

# Dimensions of Biodiversity FY2012

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## PROGRAM SOLICITATION

NSF 12-528

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### REPLACES DOCUMENT(S):

NSF 11-518

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National Science Foundation

Directorate for Biological Sciences  
Division of Environmental Biology

Directorate for Geosciences  
Division of Ocean Sciences

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

April 10, 2012

## IMPORTANT INFORMATION AND REVISION NOTES

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### Revision Summary

Program partnerships: Beginning in 2012, the São Paulo State Research Foundation (FAPESP) of Brazil will be participating in the Dimensions of Biodiversity program. The special US-São Paulo Collaborative partnerships will be continuing for at least ten years. Beginning in 2012, the partnership with NSF-China will be expanded to include research proposals as well as International Research Coordination Network proposals. No NASA funds will be used for any participation, collaboration, or coordination with China or any Chinese-owned company in any aspect of this program.

### Important Reminders

A revised version of the *NSF Proposal & Award Policies & Procedures Guide* (PAPPG), [NSF 11-1](#), was issued on October 1, 2010 and is effective for proposals submitted, or due, on or after January 18, 2011. Please be advised that the guidelines contained in [NSF 11-1](#) apply to proposals submitted in response to this funding opportunity.

Cost Sharing: The PAPPG has been revised to implement the National Science Board's recommendations regarding cost sharing. Inclusion of voluntary committed cost sharing is prohibited. In order to assess the scope of the project, all organizational resources necessary for the project must be described 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. Mandatory cost sharing will only be required when explicitly authorized by the NSF Director. See the PAPP Guide Part I: *Grant Proposal Guide (GPG) Chapter II.C.2.g(xi)* for further information about the implementation of these recommendations.

Data Management Plan: The PAPPG contains a clarification of NSF's long standing data policy. All proposals must describe plans for data management and sharing of the products of research, or assert the absence of the need for such plans. FastLane will not permit submission of a proposal that is missing a Data Management Plan. The Data Management Plan will be reviewed as part of the intellectual merit or broader impacts of the proposal, or both, as appropriate. Links to data management requirements and plans relevant to specific Directorates, Offices, Divisions, Programs, or other NSF units are available on the NSF website at: <http://www.nsf.gov/bfa/dias/policy/dmp.jsp>. See [Chapter II.C.2.j](#) of the GPG for further information about the implementation of this requirement.

Postdoctoral Researcher Mentoring Plan: As a reminder, 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. Please be advised that if required, FastLane will not permit submission of a proposal that is missing a Postdoctoral Researcher Mentoring Plan. See [Chapter II.C.2.j](#) of the GPG for further information about the implementation of this requirement.

## SUMMARY OF PROGRAM REQUIREMENTS

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### General Information

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Program Title:

Dimensions of Biodiversity

Synopsis of Program:

Despite centuries of discovery, most of our planet's biodiversity remains unknown. The scale of the unknown diversity on Earth is especially troubling given the rapid and permanent loss of biodiversity across the globe. With this loss, humanity is losing links in the web of life that provide ecosystem services, forfeiting an understanding of the history and future of the living world, and losing opportunities for future beneficial discoveries in the domains of

food, fiber, fuel, pharmaceuticals, and bio-inspired innovation.

The goal of the Dimensions of Biodiversity campaign is to transform, by 2020, how we describe and understand the scope and role of life on Earth. The campaign promotes novel, integrated approaches to identify and understand the evolutionary and ecological significance of biodiversity amidst the changing environment of the present day and in the geologic past.

This campaign seeks to characterize biodiversity on Earth by using integrative, innovative approaches to fill the most substantial gaps in our understanding of the diversity of life on Earth. It takes a broad view of biodiversity, and currently focuses on the integration of genetic, taxonomic/phylogenetic, and functional dimensions of biodiversity. Successful proposals should integrate these three dimensions to understand interactions and feedbacks among them. While this focus complements several core NSF programs, it differs by requiring that multiple dimensions of biodiversity be addressed simultaneously, in innovative or novel ways, to understand their synergistic roles in critical ecological and evolutionary processes.

Investigators wishing to inquire about the suitability of potential projects for Dimensions of Biodiversity are encouraged to email a brief summary and contact information to [Dimensions@nsf.gov](mailto:Dimensions@nsf.gov).

