi-year grants (including both standard and continuing grants), the PI must submit an annual project report to the cognizant Program Officer at least 90 days before the end of the current budget period.

Within 90 days after the expiration of an award, the PI also is required to submit a final project report. Failure to provide final technical reports delays NSF review and processing of pending proposals for that PI. PIs should examine the formats of the required reports in advance to assure availability of required data.

PIs are required to use NSF's electronic project reporting system, available through FastLane, for preparation and submission of annual and final project reports. This system permits electronic submission and updating of project reports, including information on project participants (individual and organizational), activities and findings, publications, and other specific products and contributions. PIs will not be required to re-enter information previously provided, either with a proposal or in earlier updates using the electronic system.

VIII. CONTACTS FOR ADDITIONAL INFORMATION

General inquiries regarding this program should be made to:

- Terry S. Woodin, Program Director, Directorate for Education & Human Resources, Division of Graduate Education, 907 N, telephone: (703) 292-8697, fax: (703) 292-9048, email: twoodin@nsf.gov
- Carolyn L. Piper, Assistant Program Director, Directorate for Education & Human Resources, Division of Graduate Education, 907 N, telephone: (703) 292-8697, fax: (703) 292-9048, email: cpiper@nsf.gov

For questions related to the use of FastLane, contact:

- Sheryl T.. Balke, Program Analyst, Directorate for Education & Human Resources, Division of Graduate Education, 907 N, telephone: (703) 292-8630, fax: (703) 292-9048, email: sbalke@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.

X. FIELDS OF SPECIALIZATION

1. LIFE SCIENCES

BIOLOGY

- 101 Animal physiology
- 102 Biochemistry and biophysics
- 103 Biotechnology
- 104 Cell biology and physiology, microbiology
- 105 Developmental biology and zoology
- 106 Ecosystems, landscapes and environment
- 107 Molecular biology and genetics, virology
- 108 Neurosciences, cognition and psychology
- 109 Plant biology: botany, physiology and pathology
- 110 Population biology and genetics, evolution
- 111 Biology (other)

2. MATHEMATICS, PHYSICS AND ASTRONOMY

MATHEMATICS

- 201 Algebra and number theory
- 202 Analysis
- 203 Biomathematics
- 204 Computational mathematics and numerical analysis
- 205 Discrete Mathematics
- 206 Geometry and topology
- 207 Logic and foundations of mathematics
- 208 Mechanics and mathematical physics
- 209 Optimization and control theory

- 210 Probability
- 211 Mathematics (other)

PHYSICS

- 221 Acoustics
- 222 Atomic and molecular physics
- 223 Condensed matter physics
- 224 Electromagnetism, plasmas and electric discharges
- 225 Elementary particles and fields
- 226 Fluid dynamics
- 227 General physics
- 228 Mathematical physics
- 229 Nuclear physics
- 230 Optics
- 231 Statistical physics
- 232 Physics (other)

ASTRONOMY AND ASTROPHYSICS

- 241 Astronomy
- 242 Astrophysics
- 243 Cosmology
- 244 Space and Planetary Physics
- 245 Astronomy and astrophysics (other)
- 200 Physical and Mathematical Sciences (non-specific)

3. CHEMISTRY MATERIALS

CHEMISTRY

- 302 Analytical biochemistry
- 303 Analytical chemistry
- 304 Bio-inorganic chemistry
- 305 Bio-organic chemistry
- 306 Catalysis
- 307 Computational chemistry
- 308 Electro chemistry
- 309 Inorganic chemistry
- 311 Organic chemistry
- 312 Physical chemistry
- 313 Polymer chemistry
- 314 Solid-state chemistry
- 315 Theoretical chemistry
- 316 Chemistry (other)

MATERIALS SCIENCES

- 321 Ceramics, inorganic materials
- 322 Corrosion, chemical degradation
- 323 Electrical, magnetic and optical properties
- 324 Mechanical and thermal properties
- 325 Metals and alloys
- 326 Polymers
- 327 Structure, composition and properties
- 328 Materials science (other)

4. EARTH SCIENCES

SOLID EARTH

- 401 Engineering geology
- 402 Geochemistry
- 403 Geology
- 404 Geomorphology
- 405 Geophysics
- 406 Hydrology and hydrogeology
- 407 Mineralogy and petrology
- 408 Paleontology and paleobotany
- 409 Remote sensing and detection
- 410 Sedimentology and stratigraphy
- 411 Soil science
- 412 Solid earth (other)

ATMOSPHERIC SCIENCE

- 421 Aerology
- 422 Climatology
- 423 Meteorology
- 424 Radiometeorology
- 425 Atmospheric science (other)

OCEANOGRAPHY

- 431 Air-sea interaction
- 432 Biological oceanography
- 433 Chemical oceanography
- 434 Hydrography
- 435 Physical oceanography
- 436 Oceanography (other)

5. ENVIRONMENTAL SCIENCES

- 501 Air
- 502 Disasters
- 503 Ecosystems
- 504 Environmental change
- 505 Environmental chemistry
- 506 Environmental policy
- 508 Noise
- 509 Soil
- 510 Waste
- 511 Water
- 512 Environmental sciences (other)
- 500 Environmental Sciences (non-specific)

6. APPLIED SCIENCES AND ENGINEERING

ENGINEERING

- 601 Aeronautical and astronautical engineering
- 603 Bioengineering
- 604 Biomedical engineering
- 605 Ceramic engineering
- 606 Chemical engineering
- 607 Civil engineering
- 608 Electrical engineering
- 609 Energy
- 610 Engineering mechanics
- 611 Hydraulics
- 612 Industrial engineering
- 613 Mechanical engineering
- 614 Metallurgical engineering
- 615 Mining engineering
- 616 Nuclear engineering
- 617 Petroleum engineering
- 618 Sanitary engineering
- 619 Engineering (other)

COMPUTER SCIENCE

- 621 Artificial intelligence and knowledge-based systems
- 622 Computer databases and banks
- 623 Human-computer interaction
- 624 Operating systems and networks
- 625 Software and requirements engineering
- 626 Theory and mathematics of computing
- 627 Computer science (other)

SYSTEMS SCIENCE

- 631 Automatic control
- 632 Operational research
- 633 Systems analysis
- 634 Systems engineering
- 635 Systems science (other)

INFORMATION SCIENCE

- 641 Communications
- 643 Information science (other)
- 600 Diverse Applied Sciences (non-specific)

7. SOCIAL AND BEHAVIORAL SCIENCES

SOCIAL SCIENCES

- 701 Economic and social history
- 702 Economics (Bus. Admin. NOT eligible)
- 703 Education
- 704 Environmental planning
- 705 Human geography
- 707 Linguistics
- 708 Management and business studies
- 709 Political Science and international relations
- 710 Science and technology policy

711 Social administration
712 Social anthropology
713 Social psychology
714 Socio-legal studies
715 Sociology (Social Work NOT eligible)
716 Social science (other)

BEHAVIORAL SCIENCES

721 Archeology
722 Developmental science
723 Ergonomics and human engineering
724 Human factors
725 Organizational science
726 Personality
727 Psychology
728 Psychometrics
729 Behavioral science (other)
999 Not Listed (Specify)_____

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