Collections in Support of Biological Research (CSBR)

PROGRAM SOLICITATION
NSF 14-564

REPLACES DOCUMENT(S):
NSF 13-557

National Science Foundation

Directorate for Biological Sciences
Division of Biological Infrastructure

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

August 11, 2014

July 13, 2015

Second Monday in July, Annually Thereafter

IMPORTANT INFORMATION AND REVISION NOTES

The competition is now annual and all dates have been revised to reflect this change.

Any proposal submitted in response to this solicitation should be submitted in accordance with the revised *NSF Proposal & Award Policies & Procedures Guide* (PAPPG) (NSF 15-1). The PAPPG is consistent with, and, implements the new Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (Uniform Guidance) (2 CFR § 200). NSF anticipates release of the PAPPG in the Fall of 2014 and it will be effective for proposals submitted, or due, on or after December 26, 2014. Please be advised that proposers who opt to submit prior to December 26, 2014, must also follow the guidelines contained in NSF 15-1.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Collections in Support of Biological Research (CSBR)

Synopsis of Program:

The Collections in Support of Biological Research (CSBR) Program provides funds: 1) for improvements to secure, improve, and organize collections that are significant to the NSF BIO-funded research community; 2) to secure collections-related data for sustained, accurate, and efficient accessibility of the collection to the biological research community; and 3) to transfer collection ownership responsibilities.

The CSBR program provides for enhancements that secure and improve existing collections, result in accessible digitized specimen-related data, and develop better methods for specimen curation and collection management. Requests should demonstrate a clear and urgent need to secure the collection, and the proposed activities should address that need. Biological collections supported include established living stock/culture collections, vouchered non-living natural history collections, and jointly-curated ancillary collections such as preserved tissues and DNA libraries.

Cognizant Program Officer(s):

Please note that the following information is current at the time of publishing. See program website for any updates to the points of contact.

- Reed S. Beaman, 615, telephone: (703) 292-8470, email: rsbeaman@nsf.gov
- Roland P. Roberts, Program Director, Directorate of Biological Sciences, Division of Biological Infrastructure, telephone: (703) 292-8470, fax: (703) 292-9063, email: dbibrc@nsf.gov

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

- 47.074 --- Biological Sciences

Award Information

Anticipated Type of Award: Standard Grant or Continuing Grant.

Estimated Number of Awards: 15 to 20

per competition pending availability of funds.

Anticipated Funding Amount: $4,500,000

A budget of $8 million is anticipated with approximately 4.5M reserved for new awards depending on prior commitments and availability of funds.

Eligibility Information

Who May Submit Proposals:

Proposals may only be submitted by the following:

- Proposals are accepted from U.S. organizations, including colleges and universities that maintain research collections, natural history museums including herbaria, and other collections administered by independent organizations or by state, county, or local governments; non-federal and non-profit research organizations that maintain collections; and field stations, marine laboratories, botanical gardens, zoological parks, and aquaria that maintain living or vouchered research collections significant to the NSF BIO-funded research community. The size of an organization is not a factor in determining eligibility.

  Potential proposers for any of the Competitive Areas are strongly encouraged to contact one of the CSBR Program Directors if they have any questions concerning eligibility.

Who May Serve as PI:

There are no restrictions or limits.

Limit on Number of Proposals per Organization: 3

In a single round of the CSBR competition, only one proposal may be submitted from any individual collection within an organization. One organization may not submit more than three proposals to any one CSBR competition.

Limit on Number of Proposals per PI or Co-PI:

There are no restrictions or limits.

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **Letters of Intent:** Not required
- **Preliminary Proposal Submission:** Not required
- **Full Proposals:**
  - Full Proposals submitted via FastLane: NSF Proposal and Award Policies and Procedures Guide, Part I: 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.
  - 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/publications/pub_summ.jsp?ods_key=grantsgovguide).

B. Budgetary Information

- **Cost Sharing Requirements:** Inclusion of voluntary committed cost sharing is prohibited.
- **Indirect Cost (F&A) Limitations:** Not Applicable
- **Other Budgetary Limitations:** Not Applicable

C. Due Dates

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

  August 11, 2014

  July 13, 2015

  Second Monday in July, Annually Thereafter

Proposal Review Information Criteria

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

Award Administration Information

Award Conditions: Standard NSF award conditions apply.

Reporting Requirements: Standard NSF reporting requirements apply.

TABLE OF CONTENTS

I. INTRODUCTION

Biological research collections, including living stock/culture collections and non-living vouchered natural history collections, support many essential research activities in the Biological Sciences. Collections are used to document biodiversity, identify species, recognize climatic shifts, explore alternate energy sources, and improve agricultural, biomedical, and manufacturing applications.

Natural history collections contain records of life on earth that are unique and irreplaceable, including specimens of extinct species and temporal information on changes in the ranges of native and introduced species. Living collections play a key role in the advancement and preservation of biological knowledge by providing well-characterized and documented experimental organisms to researchers at modest cost. Vouchered collections contain the specimen-linked ancillary materials that are created as research techniques advance (including DNA samples, digital images, audio and video files, and frozen tissues). The CSBR program plays an important role in contributing to the security and improvements in infrastructure of these biological collections.

The CSBR program is administered by the Division of Biological Infrastructure with the goal of strengthening the infrastructure critical to conducting basic research in areas within the purview of the NSF Directorate for Biological Sciences (BIO). In addition to providing support for securing the collections themselves, a high priority is placed on preserving and integrating collection information and developing innovative methods of improving the safekeeping of scientifically-important collections.

