

# Discovery Corps Fellowships (DCF)

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## Program Solicitation

NSF 07-516

*Replaces Document(s):*

NSF 05-593



**National Science Foundation**

Directorate for Mathematical & Physical Sciences  
Division of Chemistry

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

February 05, 2007

## REVISION NOTES

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In furtherance of the President's Management Agenda, NSF has identified programs that will offer proposers the option to utilize Grants.gov to prepare and submit proposals, or will require that proposers utilize Grants.gov to prepare and submit proposals. Grants.gov provides a single Government-wide portal for finding and applying for Federal grants online.

In response to this program solicitation, proposers may opt to submit proposals via [Grants.gov](http://Grants.gov) or via the [NSF FastLane](#) system.

## SUMMARY OF PROGRAM REQUIREMENTS

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### General Information

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**Program Title:**

Discovery Corps Fellowships (DCF)  
Postdoctoral Fellowships and Senior Fellowships

**Synopsis of Program:**

The Discovery Corps Fellowship Program is an extended pilot program seeking new postdoctoral and professional development models that combine research with service-oriented projects. Discovery Corps Fellows develop integrated plans that incorporate an ambitious research project with other activities that address areas of national need (including enhanced research capacity and infrastructure, workforce development and job creation, and innovative linkages between chemistry and other fields). For this extended pilot program, successful Fellows will propose research projects in areas supported by the NSF Division of Chemistry. The Discovery Corps Fellowship Program comprises two categories of awards: recent doctoral recipients serve as Discovery Corps Postdoctoral Fellows; and mid-career

professionals serve as Discovery Corps Senior Fellows.

**Cognizant Program Officer(s):**

- Katharine J. Covert, Program Director, 1055 S, telephone: (703) 292-4950, fax: (703) 292-9037, email: [kcovert@nsf.gov](mailto:kcovert@nsf.gov)
- Ronald Christensen, telephone: (703) 292-4970, email: [rchrste@nsf.gov](mailto:rchrste@nsf.gov)

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

- 47.049 --- Mathematical and Physical Sciences

**Award Information**

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**Anticipated Type of Award:** Standard Grant or Continuing Grant

**Estimated Number of Awards:** 15 up to 10 Postdoctoral Fellowships (2 years) and up to 5 Senior Fellowships (1 year).

**Anticipated Funding Amount:** \$2,500,000 pending availability of funds and quality of proposals.

**Eligibility Information**

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**Organization Limit:**

Proposals may only be submitted by the following:

- Fellowship proposals may be submitted by a US university, college, or non-profit, non-academic organization with the prospective Fellow as the Principal Investigator (PI).
- Fellowship proposals may also be submitted by individuals who are unaffiliated or who are affiliated with for-profit organizations, state or local governments or federal agencies. When applying as independent/unaffiliated individuals, Fellow applicants must register with FastLane or Grants.gov prior to submitting their proposal and, if recommended for a Fellowship, must affiliate with a US university, college, or non-profit, non-academic organization, which administers the Fellowship award.

**PI Limit:**

The PI on a Discovery Corps proposal must be the prospective Fellow. No co-PIs are allowed. Other research personnel and consultants are permitted.

At the time of award, a Fellow must hold a doctorate in the chemical sciences and must be a US citizen or permanent resident.

For a Postdoctoral Fellowship, the individual must have received his or her doctorate within the last two years.

For Senior Fellowships, the individual must have at least ten years of professional experience beyond doctoral and postdoctoral training.

Exceptions to these time-related restrictions can be made for extenuating personal circumstances, such as a career interruption due to family responsibilities, but must be approved by a cognizant program officer prior to submission of the proposal.

**Limit on Number of Proposals per Organization:**

None Specified

### Limit on Number of Proposals per PI:

No individual may submit more than one proposal per Discovery Corps Fellowship competition.

## Proposal Preparation and Submission Instructions

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### A. Proposal Preparation Instructions

- **Letters of Intent:** Not Applicable
- **Full Proposals:**
  - Full Proposals submitted via FastLane: Grant Proposal Guide (GPG) Guidelines apply. 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).
  - Full Proposals submitted via Grants.gov: NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov Guidelines apply (Note: The NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at: <http://www.nsf.gov/bfa/dias/policy/docs/grantsgovguide.pdf/>)

### B. Budgetary Information

- **Cost Sharing Requirements:** Cost Sharing is not required by NSF.
- **Indirect Cost (F&A) Limitations:**

In lieu of indirect costs, an institutional allowance of \$10,000 per year should be requested on the proposal budget (entered on Line I of the FastLane budget and Field H of the Grants.gov R&R Budget).