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.*

- Richard Inouye, BIO/DEB, telephone: (703) 292-4974, email: [Dimensions@nsf.gov](mailto:Dimensions@nsf.gov)
- George W. Gilchrist, BIO/DEB, telephone: (703) 292-7138, email: [Dimensions@nsf.gov](mailto:Dimensions@nsf.gov)
- Matt Kane, BIO/DEB, telephone: (703) 292-7186, email: [Dimensions@nsf.gov](mailto:Dimensions@nsf.gov)
- Samuel M. Scheiner, BIO/DEB, telephone: (703) 292-7175, email: [Dimensions@nsf.gov](mailto:Dimensions@nsf.gov)
- Anne M. Maglia, BIO/DBI, telephone: (703) 292-7380, email: [Dimensions@nsf.gov](mailto:Dimensions@nsf.gov)
- Michael Sieracki, GIO/OCE, telephone: (703) 292-2688, email: [Dimensions@nsf.gov](mailto:Dimensions@nsf.gov)
- Lewis Incze, GEO/OCE, telephone: (703) 292-7585, email: [Dimensions@nsf.gov](mailto:Dimensions@nsf.gov)
- Scott Heckthorn, BIO/IOS after Jan 15, 2012, telephone: (703) 292-8420, email: [Dimensions@nsf.gov](mailto:Dimensions@nsf.gov)
- Douglas J. Levey, BIO/DEB, telephone: (703)292-5196, email: [Dimensions@nsf.gov](mailto:Dimensions@nsf.gov)
- Leslie Rissler, BIO/DEB, telephone: (703) 292-7836, email: [Dimensions@nsf.gov](mailto:Dimensions@nsf.gov)

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

- 47.050 --- Geosciences
- 47.074 --- Biological Sciences

## Award Information

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Anticipated Type of Award: Standard Grant or Continuing Grant

Estimated Number of Awards: 10 Awards are contingent on availability of funds and the quality of proposals.

Anticipated Funding Amount: \$15,000,000 to \$24,000,000

NSF anticipates that at least \$15,000,000 will be available in Fiscal Year 2012. Research awards will be up to five years duration and up to a total of \$2,000,000 for individual or collaborative projects. This upper limit does not include costs of facilities or ship time. Up to two International Research Coordination Network projects involving US and Chinese investigators will be funded at a level of up to \$600,000 over 5 years from NSF plus up to 750,000 yuan over 5 years from NSF-China. Up to two US-China Collaborative Research Project awards will be funded at a level of up to \$2,000,000 over 5 years from NSF plus up to 3,000,000 yuan from NSF-China. Up to two 5-year US-São Paulo Collaborative Research Project awards will be funded by NSF to the US components and by FAPESP (São Paulo State Research Foundation) to the São Paulo components. Each project will be funded at a level of up to \$2,000,000 by each foundation for their corresponding researchers, for a total project cost of up to \$4,000,000 over 5 years.

## Eligibility Information

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Organization Limit:

The categories of proposers eligible to submit proposals to the National Science Foundation are identified in the Grant Proposal Guide, Chapter I, Section E.

PI Limit:

None Specified

Limit on Number of Proposals per Organization:

None Specified

Limit on Number of Proposals per PI: 1

An individual may appear as Principal Investigator (PI), co-PI, or other senior personnel on only one proposal submitted in FY 2012 in response to this solicitation. This limitation includes proposals submitted by a lead organization, any sub-award submitted as part of a proposal, or any collaborative proposal, and this includes all types of projects. If an individual is listed as PI, co-PI, or senior personnel on more than one proposal, all of those

proposals will be returned without review.

## Proposal Preparation and Submission Instructions

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### A. Proposal Preparation Instructions

- Letters of Intent: Not Applicable
- Preliminary Proposal Submission: Not Applicable
- 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](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](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):  
April 10, 2012

## 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: Standard NSF reporting requirements apply.

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## I. INTRODUCTION

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Life on Earth is astounding in its diversity and in its ability to transform the world. Despite centuries of discovery, the vast majority of our planet's diversity remains unknown. Only a few years ago scientists shared the view that the diversity of life on Earth was so vast that it might be beyond cataloging, much less understanding. This is no longer the case. Advances in our capacity to collect, analyze, and integrate biological data have provided tools with which researchers can significantly expand our knowledge of Earth's biodiversity and revolutionize our understanding of the living world. Unfortunately, the pace of discovery is increasingly offset by rapid and permanent loss of biodiversity. Drivers of biodiversity loss include climate change, over-exploitation of natural resources, planetary re-engineering (such as land use change, water diversions, coastal development, fertilizer use), and the intentional or unintentional movement of species. With biodiversity loss, humanity is losing links in the web of life that provide ecosystem services, forfeiting opportunities to understand the history and future of the living world, and losing opportunities for future beneficial discoveries in the domains of food, fiber, fuel, pharmaceuticals, and bio-inspired innovation. This reality has stimulated a campaign of integrated study across the dimensions of Earth's biodiversity.