II. PROGRAM DESCRIPTION

The Collections in Support of Biological Research (CSBR) Program funds activities that improve infrastructure for existing living stock/culture collections and specimen-based vouchered natural history collections that serve a broad community of biological researchers. Activities involving the application of new and improved curatorial techniques and tools related to the maintenance, provision, care, preservation, storage, and data management of collections are encouraged. Digitizing activities such as databasing, geo-referencing, and imaging may be funded as activities designed to secure and improve access to collections. Digitizing activities focused on augmenting or enhancing large volumes of data from well-secured collections should consider other funding outlets. For example, the program Advancing Digitization of Biodiversity Collections (ADBC) (www.nsf.gov/funding/pgm_summ.jsp?pims_id=503559) specifically seeks to enhance and expand the national resource of digital data documenting existing vouchered biological and paleontological collections and to advance scientific knowledge by improving access to digitized information (including images) residing in vouchered scientific collections across the United States.

Proposals concerning the preservation and organization of tissues, DNA, images, and collection data that can be linked to voucher specimens will be considered, as will proposals for innovative enhancements for diverse collections and workshops/symposia that will lead to improvements in the security, access, and maintenance of biological collections. As a part of the improvements to collections, all scientifically significant specimens handled---if not already digitized--- should be digitized and the data interfaced with iDigBio (http://www.idigbio.org/), the national Home Uniting Biocollections (HUB) supported by the ADBC program. The CSBR program does not support building a new collection, single-taxon natural history collections devoted to a narrow research focus, or collecting new specimens to augment collections; these are integral activities of research projects supported by programs in the NSF Division of Environmental Biology.

Please note that federally held and/or owned collections cannot be supported with NSF funds. As outlined in HR 5116, the America COMPETES Reauthorization Act of 2010 (Sec. 105.), the Office of Science and Technology Policy is developing guidelines for the management and preservation of federally owned collections.

Competitive Area 1. Natural History Collections

Funds are provided to make improvements in established vouchered natural history collections for sustained, accurate, and efficient accessibility of the collection to the biological research community. Such improvements include, but are not limited to, securing and organizing specimens and related data and developing methods to improve specimen curation and collection management. Collections supported include those housing natural history specimens and their ancillary data such as preserved tissues and/or other physical samples (e.g., DNA libraries and digital images). The CSBR Program encourages digitization activities that help to secure collections and requires that the activities funded through CSBR interface with iDigBio.

Voucher collections, such as those maintained by some academic departments, field stations, and marine laboratories may be eligible for funding if it is shown that use of the collections justifies the investment, there is a long-term commitment to maintain the collections, and curatorial support is adequate. CSBR-supported projects include those that deal with complete specimens of organisms, parts of organisms, or direct artifacts of organisms (e.g., recorded sounds, fossilized footprints). Also eligible are organism-based collections that maintain ancillary material documenting the environmental context of the primary organism (e.g., soil and water samples, temperature and precipitation records, specimen-based geographic information, field notes) or materials (e.g., frozen tissue, DNA) from which the genome can be determined. Such ancillary collections must be properly vouchered by specimens to be eligible. Single organism collections are not supported through this competitive area. Also ineligible for support are projects to computerize card files of literature sources, observation records, or other library items. Please note that NSF does not normally provide support for research with disease-related goals, including work on the etiology, diagnosis, or treatment of physical or mental disease, abnormality, or malfunction in human beings or animals, and therefore does not provide support for collections of materials used in these research areas.

Competitive Area 2. Living Stock Collections

Funds are provided to secure and improve existing collections of living organisms (including viruses and bacteriophages) used in the basic biological research funded by NSF BIO. Awards will be made that lead to innovative handling of living stocks or to well-defined improvements in existing collections. The program may use a portion of its funds to help support the costs of operating facilities that have an established history of providing resources to the NSF BIO-supported research community. A strategic plan for the long-term financial support of the collection should be submitted. Support for establishing new collections, collecting specimens, or growing existing collections is not allowable.

Requests for support for living stocks resources are expected to describe stock collection activities that emphasize the security, maintenance, and provision of living organisms. Funds may be requested for support to develop innovative approaches to handling living stocks and for one-time improvements in operations of established collections. The program encourages the incorporation of compounds into collections, but does not provide significant direct support for the development of them, and only limited support for their storage and distribution. Support for development of derivatives (such as isolated DNA, DNA libraries) or other materials (such as antibodies) relevant to the study of the sources may be provided but support for original research by collection staff on these derivatives or other materials should be sought from appropriate research programs at NSF and at other public and private agencies.

To facilitate public access to stock collections supported by the CSBR Program all such collections must have an up-to-date web site that provides information about the contents of the collection and about procedures for ordering strains. When appropriate the collection should interface with relevant national efforts to integrate digitized collections data.

In identifying requests that deserve highest priority for funding in the Living Stock Collections competitive area, the Program will consider the following general characteristics:

- The importance of the organism(s) in the collection to the research community supported by NSF's Directorate for Biological Sciences and the relevance of the collection's usage to the goals of NSF BIO. Collections of organisms whose principal users are NSF BIO-supported researchers will be given priority for support.
- The breadth of usage of the collection by the potential user community. Both the types of use and numbers of users are considered to reflect the value of the collection to the research community.
- The uniqueness of the collection, both within and outside the U.S.
- The active involvement of a scientifically-qualified collections manager with expertise in handling of the subjects of the collection.
- The availability of all relevant information about the collection via the internet.
- The participation of an active external advisory group whose membership includes current or potential users drawn from areas of research under the purview of NSF BIO. Such groups play an important role in advising managers of the collection on matters of policy and practice including, for example, user fees and acquisition policies.
- A long-term strategic plan for the collection facility support or disposition, including a financial plan for the long term maintenance of the collection.