- **Other Budgetary Limitations:** Other budgetary limitations apply. Please see the full text of this solicitation for further information.

### C. Due Dates

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

February 05, 2007

## Proposal Review Information Criteria

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

## Award Administration Information

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**Award Conditions:** 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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The Division of Chemistry in the Directorate for Mathematical and Physical Sciences continues a pilot program of Discovery Corps Fellowships to support new postdoctoral and professional development models. Each Discovery Corps Fellow proposal will describe an integrated project combining research with service. The proposed research project must be in an area supported by the NSF Division of Chemistry. The proposed service-oriented component should address areas of national need, including enhancing research capacity and infrastructure, contributing to workforce development and job creation, or cultivating new relationships between chemistry and other fields. The Discovery Corps Fellowship Program comprises two categories of awards: recent doctoral recipients serve as Discovery Corps Postdoctoral Fellows; and mid-career professionals serve as Discovery Corps Senior Fellows.

Host organizations with similar goals can support and enhance the Fellowship project. Existing structures with which a Discovery Corps Fellow might affiliate to promote job creation include, but are not limited to, NSF Science and Technology Centers (STCs), Engineering Research Centers (ERCs), Partnerships for Innovation (PFIs), Small Business Technology Transfer Programs (STTRs), Industry/University Cooperative Research Centers (I/UCRCs), and Materials Research Science and Engineering Centers (MRSECs), all of which support collaborations with industry. Workforce development and the integration of research and education might be accomplished by affiliating with Undergraduate Research Collaboratives (URCs), Alliances for Graduate Education and the Professoriate (AGEP), Louis Stokes Alliances for Minority Participation (LSAMP), Centers for Learning and Teaching (CLTs), Math and Science Partnership Programs (MSPs), Graduate Teaching Fellows in K-12 Education (GK-12) or MPS Internships in Public Science Education (IPSE). NSF-supported centers that build workforce capacity and engage underrepresented groups include the Centers of Research Excellence in Science and Technology (CREST), Historically Black Colleges and Universities Undergraduate Program (HBCU-UP), Tribal Colleges and Universities Program (TCUP) and ADVANCE Institutional Transformation Awards. International Materials Institutes (IMIs), STCs and other centers provide opportunities for international collaboration. NSF Publication Numbers and links to these and other NSF programs with which applicants may explore potential affiliations appear at the end of this solicitation; NSF awards may be searched at <http://www.nsf.gov/awardsearch/index.jsp>. Applicants are also encouraged to consider completely new structures that would enable them to address national needs by combining their research interests with service-oriented projects.

Documentation articulating the existing resources (for example, office and lab space, access to facilities, administrative assistance) to be provided to the Fellow by the host organization is part of the application package. Applicants are urged,

therefore, to contact their prospective host organization early in the planning process.

More information about the Discovery Corps Fellowship Program, including abstracts of the current Discovery Corps Fellowships, can be found on the Discovery Corps Program webpage. To access this page, go to the NSF Division of Chemistry webpage at <http://www.nsf.gov/chem> and select the Discovery Corps Fellowship Program.

### **Discovery Corps Postdoctoral Fellowships**

Postdoctoral scholars contribute substantially to the vitality of the research enterprise. Upon completion of their rigorous doctoral training, postdoctoral scholars are well prepared to make significant contributions to research projects, and this experience serves them well in their transition to an independent professional position. Many outstanding postdoctoral research projects will continue to be supported by the Division of Chemistry through individual investigator and collaborative awards, wherein the postdoctoral scholar typically works with one or a few PIs in a research group that often also includes graduate and undergraduate students. In contrast, Discovery Corps Postdoctoral Fellowships are intended to support the development of new postdoctoral models that make different types of experiences and skills accessible to the Fellow. These two-year self-designed Fellowships may provide valuable perspectives for traditional careers in the chemical sciences, or lead to new independent career opportunities. A workshop was held at NSF that considered alternative models and partnerships for postdoctoral training. The workshop report, "Postdoctoral Appointments: Roles and Opportunities. An NSF Workshop," discusses the concept of establishing new postdoctoral models like the Discovery Corps Postdoctoral Fellowships. The workshop report can be found at <http://www.merrimackllc.com/2003/postdoc-workshop.html>.