Biodiversity research has often focused on a single dimension. For example, investigators have concentrated on the taxonomic diversity or phylogenetic history of a clade, the genetic diversity of a population or a species, or the functional role of a taxon in an ecosystem. Although this research has yielded important advances, huge gaps persist in our understanding of biodiversity. We understand little about how these various dimensions, individually and in concert, contribute to environmental health, ecosystem stability, productivity, and resilience, or biological adaptation in response to rapid environmental change.

By 2020, the Dimensions of Biodiversity program is expected to have transformed our understanding of the scope and role of life on Earth. Investigators are encouraged to propose projects that are free from the constraints imposed by traditional boundaries among areas of biodiversity research. In its initial phase, the program will focus on genetic, taxonomic/phylogenetic, and functional dimensions of biodiversity. Successful proposals should address and integrate these three dimensions to understand interactions and feedbacks among them. While this focus complements several core NSF programs, it differs by requiring that multiple dimensions of biodiversity be addressed and integrated, in innovative or novel ways, to understand the roles of biodiversity in critical ecological and evolutionary processes. Examples are provided in the following section. Projects funded in the first year of the program are listed here:

[http://www.nsf.gov/news/news\\_summ.jsp?cntn\\_id=117811&org=OLPA&from=news](http://www.nsf.gov/news/news_summ.jsp?cntn_id=117811&org=OLPA&from=news)

## II. PROGRAM DESCRIPTION

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The Dimensions of Biodiversity campaign takes a broad view of biodiversity that ranges from genes through species to ecosystems in an effort to integrate both descriptive and functional aspects of biodiversity on Earth. The long-term goal of the campaign is to develop an integrated understanding of the key dimensions of biodiversity in an ever-changing world.

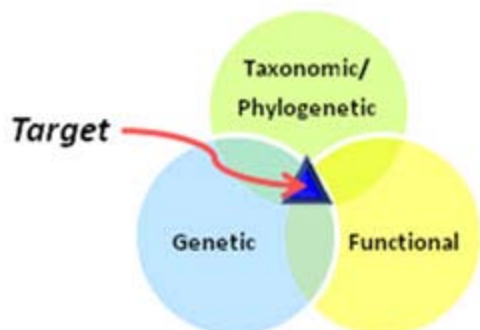


Figure 1. Three dimensions of biodiversity. This solicitation targets the area where all three overlap.

The Dimensions of Biodiversity program currently targets three fundamental dimensions of biodiversity - genetic diversity, taxonomic/phylogenetic diversity, and functional diversity. Genetic diversity includes but is not limited to nucleotide sequence diversity at neutral or coding loci or genomic (proteomic, transcriptomic) diversity. Taxonomic/phylogenetic diversity refers to evolutionary lineages at and above the level of the population. Functional diversity includes but is not limited to aspects of ecosystem function such as energy flow, material cycling, or ecological resilience. (See examples listed below.) In addition, a primary goal of the program is to address the largest unknowns related to biodiversity; proposals that have the potential to fill large gaps in our understanding of biodiversity are particularly encouraged.

Topics that might be addressed by Dimensions proposals include, but are not limited to, the integrated roles of the three dimensions of biodiversity in: community or ecosystem resilience, sustainability, or productivity; maintenance of symbioses and symbionts; food web and community stability, particularly with respect to environmental thresholds and alternate stable states; feedbacks between biotic and abiotic change; community invasibility and community collapse; ecological response to anthropogenic disturbances including climate change; carbon, nitrogen, and other biogeochemical cycles; rates of evolution; and relationships between spatial scale and the three targeted dimensions. Integration among these three dimensions is a critical aspect of all proposals.

The GeoSciences Directorate is particularly interested in projects that consider how marine biodiversity interacts with ecosystem function relative to climate change.

All projects must ensure that data and biological materials are collected, archived, digitized, and made available using methods that allow current and future investigators to address new questions as they arise. Funded projects must disseminate project data broadly, using widely accepted electronic data standards. Rapid online access to data via existing resources (e.g. Genbank) is

strongly encouraged. All PIs will be expected to adhere to appropriate standards where they exist (e.g., for taxonomic, geospatial, ecological, gene and genome sequence data). Community coordinated development of a cyberinfrastructure will enable efficient and effective access to shared, cross-disciplinary data, tools, and services. As a condition of funding, any software, images, and/or digitized data resulting from this project must be made available to the online National Resource for Digitized Collections (iDigBio.org), located at the University of Florida and funded by the ADBC program at NSF.