Competitive Area 3. Transfer of Ownership of Collections

Funding may be requested to move valuable established collections to a new institutional home or to consolidate or combine collections. Requests for moving or consolidating must include an explicit plan for the activity.

General Information for Applicants in All Competitive Areas

Potential proposers for any of the Competitive Areas are strongly encouraged to contact one of the CSBR Program Directors before beginning the effort of preparing a proposal.

Funds may be provided for digitization efforts in association with other activities that secure a collection, such as curation improvement and infrastructure enhancement. Computerization support generally includes equipment (hardware, software) and supplies (storage media), as well as salary for new personnel specifically required to complete a scientifically sound and well-circumscribed project. It is expected that such projects will lead to improved direct user access to collection data via standard internet protocols and interactions with iDigBio. Awards may also be made for the enhancement of infrastructure such as the purchase of specimen cases and installation costs, and new curatorial and technical assistance specifically designed to effect the proposed improvements for the duration of the proposed project. Part of these improvements must include the digitization of all scientifically significant specimens handled during the project and the resulting data must be interfaced with iDigBio; if specimens to be handled during the improvement project have already been digitized plans for interfacing the data with iDigBio should be part of the proposal or evidence that the data are already so linked should be provided. Specialized items that are components of a large system (e.g., specimen cabinets and compactors) are considered as equipment under the CSBR program guidelines - please refer to Section V.A. Special Information and Supplementary Documents section for additional guidance. Research to develop improved curatorial practices or more efficient collection management practices may also be supported.

CSBR does not provide support to: 1) Defray ordinary operating expenses of natural history collections; 2) Purchase specimens; 3) Conduct field work, collect specimens, or increase the size of collections; 4) Create or establish a new collection; or 5) Improve libraries or archives. Organizations receiving specimens collected through other research activities (e.g., Dimensions of Biodiversity or programs within the Systematics and Biodiversity Science Cluster (SBS) in the NSF's Division of Environmental Biology) should reach an agreement with the researcher(s) prior to deposit so that specimens are prepared and digitized (including geo-referencing) in a format compatible with that of the receiving collection.

Support provided by the CSBR program is restricted to costs for the proposed project above the normal operating budget received from the organization responsible for the collection. Projects proposed for CSBR support should be innovative, clearly focused, have a strong scientific rationale, demonstrate urgent need, and be designed to be completed within the time frame proposed. Collaborative proposals that link collection information among institutions and enhance accessibility will be considered but should clearly focus on securing collections as a motivation for data integration, and should be interoperable with other online resources, including iDigBio. Plans for long-term maintenance of the collection should be addressed in the project description. Building or facilities renovation associated with collection improvement will not be supported by CSBR, but may be provided by the submitting organization as an indication of organizational commitment to the long-term housing of the collections. This should be included in the Facilities, Equipment and Other Resources section of the proposal. The description should be narrative in nature and must not include any quantifiable financial information. See the Grant Proposal Guide, Chapter II.C.2.i for additional guidance on this section.

III. AWARD INFORMATION

The CSBR program expects approximately $8 million annually pending availability of funds. Approximately 4.5M will be reserved for new awards. Awards are limited to $500,000 for up to three years. Numbers of awards and average award size/duration are subject to the availability of funds. Please see the NSF website for the Collections in Support of Biological Research program (www.nsf.gov/funding/pgm_summ.jsp?pims_id=503651&org=DBI&from=home) for a current listing of awards and examples of the range and scope of projects supported.

IV. ELIGIBILITY INFORMATION

Who May Submit Proposals:

Proposals may only be submitted by the following:

- Proposals are accepted from U.S. organizations, including colleges and universities that maintain research collections, natural history museums including herbaria, and other collections administered by independent organizations or by state, county, or local governments; non-federal and non-profit research organizations that maintain collections; and field stations, marine laboratories, botanical gardens, zoological parks, and aquaria that maintain living or vouchered research collections significant to the NSF BIO-funded research community. The size of an organization is not a factor in determining eligibility.

  Potential proposers for any of the Competitive Areas are strongly encouraged to contact one of the CSBR Program Directors if they have any questions concerning eligibility.

Who May Serve as PI:

There are no restrictions or limits.

Limit on Number of Proposals per Organization: 3

In a single round of the CSBR competition, only one proposal may be submitted from any individual collection within an organization. One organization may not submit more than three proposals to any one CSBR competition.

Limit on Number of Proposals per PI or Co-PI:

There are no restrictions or limits.

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

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. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from nsfpubs@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/publications/pub_summ.jsp?

ods_key=grantsgovguide). 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 nsfpubs@nsf.gov.

In determining which method to utilize in the electronic preparation and submission of the proposal, please note the following:

Collaborative Proposals. All collaborative proposals submitted as separate submissions from multiple organizations must be submitted via the NSF FastLane system. Chapter II, Section D.5 of the Grant Proposal Guide provides additional information on collaborative proposals.

See Chapter II.C.2 of the GPG for guidance on the required sections of a full research proposal submitted to NSF. Please note that the proposal preparation instructions provided in this program solicitation may deviate from the GPG instructions.