Discovery Corps Postdoctoral Fellows who begin a tenure-track faculty position within four months of completing their Fellowship are eligible to apply for a \$100,000 Discovery Corps Faculty Development Award to augment their start-up package and enable the individual to establish an ambitious program that fully integrates research, education and service. Additional information about the Discovery Corps Faculty Development Award will be provided to the Discovery Corps Postdoctoral Fellows when they accept their Fellowship.

### **Discovery Corps Senior Fellowships**

The Discovery Corps Fellowship Program is naturally extended to mid-career chemical scientists, who possess substantial research experience. Traditionally, mid-career researchers in industrial, government, and academic positions have the opportunity for sabbaticals that provide a mechanism for establishing new research directions. The Discovery Corps Fellowship Program offers an alternative professional development mechanism supporting a one-year project integrating research and service. This Fellowship draws upon the Fellow's substantial research experience and leads to new opportunities for the Fellow and their project partners.

## **II. PROGRAM DESCRIPTION**

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The Discovery Corps Fellowship Program is a pilot program designed to support new models for professional development. Recent doctoral recipients are eligible for Discovery Corps Postdoctoral Fellowship awards, and mid-career professionals are eligible for Discovery Corps Senior Fellowship awards. This extended pilot program is focused on individuals with scientific research plans in areas supported by the NSF Division of Chemistry.

The program aims to create national models in the chemical sciences and allied disciplines for:

- Promoting professional development; and
- Addressing national needs by enhancing national research capacity and infrastructure, developing innovative partnerships, contributing to workforce and economic development, or cultivating new relationships between chemistry and other fields.

Each Discovery Corps project will be unique and tailored to an applicant's specific strengths, interests and professional goals. The dual emphasis on research and service will challenge the imagination and creativity of chemical scientists to develop new projects that can benefit the individual, the host organization and the nation.

In proposing their Discovery Corps Fellowship projects, applicants need to demonstrate how their project integrating research and service will address one or more national needs. Discovery Corps Fellows are required to affiliate with one or more host organizations that provide support and oversight for their activities. They may also collaborate with a center, institute, or team that has shared goals.

Each successful Discovery Corps proposal will include both research and service components. The research component will be in areas supported by the NSF Division of Chemistry. Scholarly publications are expected research outcomes. Examples of service components include the following, which are meant to be illustrative, not exhaustive:

- **A project that fosters economic or workforce development.** A Discovery Corps Fellow collaborates with an industrial outreach program sponsored by NSF, such as PFI, STTR, or IUCRC, or with a center like an STC, ERC or MRSEC to assist industries in developing new commercializable technologies grounded in the chemical sciences.
- **A project that encourages a large, diverse group of students to careers in science and technology.** A Discovery Corps Fellow collaborates with a URC or CREST and provides leadership for teams of staff and undergraduates engaged in large-scale collaborative research projects; or partners with a CLT to enhance the quality of secondary school chemistry laboratories.
- **A project that develops innovative linkages between chemistry and other fields.** A Discovery Corps Fellow partners with artists or historians to develop a novel interdisciplinary collaboration that enhances public science education and highlights the connections between science and society.
- **A project that is of broad service to the national chemical sciences community.** A Discovery Corps Fellow develops cyberinfrastructure tools for the chemical sciences, thereby promoting applications of cyber-enabled chemistry (see <http://www.nsf.gov/chem/cyber>). Examples include: development of open-source computational codes that take advantage of grid technologies; networking of analytical instrumentation to provide remote access for educational/home/ commercial use; and establishment of digital libraries and repositories for sharing of chemical data.
- **A project that strengthens international partnerships and leads to a more globally engaged workforce.** A Discovery Corps Fellow develops the research agenda and infrastructure for a future international Research Experiences for Undergraduates (REU) chemistry site; or assists with analytical tools that enable scientists to address important scientific and real-world problems.

### Professional Development

In collaboration with their host organization(s), an applicant for a Discovery Corps Fellowship needs to provide a detailed description of how he or she would benefit from the experience as a Fellow, and how their project host(s) would benefit. This description should specify the technical and professional skills that would be developed. The applicant should describe, insofar as possible, his or her professional plans beyond the Fellowship period and how the Fellowship project would promote those objectives.