Proposals should focus on fundamental aspects of biodiversity research; those whose primary focus is applied in nature (e.g., food and drug development; restoration or conservation; biodiversity management) are not eligible for funding. Projects that integrate multiple dimensions of biodiversity but largely repeat or replicate existing work will not be funded. Additional examples of projects that will not be considered by this program include: 1) projects that only address the characterization of genetic diversity within a population or species; 2) projects that consist only of species surveys, inventories, or descriptions; 3) projects that only address taxonomic boundaries (e.g., species delimitation) using genetic markers; and 4) phylogenetic and/or phylogeographic studies that do not also address the genetic and functional aspects of the group(s) being studied.

The NSF continues to recognize the importance of taxonomy, systematics, evolutionary, ecological, and ecosystems research that may not be directly applicable to the Dimensions of Biodiversity activity. Proposals that address biodiversity in ways not described herein should continue to be submitted to relevant NSF programs.

#### Research Proposals

For this year's solicitation, research projects must integrate all three of these dimensions of biodiversity (Fig. 1) with the goal of understanding the interactions and feedbacks among these dimensions. Innovative approaches are encouraged in order to accelerate the characterization and understanding of these three dimensions of biodiversity and their relative importance; empirical, experimental, theoretical, and modeling approaches are all appropriate. Projects may incorporate the context provided by one or more drivers of biodiversity loss (e.g. climate change; over-exploitation of natural resources; planetary re-engineering such as land use change, water diversions, coastal development, fertilizer use; and the intentional or unintentional movement of species), although this is not a requirement of the solicitation.

Projects that develop original computational methods or technology that will be useful to a wide community of researchers (e.g., informatics, instrumentation, imaging, analysis) and other tools specific to integrative biodiversity studies are also welcomed, as are both single investigator and collaborative efforts.

If a project to characterize multiple dimensions of biodiversity and understand its ecological and evolutionary significance has a global scope, investigators are encouraged to develop international collaborations to address these challenges.

International collaborators are encouraged to seek support from their respective funding organizations. Funding guidelines for involving international collaborators allow the following expenses to be included in the NSF budget:

- \* Travel expenses for US scientists and students participating in exchange visits integral to the project.
- \* Project-related expenses for international partners to engage in research activities while in the United States as project participants.
- \* Project-related expenses for US participants to engage in research activities while abroad.

NSF has agreements with the Chinese National Natural Science Foundation to jointly support US-China International Research Coordination Network Projects and US-China International Research Projects, as described below. NSF also has signed an agreement with The State of São Paulo Research Foundation (FAPESP), Brazil to jointly support US-São Paulo Collaborative Research projects, as described below. These agreements do not preclude other international collaborations.

#### US-China International Research Coordination Networks

Dimensions of Biodiversity has an interest in funding international research coordination networks (IRCNs) that focus on US and Chinese scientists. NSF anticipates expanding this activity in the future to include other international partners, however for FY2012 IRCN proposals will only be accepted if the focus is on coordination between scientists in the US and China. NSF has partnered with NSF-China (NSFC) to support researchers in the United States and China who are interested in fostering new, international collaborations and research agendas. These investigators are encouraged to develop international research coordination networks. Such networks would support interactions among US and Chinese scientists to develop new research directions or to advance new fields of research. Groups of investigators in the United States and China may be supported to communicate and coordinate their research, training, and educational activities across disciplinary, organizational, institutional, and geographic boundaries.

The goal of an IRCN proposal should be to advance a field or create new directions in research on biodiversity. Innovative ideas for implementing novel networking strategies are especially encouraged. Groups of investigators will be supported to communicate and coordinate their research, training and educational activities across disciplinary, organizational, geographic and international boundaries. Proposed networking activities should focus on new approaches to studying biodiversity, and must address and integrate genetic, taxonomic/phylogenetic, and functional diversity.

The size of a network may vary depending on the needs of the proposed activity; inclusion of new researchers, post-doctoral researchers, graduate students, and undergraduate students is strongly encouraged. Funds may be requested to promote collaborative activities, such as short visits among member laboratories, exchange visits of students, sharing of unique facilities, establishment of a public web site, network retreats, or partial support of workshops uniquely tied to the network activities. Innovative ideas for implementing novel networking strategies to promote research collaborations and enable new research directions or advancement of a field are especially encouraged. Proposals should include information about how the network will develop or grow over the term of the project.

Additional information about goals of the Research Coordination Network program is available at the RCN website: [http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=11691](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=11691).

#### US-China Collaborative Research Projects

For FY2012 the US-China partnership will include support for research projects as well as IRCN projects. Research projects must address and integrate the three dimensions of biodiversity as described in this solicitation.