The following information provides instructions that supplement the GPG and NSF Grants.gov Application Guide:

Title of Proposal:

The proposal title should be prefixed with either "CSBR: Natural History:", "CSBR: Living Stocks", or "CSBR: Ownership Transfer". The title should be descriptive of the project and avoid acronyms or proper names that merely identify, rather than describe, the proposed activities.

Project Summary:

The project summary should be a maximum of one page and must clearly address in separate statements: (1) an overview of the proposed activities (2) the intellectual merit of the proposed collections activities, and (3) the broader impacts of these activities. Proposals that do not explicitly address all aspects in the project summary will not be accepted or will be returned without review.

Project Description:

Maximum of 15 pages (inclusive of tables and illustrations). In addition to the instructions below, please note that per guidance in the GPG, the Project Description must contain, as a separate section within the narrative, a discussion of the broader impacts of the proposed activities. You can decide where to include this section within the Project Description.

For proposals in Competitive Area 1. Natural History Collections:

- Provide evidence of the collection's importance to NSF BIO-funded research or biological conservation on a regional, national, or international scale. All proposals must demonstrate an organizational commitment to adequate staffing and operating support that will result in long-term maintenance of the specimens, collections, and associated data. Support from CSBR will not be provided to defray ordinary operating expenses of natural history collections. The proposal should state how the value of the collection will be enhanced by support from the CSBR Program and how its contributions will further advances in the biological sciences.
- Urgency for support should be clear. Long-term security of specimens and their associated data is the primary concern of the CSBR program. The program is also concerned with the host institution's ability to meet special needs that arise from rapid expansion or unique opportunities. Common sources of such needs are collections resulting from biotic surveys of endangered habitats, opportunities to salvage a significant collection that otherwise would be lost, and the preservation of collections that facilitate critical knowledge discovery or enable substantial growth in a scientific discipline.
- Taxonomic breadth, when applicable, should be clearly specified, including the taxonomic groups housed in the collections for which support is being sought and estimates of the numbers of specimens or lots, numbers of species, and information on the geographic areas, oceanographic regions, or stratigraphic horizons from which specimens were collected.
- Value of the collection for scientific research and resource management should be provided. Indicators of value, in addition to taxonomic breadth, include measures of use by the scientific community such as numbers of specimen loans, visitors to the collection, data requests, and publications based on specimens in the collection, number of type specimens, age of the collection, and presence of extinct or rare species. Internet accessibility to collection data (including web analytics and integration with regional, national, and international collections network-building efforts) and growth and use of the collection over at least the last five years should be described.
- Education and outreach contributions of the collection's activities should be clearly identified in the proposal. Include descriptions of plans and activities demonstrating how the collection contributes to the public understanding and appreciation of science and the diversity of life.
- The following supporting data should be included concisely in tabular format:
    - Size, composition, and areas of taxonomic, geographic, and/or geologic concentration of the collection;
    - Rate of growth over the past five years;
    - Degree and range of use in research, education, and other activities over the past five years (e.g. number and type of loans, number of visitors, data requests, and other pertinent statistics, arranged according to professional or student use);
    - Research impact over the past five years (e.g. tabulate the number of publications or other products, arranged by professional or student, that are based on specimens in the collection, and provide up to five particularly significant examples).
- A management plan must be included within the project description of the proposal. The plan must delineate tasks and responsibilities, and outline a timetable for completion of the project. If a collection is being relocated due to new facility construction or renovation of an existing facility, a construction timeline, including the expected date of construction completion, must be included. For proposals related to the acquisition of orphaned collections, clearly describe a sound, scientific rationale for incorporating a particular collection, providing evidence of how the addition will strengthen the existing collection. **Documentation of ownership and transfer of the orphaned collections must be provided in the Special Information and Supplementary Documentation section.**
- Requests for personnel support should include a detailed task analysis to justify the funding requested for the duration of the proposed project.
- All proposals must include a description of the collection's policies (including those concerning loans, accessions, deaccessions, and collecting permits), protocols and user charges or fees that govern acquisitions, loans, and access to the specimens and internet-based information associated with them. All collections supported by CSBR funds must be open to access by the research community.
- Description of the plans for advising the biological research community and the general public of the avenues of access to a collection and its associated data, publication of a new curatorial or collection management practice, or the outcome of discipline-wide workshops should be included as appropriate.
- All submitting organizations must demonstrate their commitment to collection staffing and normal operating support that are adequate for the regular use, growth, care, and management of the collection. Normal collection operations include specimen acquisition resulting from the research activities of the collection's curators and other associated staff or from the

acceptance of donated materials, maintenance of those collections, answering loan and data requests, pursuing specimen-based research, and accommodating visiting researchers. Support from the CSBR Program may not be requested to defray these ordinary operating costs. **Such documentation should be presented in the form of a letter no more than one page long documenting the organization's long-term commitment to care and maintenance of the collection. This letter should be included in the Special Information and Supplementary Documentation section. The lack of such a letter or inclusion of a letter longer than one page will be grounds for returning the proposal without review.**

- Results of Prior Research should summarize results of the most recent collection improvement award that the collection has received from NSF in the preceding 5 years (maximum: 5 pages), even if the current Principal Investigator (PI) was not associated with the collection at that time. If the collection has not received an award in the previous 5 years, then an award to the PI within the past 5 years that was not collection-related, but that is most closely allied to the current proposal, should be described.