Letters from the host organization(s) should be included as supplementary documentation. These letters should describe what resources and facilities will be available to the Fellow and the nature of oversight that will be provided. Examples of resources include office and laboratory space, access to facilities, computers, instrumentation, and administrative assistance. Oversight might be provided by an administrator, a faculty mentor, or by a committee.

### Impact

A Discovery Corps Fellowship applicant should describe the anticipated effect of the Fellowship activities. What is the impact of the research component? What is the impact of the service component? How does it strengthen national research capacity and infrastructure, develop innovative partnerships, cultivate new relationships between chemistry and other fields, build workforce or lead to economic development? How will the Fellow measure that impact? What plans are there for scholarly publication and public dissemination of this work? What are the plans (if any) for sustaining this project beyond the fellowship? Applicants are asked to present ideas for the evaluation and dissemination of both the research and service components of their projects. Fellows will also be expected to participate in an NSF-supported external evaluation of the Discovery Corps Fellowship program.

### Summary

This Discovery Corps Fellowship extended pilot program will develop models for professional development for postdoctoral and mid-career chemical scientists. There is significant intellectual challenge in the design of such models, particularly in creating project designs that combine research with high-impact service that addresses national needs. Effective models have the potential for broader impacts through their inclusiveness, evaluation, dissemination, and replication or adaptation on a larger scale.

## III. AWARD INFORMATION

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The NSF Division of Chemistry expects to make up to 10 two-year Postdoctoral Fellowships and up to 5 one-year Senior

Fellowships. The anticipated award start date is August 1, 2007. Anticipated DCF Program funding is \$2.5 million for the combined Postdoctoral and Senior Fellows in FY 2007.

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

The anticipated award start date is August 1 following submission of the proposal

#### **IV. ELIGIBILITY INFORMATION**

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##### **Organization Limit:**

Proposals may only be submitted by the following:

- Fellowship proposals may be submitted by a US university, college, or non-profit, non-academic organization with the prospective Fellow as the Principal Investigator (PI).
- Fellowship proposals may also be submitted by individuals who are unaffiliated or who are affiliated with for-profit organizations, state or local governments or federal agencies. When applying as independent/unaffiliated individuals, Fellow applicants must register with FastLane or Grants.gov prior to submitting their proposal and, if recommended for a Fellowship, must affiliate with a US university, college, or non-profit, non-academic organization, which administers the Fellowship award.

##### **PI Limit:**

The PI on a Discovery Corps proposal must be the prospective Fellow. No co-PIs are allowed. Other research personnel and consultants are permitted.

At the time of award, a Fellow must hold a doctorate in the chemical sciences and must be a US citizen or permanent resident.

For a Postdoctoral Fellowship, the individual must have received his or her doctorate within the last two years.

For Senior Fellowships, the individual must have at least ten years of professional experience beyond doctoral and postdoctoral training.

Exceptions to these time-related restrictions can be made for extenuating personal circumstances, such as a career interruption due to family responsibilities, but must be approved by a cognizant program officer prior to submission of the proposal.

##### **Limit on Number of Proposals per Organization:**

None Specified

##### **Limit on Number of Proposals per PI:**

No individual may submit more than one proposal per Discovery Corps Fellowship competition.

##### **Additional Eligibility Info:**

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

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## A. Proposal Preparation Instructions

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**Full Proposal Preparation Instructions:** Proposers may opt to submit proposals in response to this Program Solicitation via Grants.gov or via the NSF FastLane system.

- Full proposals submitted via FastLane: Proposals submitted in response to this program 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). Proposers are reminded to identify this program solicitation number in the program solicitation block on the NSF Cover Sheet For Proposal to the National Science Foundation. Compliance with this requirement is critical to determining the relevant proposal processing guidelines. Failure to submit this information may delay processing.
- Full proposals submitted via Grants.gov: Proposals submitted in response to this program solicitation via Grants.gov should be prepared and submitted in accordance with the NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov. The complete text of the NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at: (<http://www.nsf.gov/bfa/dias/policy/docs/grantsgovguide.pdf>). To obtain copies of the Application Guide and Application Forms Package, click on the Apply tab on the Grants.gov site, then click on the Apply Step 1: Download a Grant Application Package and Application Instructions link and enter the funding opportunity number, (the program solicitation number without the NSF prefix) and press the Download Package button. Paper copies of the Grants.gov Application Guide also may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from [pubs@nsf.gov](mailto:pubs@nsf.gov).