The partnership between NSF and NSFC is a component of the joint climate change research program between these two agencies. For US-China Collaborative projects, NSF will fund up to \$2,000,000 to support the activities of US researchers and NSF-China has agreed to provide up to 3,000,000 Yuan to Chinese participants. For both IRCN and research projects, the proposal budget submitted to NSF should include only the costs of US participants; the anticipated budget for Chinese participants should be submitted as a supplementary document.

For both IRCN and US-China Collaborative projects, NSF and NSF-China will each independently review the proposals and then come to agreement about which projects to support. NSF will manage the review of IRCN and US-China Collaborative project proposals in accordance with NSF policies and procedures. At the end of that review process, reviews of proposals that NSF has an interest in funding will be shared with NSFC, but reviewer names will be redacted. Coordinated support will be arranged for successful proposals by the participating organizations with NSF funding the US participants and NSFC funding Chinese participants through its standard award process.

#### US-São Paulo Collaborative Research Projects

Also new in FY2012, NSF has partnered with the São Paulo State Research Foundation (FAPESP) of Brazil to facilitate coordinated funding of up to two US-São Paulo Collaborative Research projects. These projects can focus on any topic that falls within the scope of this Dimensions of Biodiversity solicitation and the corresponding FAPESP- BIOTA call for proposals published at [<http://www.fapesp.br/biota/dimensions-NSF>]. These projects must have a 5-year duration and should take advantage of the unique and innovative opportunities offered by an international collaboration.

São Paulo state researchers applying to FAPESP under this heading must meet FAPESP eligibility requirements and must apply through an institution eligible to receive FAPESP funding. Please see FAPESP funding rules for thematic projects grant application in: [<http://www.fapesp.br/176>]. São Paulo state researchers are strongly encouraged to contact the appropriate FAPESP Program Officer to confirm that the São Paulo component fits FAPESP's requirements. Applications with non-eligible São Paulo partners will not be considered for funding as a US-São Paulo Collaborative Research project.

For a US-São Paulo Collaborative Research Project, the NSF budget may be up to \$2,000,000, and the FAPESP budget, for the project, may be up to the equivalent of U.S. \$2,000,000. The proposal budget submitted to NSF should include only the costs of US participants; the anticipated budget for São Paulo state participants should be submitted as a supplementary document. The proposal budget submitted to FAPESP should include only the costs of São Paulo participants; the anticipated budget for US participants should be submitted as a supplementary document to the proposal submitted to FAPESP. Proposal budgets submitted to NSF and FAPESP do not have to request equal funding from each agency; each proposal should have a budget that reflects the participation of scientists from each region.

For US-São Paulo Collaborative Research Projects, proposals will be shared with FAPESP during the review process. NSF will solicit suggestions for appropriate external reviewers from FAPESP, but will independently manage the review of proposals in accordance with NSF policies and procedures. Reviews will be shared with FAPESP, but reviewer names will be redacted. Coordinated support will be arranged for successful proposals by the participating organizations with NSF funding the US participants and FAPESP funding São Paulo participants through each agency's standard award process.

#### NSF-NASA Partnership for Dimensions of Biodiversity FY2012

NASA is partnering with NSF for this solicitation and will add its support to projects that incorporate substantive use of satellite remote sensing technologies. Thus, NASA will consider support for proposals that bring together satellite remote sensing and information for the three dimensions of biodiversity - genetic diversity, taxonomic/phylogenetic diversity, and functional diversity - to meet the goals of the Dimensions of Biodiversity program. Proposals seeking funding from NASA should include in their budget adequate support for the Principal Investigator to attend annual team meetings in the US of the NASA Biodiversity and Ecological Forecasting Team. NASA will participate in the review and funding of relevant proposals submitted to the Dimensions of Biodiversity solicitation in collaboration with the NSF. The NASA program manager and NSF program directors will identify relevant proposals to be considered for NASA support. NASA will recommend reviewers and potential panelists who will be considered by NSF program directors in evaluating the proposed research. The NASA program manager will observe the panel discussion for the relevant proposals. After completion of the review process, the NASA program manager and NSF program directors will decide which proposals will be recommended for funding, and what amounts of funding each agency will commit to those recommended projects. NSF will provide the full proposals and all ad hoc and panel reviews to the NASA program manager for all jointly considered projects.

No NASA funds will be used for any participation, collaboration, or coordination with China or any Chinese-owned company in any aspect of the Dimensions of Biodiversity program.