For proposals in Competitive Area 2. Living Stock Collections:

- Projects aimed at improving the methodology or technology of stock collection operations should be presented in a manner consistent with that in a research proposal, including specific aims and sufficient technical detail to assess the need for and likely success of the project, and its expected impact on operation of stock collections. Short-term projects can also include technique development for producing back-up stocks to be stored at secondary sites. The anticipated timeline, with milestones as appropriate, should be included. For projects requesting support for operating costs the project description should describe the current and future operation of the collection in detail, including plans for long-term sustainability.
- The project description should include the items listed below.
    - Historical perspective and statement of goals. Describe the origins of the collection, the goals of its operation, and the areas of NSF BIO-funded research that benefit from use of organisms in the collection.
    - Description of the collection. Provide a general summary, including number of stocks and, where appropriate, number of mutant strains, species, genera, etc. Describe types of services and products other than stocks, if any. Because the collection must be web-accessible, provide the Uniform Resource Locator (URL) for the collection's homepage.
    - Use of the collection. Provide summary comments on use of the collection by NSF BIO-funded researchers in the last five years, with attention to changing patterns of use, new types of uses and users, etc. **Include a table of detailed quantitative information in the Special Information and Supplementary Documents section.** Address any significant improvements made in the last five years, for example, to procedures for ordering, data capture, user identification, etc.
    - Management structure. Describe the roles, qualifications, and responsibilities of the Director of the collection, the collection manager, and any other key personnel. NSF expects that the manager will have a Ph.D. or equivalent research experience. Identify the academic department or other organizational unit in which the collection is located and the organizational official(s) to whom the Director of the collection reports. If extensive, these data may be provided as an organizational diagram.
    - Acquisition policy. Describe the policies for addition and removal of stocks; indicate how these reflect the statement of goals in item 1. Estimate the number of stocks added to, or removed from, the collection in each of the last three years. Indicate the number of duplicate or unidentified stocks at the current time. Justify the presence of duplicates, and describe plans to identify any unknown stocks. Describe the protocol for identifying dead stocks and the procedure for their removal.
    - Relationship to similar collections. Identify other national or foreign collections of the same taxa, if any, and estimate overlap in collection contents. Describe how this collection interfaces with other similar collections worldwide. Include methods for communications between these organizations. StrainInfo is an example of a portal to microbial culture collections worldwide (http://www.straininfo.net/). Similar portals for other taxa should be included in the collection website. It is strongly encouraged that the collection be registered with StrainInfo or a similar registry. The World Federation of Culture Collections (http://www.wfcc.info/) is an example of an international federation that serves as an information network among collections. Similar federations for other relevant taxa should be consulted when developing coordination and communication plans with related collections.
    - Documentation and ordering. Describe the use of electronic databases in operation of the collection and in provision of public access to information about the collection, including the frequency with which such public information is updated. Describe the procedure for ordering specimens.
    - Quality control practices. Describe procedures and practices intended to assure integrity of the individual stocks and other resources, including reducing or eliminating contamination, and steps being taken to assess the quality of service provided to the community. Describe plans to develop a back-up stock protocol (whether as frozen stocks at a secondary location or in another procedure) to ensure stock integrity.
    - Future. Describe any expected changes in the scope of the collection, in its manner of operation, in staffing, or in facilities. Describe short- and long-term plans for the collection in the event of unanticipated changes in participation by the key personnel.
    - Cost analysis. Estimate the staff time and other costs (pro-rata cost of glassware, growth media, cage charges, etc.) required for accession and for yearly maintenance of a typical stock. List the fraction of the annual cost of operation of the collection currently provided by: 1) NSF; 2) Other Federal agencies; 3) User charges; and/or 4) Other sources, such as private foundations, endowments, and personal contributions. Estimate the expected change, if any, in this total cost of operation over the period for which funding is requested. Proposers should anticipate that the fraction of total cost borne by NSF will decrease over time, and that the actual amount of direct NSF support may itself decrease. Thus, a strategic plan for long-term sustainability or disposition of the collection must be included.
    - User charges. Describe the accounting basis or other strategy for establishment of user fees and use of fees to offset operational costs of the collection. Collections with long-term CSBR support are expected to recover a significant fraction of the cost of operation through user fees. The fees for any additional services or products (i.e. those provided in addition to samples of living stocks from the collection) are expected to reflect the cost to the collection of providing the services or products. **In the Special Information and Supplementary Documents section provide a current list of all user fees and the date on which these were last changed.**
    - External advisory committee. All collections supported on a long-term basis are required to have an external advisory committee that provides guidance for the collection and to the host organization with respect to collection operations and policies, including user fees, new acquisitions, other improvements, and long-term plans. The committee should also serve as a resource for user community input into assessment of the quality of services and products. The committee is expected to meet annually, and to provide a written report to the collection's Director following the meeting. The PI should include a summary of the report as part of the collection's annual progress report to NSF. In this section of the project description, outline the functions of the advisory committee and the mechanisms for assuring that the committee broadly represents the research community that uses the collection. The term of service of members and the mechanism for their selection should be described. **Current members of the advisory committee should be listed in the Special Information and Supplementary Documents section.** In selecting committee members, the NSF goal for broadening participation should be considered.
    - Organizational role. Describe the host organization's long-term plans for maintaining the collection, including a view to the future beyond the period of requested support. Include a financial projection of support from all sources for

the first year of operation following termination of the NSF support being requested. Strategic long-term plans are strongly encouraged.
    - Security of Stocks. Where appropriate, include the institution's policy on security and safety of stock collections.
    - Prior Support (maximum 5 pages). Briefly describe the outcome of any support of the collection by the NSF in the last five years, irrespective of the PI or organization that received the support, and list all publications that resulted. If this is a renewal proposal, state the title, amount of funds received and duration of the award for which renewal is sought. Describe any accomplishments that are not included in the narrative section. Do not describe the results of other prior support received by the current PI, unless the support was intended to improve operation of the collection.