The following instructions supplement the Grant Proposal Guide or the NSF Grants.gov Application Guide:

A Discovery Corps Fellowship proposal provides information on the project, its impact on the individual, its impact on the organizations with which he or she will work, and its impact on the nation. There are many potential types of projects and many possible desirable outcomes. Each project will include research and service components and will be uniquely tailored to the professional development goals of the applicants.

In developing proposals, Fellow applicants should recognize the importance of individual, organizational, and national objectives. Individual objectives are connected to opportunities for professional development. Organizational objectives allow proposers to discuss how their host organization(s) will assist the project and benefit from it. National objectives are related to key issues like research capacity, workforce, economic development, quality of life and globalization.

A letter of cooperation from each organization with which the Fellow applicant will affiliate should be included as supplementary documentation (Special Information and Supplementary Documentation for FastLane Users or Other Attachments, Field 11 on the R&R Other Project Information Form, for Grants.gov Users). This letter should describe what organizational resources and facilities will be available to the Fellow and the oversight provided to the Fellow. Examples of resources include office and laboratory space, access to facilities, computers, and instrumentation, and administrative support. Oversight might be provided by a faculty member, administrator or by a committee.

Individuals submitting Fellowship proposals as independent/unaffiliated applicants are reminded to first register with FastLane or Grants.gov.

### Discovery Corps Postdoctoral Fellowships

The project description may be up to 15 pages long and include (in this order)

- up to 2 pages on the Fellow applicant's Accomplishments and Professional Development: What are the principal research, teaching and service accomplishments of the applicant to date? How will the project promote professional development for the applicant? What are the applicant's professional plans beyond the Fellowship and how will they be enhanced by the Fellowship?
- up to 10 pages on the Project Elements: What is the nature of the project and how does it blend research with service? A Discovery Corps Fellowship must have a strong research component with the expectation of significant scholarly publications. The research component will be described in enough detail, with sufficient scholarly literature citations, to allow the merit review process to evaluate its intellectual merit and broader impacts. Describe the overall goals of the service-oriented project, how progress toward those goal will be determined, and how the project's results will be disseminated. Describe the host organization(s) and how it/they will benefit from the Discovery Corps Fellowship.
- up to 2 pages on Project Impact: The impacts of both the research and service components should be discussed.



- The impact of the service component should be explicitly tied to one or more compelling national needs.
- up to 1 page on Results of Prior Support (if a Fellow applicant has served as PI or co-PI on a NSF award in the past five years).

## Discovery Corps Senior Fellowships

The Project Description may be up to 15 pages long and include a discussion of the applicant's accomplishments, leadership, experience and perspective that will be applied to this Fellowship project, the nature of the project and how it addresses Discovery Corps goals, project impact, assessment and dissemination. Results of Prior Support are required if the Fellow applicant has been a PI or co-PI on any NSF award in the past five years. The Results of Prior Support are limited to two pages in the Project Description.

## B. Budgetary Information

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**Cost Sharing:** Cost sharing is not required by NSF in proposals submitted to the National Science Foundation.

### Indirect Cost (F&A) Limitations:

In lieu of indirect costs, an institutional allowance of \$10,000 per year should be requested on the proposal budget (entered on Line I of the FastLane budget and Field H of the Grants.gov R&R Budget).

### Other Budgetary Limitations:

Annual salary for a Postdoctoral Fellowship is \$50,000. Salary for a Senior Fellowship is based on an applicant's current salary, and can be prorated as appropriate for up to twelve months.

### Budget Preparation Instructions:

The following information provides guidance for preparing the Discovery Corps Fellowship proposal (application) budget.

#### Discovery Corps Postdoctoral Fellowships

The Postdoctoral Fellowship is for two years, at \$100,000 per year. The fixed annual costs include \$50,000 salary for the Postdoctoral Fellow and an institutional allowance of \$10,000 per year in lieu of indirect costs (entered on Line I of the FastLane budget and Field H of the Grants.gov R&R Budget). Other costs (other research personnel, fringe benefits, travel, materials, etc.) required for the project are allowable and should be budgeted so as to meet the \$100,000/yr guidelines. The proposal budget should include funds for attendance at professional meetings and an annual Discovery Corps Fellows meeting to be held in Arlington, VA.