### III. AWARD INFORMATION

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

NSF anticipates that at least \$15,000,000 will be available in Fiscal Year 2012. Research awards will be up to five years duration and up to a total of \$2,000,000 for individual or collaborative projects. This upper limit does not include costs of facilities or ship time. Up to two International Research Coordination Network projects involving US and Chinese investigators will be funded at a level of up to \$600,000 over 5 years from NSF plus up to 750,000 yuan over 5 years from NSF-China. Up to two US-China Collaborative Research Project awards will be funded at a level of up to \$2,000,000 over 5 years from NSF plus up to 3,000,000 yuan from NSF-China. Up to two 5-year US-São Paulo Collaborative Research Project awards will be funded by NSF to the US components and by FAPESP (São Paulo State Research Foundation) to the São Paulo components. Each project will be funded at a level of up to \$2,000,000 by each foundation for their corresponding researchers, for a total project cost of up to \$4,000,000 over 5 years.

### IV. ELIGIBILITY INFORMATION

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#### Organization Limit:

The categories of proposers eligible to submit proposals to the National Science Foundation are identified in the Grant Proposal Guide, Chapter I, Section E.

#### PI Limit:

None Specified

Limit on Number of Proposals per Organization:

None Specified

Limit on Number of Proposals per PI:1

An individual may appear as Principal Investigator (PI), co-PI, or other senior personnel on only one proposal submitted in FY 2012 in response to this solicitation. This limitation includes proposals submitted by a lead organization, any sub-award submitted as part of a proposal, or any collaborative proposal, and this includes all types of projects. If an individual is listed as PI, co-PI, or senior personnel on more than one proposal, all of those proposals will be returned without review.

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 [nsfpubs@nsf.gov](mailto: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](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](mailto: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.4 of the Grant Proposal Guide provides additional information on collaborative proposals.

Where funding is requested for a NASA Center, or any other U.S. Federal executive agency or a Federally Funded Research and Development Center (FFRDC), the proposal must be submitted via FastLane as a collaborative proposal from multiple organizations, as outlined in the Grant Proposal Guide. If a decision is made to fund the collaborative proposal, the NSF Program Officer will administratively withdraw that part of the proposal, which is to be awarded to a NASA Center, other Federal agency, or FFRDC, as funded elsewhere. NASA would then fund and manage that portion of the proposal awarded to a NASA Center, other Federal agency, or FFRDC in accordance with NASA's interest, rules and regulations, and subject to the availability of NASA funds.

For US-São Paulo Collaborative Research Projects, an identical scientific research project description must be submitted to NSF, by the US researcher and to FAPESP by his/her SP collaborator(s).

Proposal Title: Titles of proposals submitted to the Dimensions of Biodiversity program should begin with "Dimensions: " followed by the substantive title. Titles of US-China International Research Coordination Network proposals should begin with "Dimensions IRCN: " followed by the substantive title. Titles of US-China Collaborative Research proposals should begin with "Dimensions US-China: " followed by the substantive title. Titles of US-São Paulo Collaborative Research proposals should begin with "Dimensions US-BIOTA-São Paulo: " followed by the substantive title.

Project Summary - Research proposals: For research proposals, including US-China and US-São Paulo proposals, the one-page Project Summary must address three aspects under the following three headings: Intellectual Merit, Broader Impacts, Integration. Under Integration, the project summary must explicitly summarize how the project integrates the three dimensions of biodiversity as defined in this solicitation. Proposals that do not address all three aspects in the project summary will be returned without review.

Project Summary - IRCN proposals (1 page): The Project Summary must consist of three parts: (1) a list of steering committee members along with their home institutions; (2) a succinct summary of the intellectual merit of the proposed project including the goal of the proposed network, major planned networking activities, and mechanisms for actively promoting participation by all interested parties; and (3) the broader impacts of the proposed work.

Project Description (max 15 pages): For all proposals, the project description must include:

- \* A description of how the project integrates the three dimensions of biodiversity as defined in this solicitation.
- \* Details about why the work represents an innovative approach to biodiversity research.
- \* Information about how the work will rapidly increase understanding of biodiversity.
- \* Identification of the substantial gap(s) in biodiversity knowledge that will be filled by the proposed research.

For research proposals the Project Description must include the following description of results from Prior NSF Support: If any PI or co-PI on the project has received NSF funding in the past five years, information on prior award(s) is required. Each PI and co-PI who has received more than one prior award (excluding amendments) must report on the award most closely related to the proposal. The information required is described in the GPG. Reviewers will be asked to comment on the quality of the prior work described in this section of the proposal. Please note that the proposal may devote up to five pages to describe the results, within the maximum 15 pages of Project Description. Results may be summarized in fewer than five pages, which would leave the balance of the 15 pages for the Project Description.