For proposals in Competitive Area 3: Transfer of Collection Ownership:

For projects to transfer ownership of collections sufficient detail must be presented so as to assess the need for the activity and the likely outcome if an award is not made. The content of such short-term requests should address the relevant elements of Competitive Areas A Natural History Collections or Competitive Area B Living Stock Collections above, emphasizing the importance of both the collection(s) to be moved and the recipient collection(s), and the urgency of the project. **Ownership of the collection to be moved, and transfer of that ownership must be thoroughly documented. Such documentation should be included in the Special Information and Supplementary Documentation section.**

Special Information and Supplementary Documentation (for proposals in all competitive areas):

Please see the Project Description section for each competitive area (above) for additional specific items requested to be included in the Special Information and Supplementary Documentation section.

- **Collaboration and Support:** Provide information such as statements of collaboration, and other allowed items as noted in the current issuance of the GPG. Include statements of commitment and other materials, such as MOUs with existing collections when these collections are not part of the collaborative proposal. All proposed activities must be documented in the Project Description.
    - Letters documenting institution support, specimen ownership, etc. Other letters are not allowed, i.e. letters from individuals who are named as collaborating with or providing assistance to the project, even if they are not included in the budget, are not allowed. Including such a letter will cause the proposal to be returned without review.
    - Statements from individuals whose role is discussed in the Project Description as providing assistance or collaboration to the project (but are not included in the budget) must verify their participation with a document in the following format. Proposals including more extensive letters from such participants may be returned without review.

      To: CSBR Program Director(s),

      By signing below, I acknowledge that I will provide the assistance or collaborate as indicated in the proposal, entitled "_____" with _____ as the Principal Investigator. I agree to undertake the tasks assigned to me, as described in the proposal, and I commit to provide or make available the resources therein designated to me.

      Signed: _____ Print Name:_____

      Date: _____ Institution:_____
- **Major Storage Systems and Equipment:** For projects involving the installation of major storage systems or other major pieces of equipment, a timetable for installation, floor plans, and floor loading analyses must be provided.
- **Postdoc Mentoring Plan:** Each proposal that requests funding to support postdoctoral researchers must include, as a supplementary document, a description of the mentoring activities that will be provided for such individuals. This plan should include a discussion of training in curatorial and stewardship best practices. The mentoring plan must not exceed one page.
- **Data Management Plan:** In addition to criteria required by the GPG, these proposals should provide a clear statement of how the project will manage data, software tools and other digital resources that result from the activities supported by the NSF award. All data entered during a CSBR-funded project must be made available over the internet during the course of the project (exceptions may include sensitive data such as localities for endangered species). Proposals in Competitive Area A Natural History Collections must provide a plan to interface with iDigBio; proposals in Competitive Area B Living Stock Collections should include a plan to interface with other similar collections worldwide (via an appropriate avenue). The data management plan must show strong evidence of awareness of community information management standards, and describe the hardware and software to be used, the data model and elements of the database, mechanisms for quality control of data entry, capacity for expansion, internet accessibility, computerization and interoperability approaches, and plans for permanent maintenance of the database. Quality assurance for species identifications, testing the accuracy of data entry, statements on georeferencing protocols, and a searchable database or metadata format should be included in the description. When appropriate, these activities may be described in further detail in the project description.

Single Copy Documents:

Include correspondence to the program not intended to be sent to reviewers. These should include:

- A list of potential reviewers for the proposal.
- A conflict of interest document should be provided in the form of a single alphabetized table, consisting of the full name (last, first, MI) of all people having a conflict of interest with any senior personnel and others whose biographical sketches are included in the proposal. Conflicts to be identified are (1) Ph.D. thesis advisors or advisees, (2) collaborators or co-authors for the past 48 months including postdoctoral mentors and mentees, and (3) other individuals or institutions with which the senior personnel has financial ties.

B. Budgetary Information

Cost Sharing: Inclusion of voluntary committed cost sharing is prohibited.

Budget Preparation Instructions:

Provide a cost-breakdown and narrative justification for budgeted items, including personnel. At least two vendor quotes for items of equipment and supplies that total more than $10,000 should be included. Specialized items that are components of a larger system (e.g. specimen cabinets and compactors) are considered as equipment under the CSBR program guidelines.

C. Due Dates

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

  August 11, 2014

  July 13, 2015

  Second Monday in July, Annually Thereafter

D. FastLane / Grants.gov Requirements

For Proposals Submitted Via FastLane:

To prepare and submit a proposal via FastLane, see detailed technical instructions 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. 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.

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. Comprehensive information about using Grants.gov is available on the Grants.gov Applicant Resources webpage: http://www.grants.gov/web/grants/applicants.html. In addition, the NSF Grants.gov Application Guide (see link in Section V.A) provides instructions regarding the technical 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. 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.

Proposers that submitted via FastLane are strongly encouraged to use FastLane to verify the status of their submission to NSF. For proposers that submitted via Grants.gov, until an application has been received and validated by NSF, the Authorized Organizational Representative may check the status of an application on Grants.gov. After proposers have received an e-mail notification from NSF, Research.gov should be used to check the status of an application.