#### Discovery Corps Senior Fellowships

The Senior Fellowship is up to \$200,000 for one year. The budget can include the Fellow's salary (up to 12 months, prorated based on an academic year salary if appropriate), an institutional allowance of \$10,000 per year in lieu of indirect costs (entered on Line I of the FastLane budget and Field H of the Grants.gov R&R Budget), and other costs (other research personnel, fringe benefits, travel, materials, etc.) required for the project. The travel budget should include funds for attendance at professional meetings and an annual Discovery Corps Fellows meeting to be held in Arlington, VA.

## C. Due Dates

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

February 05, 2007

## D. FastLane/Grants.gov Requirements

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- **For Proposals Submitted Via FastLane:**

Detailed technical instructions regarding the technical aspects of 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 solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this funding opportunity.

**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. Further instructions regarding this process are available on the FastLane Website at: <https://www.fastlane.nsf.gov/fastlane.jsp>.

- **For Proposals Submitted Via Grants.gov:**

Before using Grants.gov for the first time, each organization must register to create an institutional profile. Once registered, the applicant's organization can then apply for any federal grant on the Grants.gov website. The Grants.gov's Grant Community User Guide is a comprehensive reference document that provides technical information about Grants.gov. Proposers can download the User Guide as a Microsoft Word document or as a PDF document. The Grants.gov User Guide is available at: <http://www.grants.gov/CustomerSupport>. In addition, the NSF Grants.gov Application Guide provides additional technical guidance regarding preparation of proposals via Grants.gov. For Grants.gov user support, contact the Grants.gov Contact Center at 1-800-518-4726 or by email: [support@grants.gov](mailto:support@grants.gov). The Grants.gov Contact Center answers general technical questions related to the use of Grants.gov. Specific questions related to this program solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this solicitation.

**Submitting the Proposal:** Once all documents have been completed, the Authorized Organizational Representative (AOR) must submit the application to Grants.gov and verify the desired funding opportunity and agency to which the application is submitted. The AOR must then sign and submit the application to Grants.gov. The completed application will be transferred to the NSF FastLane system for further processing.

## **VI. NSF PROPOSAL PROCESSING AND REVIEW PROCEDURES**

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Proposals received by NSF are assigned to the appropriate NSF program and, if they meet NSF proposal preparation requirements, for review. All proposals are carefully reviewed by a scientist, engineer, or educator serving as an NSF Program Officer, and usually by three to ten other persons outside NSF who are experts in the particular fields represented by the proposal. These reviewers are selected by Program Officers charged with the oversight of the review process. Proposers are invited to suggest names of persons they believe are especially well qualified to review the proposal and/or persons they would prefer not review the proposal. These suggestions may serve as one source in the reviewer selection process at the Program Officer's discretion. Submission of such names, however, is optional. Care is taken to ensure that reviewers have no conflicts with the proposer.

### **A. NSF Merit Review Criteria**

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All NSF proposals are evaluated through use of the two National Science Board (NSB)-approved merit review criteria: intellectual merit and the broader impacts of the proposed effort. In some instances, however, NSF will employ additional criteria as required to highlight the specific objectives of certain programs and activities.

The two NSB-approved merit review criteria are listed below. 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 the reviewer 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:**

Discovery Corps Postdoctoral Fellowships

- To what extent will the Postdoctoral Fellowship promote the professional development (in both research and service) of the Fellow applicant?
- What impact will the project have on the host organization(s)?
- In what ways will the project address national needs?

Discovery Corps Senior Fellowships

- To what extent will the Senior Fellowship leverage the leadership skills, research and educational experience and perspective of the Senior Fellow applicant?
- What impact will the project have on the host organization(s)?
- In what ways will the project address national needs?

**B. Review and Selection Process**

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Proposals submitted in response to this program solicitation will be reviewed by 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.

After scientific, technical and programmatic review and consideration of appropriate factors, the NSF Program Officer recommends to the cognizant Division Director whether the proposal should be declined or recommended for 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.

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 Officer. In addition, the proposer will receive an explanation of the decision to award or decline funding.

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 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.B. 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 (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 agreements also are administered in accordance with NSF Cooperative Agreement Financial and Administrative Terms and Conditions (CA-FATC) and the applicable Programmatic Terms and Conditions. NSF awards are electronically signed by an NSF Grants and Agreements Officer and transmitted electronically to the organization via e-mail.

\*These documents may be accessed electronically on NSF's Website at [http://www.nsf.gov/awards/managing/general\\_conditions.jsp?org=NSF](http://www.nsf.gov/awards/managing/general_conditions.jsp?org=NSF). 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 and other important information on the administration of NSF awards 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).