For IRCN proposals, the project description must also describe the following:

1. Management plan. Describe plans and procedures for the development and assessment of the proposed activity. Include formal mechanisms to ensure fair and equitable allocation of group resources. Clearly define the responsibilities for leadership and the role of the PI and the steering committee. Delineate the procedures used for the selection of initial network participants, the plans for maintaining an appropriate degree of openness and for encouraging the involvement of additional interested parties. Means for self-evaluation of progress toward the network goals should be presented as an important part of the management plan.
2. Coordination plan. If the proposed network will work with an established network or group, or if there is a similar activity being planned or ongoing in other countries, describe the plans for coordination and cooperation among the relevant networks.
3. Information and material sharing. Give careful consideration to issues related to intellectual property rights and materials sharing in the management plan. For example, if the proposed activity is expected to result in community resources (such as databases or collections of biological materials), present a clear plan for sharing of these resources not only among the network participants but with the scientific community at large. Describe plans for determining authorship or proper attribution of credit for peer-reviewed or other publications, Internet resources, etc. that may be expected to result from the activity.
4. Increasing diversity. A research coordination network is an important opportunity for encouraging the involvement of investigators from under-represented groups and investigators located in a diverse range of organizations. Describe (1) a well designed plan to increase participation of members of under-represented groups that is specific to the proposed project; (2) a plan to involve investigators at a variety of organizational settings; (3) if applicable, a plan to include new researchers, post-docs, graduate students and undergraduates; and (4) how the plans for increasing diversity are integrated with the proposed project plan.

**Budget:** Proposals Requiring Research Facilities including Ship Time: Budgets should include all costs charged to the project for platforms and facilities supporting the proposed research except those facilities separately supported by NSF (e.g. UNOLS research vessels, research aircraft, or field equipment). For research involving UNOLS vessels, a UNOLS ship request should be appended to proposals. Likewise, research involving polar regions should follow established guidelines for requesting logistical assets, as discussed in the relevant proposal solicitations (for Antarctic Sciences, see [50]NSF 09-536; for Arctic Sciences, see [51]NSF 10-503). Principal investigators are responsible for filing the appropriate requests for major research platforms; a copy of the request must be attached as an appendix to the proposal.

**Special Information and Supplementary Documentation:** Provide information such as letters of collaboration, foreign counterpart agency letters of commitment, collecting permits, environmental impact statement, and other allowed items as noted in the current issuance of the GPG. Include letters of commitment and other materials (such as the vertebrate animal care certificate, if applicable, or Memoranda of Understanding with existing collections for maintenance and archiving voucher specimens and digitized images). For Grants.gov users, supplementary documents should be attached in Field 12 of the R&R Other Project Information Form.

**Supplementary Document - Postdoctoral 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. The mentoring plan must not exceed one page. Only one Postdoctoral Mentoring Plan should be submitted for each project, even if it is a collaborative project. Proposals that do not comply with this requirement will be returned without review.

**Supplementary Document - Data Management Plan:** Each proposal must include, as a supplementary document, a data management section with the specific details of data standards, accessibility, electronic dissemination, and preservation. Of particular logistical importance (if applicable) are: plans for data collection and analysis; details of collaborative efforts; information about import, export and collecting permits; plans for providing voucher specimens; plans for digitization of specimens; agreements with existing collections for archiving and maintaining voucher specimens and digitized images of those specimens; and information about access to resources that are not immediately under the investigator's control (e.g., museum collections, research sites, computing facilities). The data management plan must not exceed two pages. Proposals that do not comply with this requirement will be returned without review (see the PAPP Guide Part I: [Grant Proposal Guide Chapter II](#) for further information about the implementation of this new requirement).

**Supplementary Documents - Letters of Collaboration:** This section may include letters of collaboration from individuals or organizations that will play an integral role in the proposed project (e.g., individuals or organizations who will provide materials, data, or analytical capabilities). Letters of collaboration should focus solely on affirming that the individual or organization is willing to collaborate on the project as specified in the project description of the proposal. No additional text, especially elaboration of the nature of activities to be undertaken by the collaborator and endorsements of the potential value or significance of the project for the collaborator, may be included. The template that must be used for the preparation of letters of collaboration is provided below. Letters of collaboration should not be provided for any individual designated as a principal investigator or senior personnel, nor are letters of collaboration required for any organization that will be a subawardee in the proposal budget. Each letter of collaboration must be signed by the designated collaborator. Requests to collaborators for letters of collaboration should be made by the PI well in advance of the proposal submission deadline, because they must be included at the time of the proposal submission. Letters deviating from this template will not be accepted and may be grounds for returning the proposal without review.