VI. NSF PROPOSAL PROCESSING AND REVIEW PROCEDURES

Proposals received by NSF are assigned to the appropriate NSF program for acknowledgement and, if they meet NSF 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 either as *ad hoc* reviewers, panelists, or both, who are experts in the particular fields represented by the proposal. These reviewers are selected by Program Officers charged with 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 of interest with the proposal. In addition, Program Officers may obtain comments from site visits before recommending final action on proposals. Senior NSF staff further review recommendations for awards. A flowchart that depicts the entire NSF proposal and award process (and associated timeline) is included in the GPG as Exhibit III-1.

A comprehensive description of the Foundation's merit review process is available on the NSF website at: http://nsf.gov/bfa/dias/policy/merit_review/.

Proposers should also be aware of core strategies that are essential to the fulfillment of NSF's mission, as articulated in *Investing in Science, Engineering, and Education for the Nation's Future: NSF Strategic Plan for 2014-2018*. These strategies are integrated in the program planning and implementation process, of which proposal review is one part. NSF's mission is particularly well-implemented through the integration of research and education and broadening participation in NSF programs, projects, and activities.

One of the strategic objectives in support of NSF's mission is to foster integration of research and education through the programs, projects, and activities it supports at academic and research institutions. These institutions must recruit, train, and prepare a diverse STEM workforce to advance the frontiers of science and participate in the U.S. technology-based economy. NSF's contribution to the national innovation ecosystem is to provide cutting-edge research under the guidance of the Nation's most creative scientists and engineers. NSF also supports development of a strong science, technology, engineering, and mathematics (STEM) workforce by investing in building the knowledge that informs improvements in STEM teaching and learning.

NSF's mission calls for the broadening of opportunities and expanding participation of groups, institutions, and geographic regions that are underrepresented in STEM disciplines, which 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.

A. Merit Review Principles and Criteria

The National Science Foundation strives to invest in a robust and diverse portfolio of projects that creates new knowledge and enables breakthroughs in understanding across all areas of science and engineering research and education. To identify which projects to support, NSF relies on a merit review process that incorporates consideration of both the technical aspects of a proposed

project and its potential to contribute more broadly to advancing NSF's mission "to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes." NSF makes every effort to conduct a fair, competitive, transparent merit review process for the selection of projects.

1. Merit Review Principles

These principles are to be given due diligence by PIs and organizations when preparing proposals and managing projects, by reviewers when reading and evaluating proposals, and by NSF program staff when determining whether or not to recommend proposals for funding and while overseeing awards. Given that NSF is the primary federal agency charged with nurturing and supporting excellence in basic research and education, the following three principles apply:

- All NSF projects should be of the highest quality and have the potential to advance, if not transform, the frontiers of knowledge.
- NSF projects, in the aggregate, should contribute more broadly to achieving societal goals. These "Broader Impacts" may be accomplished through the research itself, through activities that are directly related to specific research projects, or through activities that are supported by, but are complementary to, the project. The project activities may be based on previously established and/or innovative methods and approaches, but in either case must be well justified.
- Meaningful assessment and evaluation of NSF funded projects should be based on appropriate metrics, keeping in mind the likely correlation between the effect of broader impacts and the resources provided to implement projects. If the size of the activity is limited, evaluation of that activity in isolation is not likely to be meaningful. Thus, assessing the effectiveness of these activities may best be done at a higher, more aggregated, level than the individual project.

With respect to the third principle, even if assessment of Broader Impacts outcomes for particular projects is done at an aggregated level, PIs are expected to be accountable for carrying out the activities described in the funded project. Thus, individual projects should include clearly stated goals, specific descriptions of the activities that the PI intends to do, and a plan in place to document the outputs of those activities.

These three merit review principles provide the basis for the merit review criteria, as well as a context within which the users of the criteria can better understand their intent.

2. Merit Review Criteria

All NSF proposals are evaluated through use of the two National Science Board approved merit review criteria. In some instances, however, NSF will employ additional criteria as required to highlight the specific objectives of certain programs and activities.

The two merit review criteria are listed below. **Both** criteria are to be given **full consideration** during the review and decision-making processes; each criterion is necessary but neither, by itself, is sufficient. Therefore, proposers must fully address both criteria. (GPG Chapter II.C.2.d.i. contains additional information for use by proposers in development of the Project Description section of the proposal.) Reviewers are strongly encouraged to review the criteria, including GPG Chapter II.C.2.d.i., prior to the review of a proposal.

When evaluating NSF proposals, reviewers will be asked to consider what the proposers want to do, why they want to do it, how they plan to do it, how they will know if they succeed, and what benefits could accrue if the project is successful. These issues apply both to the technical aspects of the proposal and the way in which the project may make broader contributions. To that end, reviewers will be asked to evaluate all proposals against two criteria:

- **Intellectual Merit:** The Intellectual Merit criterion encompasses the potential to advance knowledge; and
- **Broader Impacts:** The Broader Impacts criterion encompasses the potential to benefit society and contribute to the achievement of specific, desired societal outcomes.

The following elements should be considered in the review for both criteria:

1. What is the potential for the proposed activity to
    a. Advance knowledge and understanding within its own field or across different fields (Intellectual Merit); and
    b. Benefit society or advance desired societal outcomes (Broader Impacts)?
2. To what extent do the proposed activities suggest and explore creative, original, or potentially transformative concepts?
3. Is the plan for carrying out the proposed activities well-reasoned, well-organized, and based on a sound rationale? Does the plan incorporate a mechanism to assess success?
4. How well qualified is the individual, team, or organization to conduct the proposed activities?
5. Are there adequate resources available to the PI (either at the home organization or through collaborations) to carry out the proposed activities?