#### **Special Award Conditions:**

Discovery Corps Fellowship applicants will be notified in May of 2007 if they will be offered a Fellowship. The applicant must accept the Fellowship (via email to the cognizant program officer) or withdraw their application within 30 days of notification. Discovery Corps Fellowships must begin in August or September 2007.

Unaffiliated applicants must affiliate with a host organization in order to receive the Fellowship. A Fellows Award will not be finalized until a host organization provides to NSF a revised cover sheet and budget for the proposed activity signed by an authorized organizational representative, and a statement from the Fellow's Department Head or equivalent endorsing the Fellow's proposed plan. Guidance regarding this process will be provided by the NSF Program Officer.

Fellowships are made to the organization on behalf of the Fellow. If the Fellow chooses to affiliate with another organization during the Fellowship and receives approval from the NSF Program Manager, the current awardee organization must allow the Fellowship to be transferred.

Postdoctoral Fellows and Senior Fellows are expected to attend an annual Discovery Corps Fellows meeting to be held in Arlington, VA.

Fellows are expected to participate in an ongoing NSF-supported external review and evaluation of the Discovery Corps Fellowship Program.

## C. Reporting Requirements

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For all multi-year grants (including both standard and continuing grants), the Principal Investigator must submit an annual project report to the cognizant Program Officer at least 90 days before the end of the current budget period. (Some programs or awards require more frequent project reports). Within 90 days after expiration of a grant, the PI also is required to submit a final project report.

Failure to provide the required annual or final project reports will delay NSF review and processing of any future funding increments as well as any 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. Such reports provide information on activities and findings, project participants (individual and organizational) 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. Submission of the report via FastLane constitutes certification by the PI that the contents of the report are accurate and complete.

Discovery Corps Fellowships will be closed on receipt of a Final Project Report (submitted through FastLane) and a fiscal report submitted by the awardee organization.

## VIII. AGENCY CONTACTS

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General inquiries regarding this program should be made to:

- Katharine J. Covert, Program Director, 1055 S, telephone: (703) 292-4950, fax: (703) 292-9037, email: [kcovert@nsf.gov](mailto:kcovert@nsf.gov)
- Ronald Christensen, telephone: (703) 292-4970, email: [rchriste@nsf.gov](mailto:rchriste@nsf.gov)

For questions related to the use of FastLane, contact:

- FastLane Help Desk, telephone: 1-800-673-6188; e-mail: [fastlane@nsf.gov](mailto:fastlane@nsf.gov)
- Paul G. Spyropoulos, Computer Specialist, 1055 S, telephone: (703) 292-4968, fax: (703) 292-9037, email: [pspyropo@nsf.gov](mailto:pspyropo@nsf.gov)

For questions relating to Grants.gov contact:

- Grants.gov Contact Center: If the Authorized Organizational Representatives (AOR) has not received a confirmation message from Grants.gov within 48 hours of submission of application, please contact via telephone: 1-800-518-4726; e-mail: [support@grants.gov](mailto:support@grants.gov).

## IX. OTHER INFORMATION

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The NSF Website provides the most comprehensive source of information on NSF Directorates (including contact information), programs and funding opportunities. Use of this Website by potential proposers is strongly encouraged. In addition, MyNSF (formerly the Custom News Service) is an information-delivery system designed to keep potential proposers and other interested parties apprised of new NSF funding opportunities and publications, important changes in proposal and award policies and procedures, and upcoming NSF Regional Grants Conferences. Subscribers are informed through e-mail

or the user's Web browser each time new publications are issued that match their identified interests. MyNSF also is available on NSF's Website at <http://www.nsf.gov/mynsf/>.

Grants.gov provides an additional electronic capability to search for Federal government-wide grant opportunities. NSF funding opportunities may be accessed via this new mechanism. Further information on Grants.gov may be obtained at <http://www.grants.gov>.

#### **Related Programs:**

Undergraduate Research Collaboratives

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=6675&org=NSF&sel\\_org=NSF&from=fund](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=6675&org=NSF&sel_org=NSF&from=fund)

Chemical Bonding Centers Phase II

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=13635&org=CHE&from=home](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13635&org=CHE&from=home)

Alliances for Graduate Education and the Professoriate [http://www.nsf.gov/funding/pgm\\_summ.jsp?](http://www.nsf.gov/funding/pgm_summ.jsp?)

[pims\\_id=5474&org=HRD](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5474&org=HRD)

Centers of Research Excellence in Science and Technology

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=6668](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=6668)

International Research Fellowship Program

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5179&org=OISE&from=home](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5179&org=OISE&from=home)

Developing Global Scientists and Engineers

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=12831&org=OISE&from=home](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=12831&org=OISE&from=home)

Partnerships for Innovation

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5261&from=fund](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5261&from=fund)

Materials Research Science and Engineering Centers

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5295&from=fund](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5295&from=fund)

International Materials Institutes

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5328&from=fund](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5328&from=fund)

ADVANCE: Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5383&from=fund](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5383&from=fund)

Centers For Learning and Teaching

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5465&org=NSF&sel\\_org=NSF&from=fund](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5465&org=NSF&sel_org=NSF&from=fund)

NSF Graduate Teaching Fellows in K-12 Education

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5472&from=fund](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5472&from=fund)

Louis Stokes Alliances for Minority Participation (LSAMP) Program

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5477&org=NSF&from=fund](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5477&org=NSF&from=fund)

Research in Disabilities Education

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5482&org=NSF&sel\\_org=NSF&from=fund](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5482&org=NSF&sel_org=NSF&from=fund)

Tribal Colleges and Universities Program

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5483&org=NSF&sel\\_org=NSF&from=fund](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5483&org=NSF&sel_org=NSF&from=fund)

Industry/University Cooperative Research Centers Program

<http://www.nsf.gov/eng/iip/iucrc/>

Research Experiences for Undergraduates

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5517&from=fund](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5517&from=fund)

Math and Science Partnership

<http://www.nsf.gov/ehr/MSP/>

Science and Technology Centers: Integrative Partnerships

<http://www.nsf.gov/od/oia/programs/stc/index.jsp>

Science of Learning Centers

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5567&from=fund](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5567&from=fund)

## ABOUT THE NATIONAL SCIENCE FOUNDATION

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The National Science Foundation (NSF) is an independent Federal agency created by the National Science Foundation Act of 1950, as amended (42 USC 1861-75). The Act states the purpose of the NSF is "to promote the progress of science; [and] to advance the national health, prosperity, and welfare by supporting research and education in all fields of science and engineering."

NSF funds research and education in most fields of science and engineering. It does this through grants and cooperative agreements to more than 2,000 colleges, universities, K-12 school systems, businesses, informal science organizations and other research organizations throughout the US. The Foundation accounts for about one-fourth of Federal support to academic institutions for basic research.

NSF receives approximately 40,000 proposals each year for research, education and training projects, of which approximately 11,000 are funded. In addition, the Foundation receives several thousand applications for graduate and postdoctoral fellowships. The agency operates no laboratories itself but does support National Research Centers, user facilities, certain oceanographic vessels and Antarctic research stations. The Foundation also supports cooperative research between universities and industry, US participation in international scientific and engineering efforts, and educational activities at every academic level.

*Facilitation Awards for Scientists and Engineers with Disabilities* provide funding for special assistance or equipment to enable persons with disabilities to work on NSF-supported projects. See Grant Proposal Guide Chapter II, Section D.2 for instructions regarding preparation of these types of proposals.

The National Science Foundation has Telephonic Device for the Deaf (TDD) and Federal Information Relay Service (FIRS) capabilities that enable individuals with hearing impairments to communicate with the Foundation about NSF programs, employment or general information. TDD may be accessed at (703) 292-5090 and (800) 281-8749, FIRS at (800) 877-8339.

The National Science Foundation Information Center may be reached at (703) 292-5111.

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

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

- **Location:** 4201 Wilson Blvd. Arlington, VA 22230
- **For General Information** (NSF Information Center): (703) 292-5111
- **TDD (for the hearing-impaired):** (703) 292-5090



● **To Order Publications or Forms:**

Send an e-mail to: [pubs@nsf.gov](mailto:pubs@nsf.gov)  
or telephone: (703) 292-7827

● **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; and 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 proposer 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 or other entities needing information regarding applicants or nominees as part of a joint application review process, or in order to coordinate programs or policy; 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," 69 Federal Register 26410 (May 12, 2004), and NSF-51, "Reviewer/Proposal File and Associated Records," 69 Federal Register 26410 (May 12, 2004). 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 Office of Management and Budget (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 the burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to:

Suzanne H. Plimpton  
Reports Clearance Officer  
Division of Administrative Services  
National Science Foundation  
Arlington, VA 22230

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