Broader impacts may be accomplished through the research itself, through the activities that are directly related to specific research projects, or through activities that are supported by, but are complementary to, the project. NSF values the advancement of scientific knowledge and activities that contribute to achievement of societally relevant outcomes. Such outcomes include, but are not limited to: full participation of women, persons with disabilities, and underrepresented minorities in science, technology, engineering, and mathematics (STEM); improved STEM education and educator development at any level; increased public scientific literacy and public engagement with science and technology; improved well-being of individuals in society; development of a diverse, globally competitive STEM workforce; increased partnerships between academia, industry, and others; improved national security; increased economic competitiveness of the United States; and enhanced infrastructure for research and education.

Proposers are reminded that reviewers will also be asked to review the Data Management Plan and the Postdoctoral Researcher Mentoring Plan, as appropriate.

Additional Solicitation Specific Review Criteria

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

In addition to the standard NSF review criteria, the following will be considered:

- Urgency of the request;
- Scientific importance and value of the collection for basic biological research supported by NSF BIO programs;
- Usage of the collection by the scientific community;
- Size, quality, taxonomic breadth, and uniqueness of the collection;
- Education and outreach plans;
- Management plan and task analyses;
- Attention to standard protocols of the field;
- Interoperability, openness and long-term preservation of digitized data;

Capability and qualifications of the PI, collections manager, and other staff;
- Long-term maintenance and strategic plans for the collection;
- Management provisions, including acquisitions policy, loan policies, user fee structure, and external advisory committee (when required);
- Evidence of planning by, and priorities of, the parent organization;
- Long-term commitment of the host organization to the collection's maintenance.

B. Review and Selection Process

Proposals submitted in response to this program solicitation will be reviewed by Ad hoc Review and/or Panel Review.

Reviewers will be asked to evaluate proposals using two National Science Board approved merit review criteria and, if applicable, additional program specific criteria. A summary rating and accompanying narrative will be completed and submitted by each reviewer. 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 strives to be able to tell applicants whether their proposals have been declined or recommended for funding within six months. Large or particularly complex proposals or proposals from new awardees may require additional review and processing time. The time interval begins on the deadline or target date, or receipt date, whichever is later. The interval ends when the Division Director acts upon the Program Officer's recommendation.

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. After an administrative review has occurred, Grants and Agreements Officers perform 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.

Once an award or declination decision has been made, Principal Investigators are provided feedback about their proposals. In all cases, reviews are treated as confidential documents. Verbatim copies of reviews, excluding the names of the reviewers or any reviewer-identifying information, 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.

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 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

An NSF award consists of: (1) the award notice, 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 notice; (4) the applicable award conditions, such as Grant General Conditions (GC-1)*; or Research Terms and Conditions* and (5) any announcement or other NSF issuance that may be incorporated by reference in the award notice. 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/award_conditions.jsp?org=NSF. Paper copies may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from nsfpubs@nsf.gov.

More comprehensive information on NSF Award Conditions and other important information on the administration of NSF awards is contained in the NSF *Award & Administration Guide* (AAG) Chapter II, available electronically on the NSF Website at http://www.nsf.gov/publications/pub_summ.jsp?ods_key=aag.

C. Reporting Requirements

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 prior to the end of the current budget period. (Some programs or awards require submission of more frequent project reports). Within 90 days following expiration of a grant, the PI also is required to submit a final project report, and a project outcomes report for the general public.

Failure to provide the required annual or final project reports, or the project outcomes report, will delay NSF review and processing of any future funding increments as well as any pending proposals for all identified PIs and co-PIs on a given award. 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 Research.gov, for preparation and submission of annual and final project reports. Such reports provide information on accomplishments, project participants (individual and

organizational), publications, and other specific products and impacts of the project. Submission of the report via Research.gov constitutes certification by the PI that the contents of the report are accurate and complete. The project outcomes report also must be prepared and submitted using Research.gov. This report serves as a brief summary, prepared specifically for the public, of the nature and outcomes of the project. This report will be posted on the NSF website exactly as it is submitted by the PI.

More comprehensive information on NSF Reporting Requirements and other important information on the administration of NSF awards is contained in the NSF *Award & Administration Guide* (AAG) Chapter II, available electronically on the NSF Website at http://www.nsf.gov/publications/pub_summ.jsp?ods_key=aag.

VIII. AGENCY CONTACTS

Please note that the program contact information is current at the time of publishing. See program website for any updates to the points of contact.

General inquiries regarding this program should be made to:

- Reed S. Beaman, 615, telephone: (703) 292-8470, email: rsbeaman@nsf.gov
- Roland P. Roberts, Program Director, Directorate of Biological Sciences, Division of Biological Infrastructure, telephone: (703) 292-8470, fax: (703) 292-9063, email: dbibrc@nsf.gov

For questions related to the use of FastLane, contact:

- FastLane Help Desk, telephone: 1-800-673-6188; e-mail: fastlane@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.

IX. OTHER INFORMATION

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, "NSF Update" 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 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. "NSF Update" also is available on NSF's website at https://public.govdelivery.com/accounts/USNSF/subscriber/new?topic_id=USNSF_179.

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

Related Programs:

ABOUT THE NATIONAL SCIENCE FOUNDATION

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 55,000 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 Arctic 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: nsfpubs@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
Office of the General Counsel
National Science Foundation
Arlington, VA 22230