Template to be used for letters of collaboration

To: NSF Dimensions of Biodiversity Program

From: \_\_\_\_\_ (Printed name of the individual collaborator or name of the organization and name and position of the official submitting this memo)

By signing below (or transmitting electronically), I acknowledge that I am listed as a collaborator on this proposal, entitled "   (proposal title)   ," with    (PI name)    as the Principal Investigator. I agree to undertake the tasks assigned to me or my organization, as described in the project description of the proposal, and I commit to provide or make available the resources specified therein.

Signed: \_\_\_\_\_

Organization: \_\_\_\_\_



Date: \_\_\_\_\_

Supplementary Documents: IRCN and US-China Collaborative Research Proposals. Information for the Chinese portion of these proposals should be included as Supplementary Documents. That information should include the following, and only the following:

1. Biographical sketches of Chinese senior personnel: Those biographical sketches must conform to NSF format and limitations.
2. China budget: Costs for the China component of the project should be entered onto budget worksheets that conform to NSF standards. Except for justification of the requested budget, this document SHOULD NOT include any additional project information; all such information should be included in the Project Description. A PDF version of the form should be included as a supplementary document in the NSF proposal.
3. Letters of collaboration: Letters of collaboration from Chinese scientists are required. These letters must be restricted to a statement of intent to collaborate only. Additional information on the nature of the collaboration and the roles of the investigators should be included in the Project Description.
4. Institutional endorsement: An institutional certification of the submission must be a signed letter from an authorized Chinese institutional representative with the following text: "I confirm on behalf of [insert name of institution] that the U.S.-China Collaborative proposal between [insert name of US PI and institution] and [insert name of Chinese PI] is endorsed and has been submitted by [name of Research Office]."
5. An identical proposal must be submitted to NSFC by close of business on March 28, 2012.

Supplementary Documents: US-São Paulo Collaborative Research Proposals.

The full proposal must be submitted to both agencies by C.O.B. on 29 March 2012. Proposals should be prepared, formatted, and submitted in accordance with the guidelines of the agency to which they are submitted, using the appropriate cover sheet and application forms.

Information for the São Paulo state portion of the proposal should be included as Supplementary Documents in the NSF proposal. Similarly, comparable information from the NSF proposal should be included as Supplementary Documents to the proposal submitted to FAPESP. That information should include the following, and only the following:

1. FAPESP Proposal Application Form: A PDF version of the FAPESP Application Form, completed and submitted to FAPESP by the São Paulo PI, should be included as a Supplementary Document in the proposal submitted to NSF. Similarly, a PDF version of the NSF proposal cover page, completed and submitted to NSF, should be included as a Supplementary Document in the proposal submitted to FAPESP by the São Paulo PI;
2. Senior Personnel Biographical Sketches: A PDF version of the São Paulo state Senior Personnel Biographical Sketches, following the format required by FAPESP, should be included as a Supplementary Document in the proposal submitted to NSF. Similarly, a PDF version of the U.S. Senior Personnel Biographical Sketches, following the format required by NSF, should be included as a Supplementary Document in the proposal submitted to FAPESP.
3. São Paulo budget: Costs for the Sao Paulo component of the project should be entered onto budget worksheets that conform to FAPESP standards as described by the corresponding FAPESP-BIOTA call for proposals published at [<http://www.fapesp.br/biota/dimensions-NSF>]. A PDF version of the FAPESP budget worksheets should be included as a supplementary document in the NSF proposal. Similarly, a PDF version of the NSF budget pages containing the cost for the U.S. components of the project should be included as a Supplementary Document in the proposal submitted to FAPESP by the São Paulo PI. Except for justification of the requested budget, this document SHOULD NOT include any additional project information; all such information should be included in the Project Description.
4. Letters of collaboration: Letters of collaboration from São Paulo scientists are required. These letters must be restricted to a statement of intent to collaborate only. Additional information on the nature of the collaboration and the roles of the investigators should be included in the Project Description. Similarly, letters of collaboration from U.S. scientists must be included as a Supplementary Document in the proposal submitted to FAPESP.
5. Institutional endorsement: For the proposal submitted to NSF, an institutional certification of the submission should be included as a Supplemental Document. This certification must be a signed letter from an authorized São Paulo state institutional representative, and should consist of the following text: "I confirm on behalf of [insert name of institution] that the US-São Paulo Collaborative proposal between [insert name of US PI and institution] and [insert name of São Paulo PI] is endorsed and has been submitted by [name of Research Office]." Similarly, an institutional certification of the submission must be included as a Supplemental Document in the proposal submitted to FAPESP. This certification must be a signed letter from an authorized U.S. institutional representative, and should consist of the following text: "I confirm on behalf of [insert name of institution] that the US-São Paulo Collaborative proposal between [insert name of US PI and institution] and [insert name of São Paulo PI] is endorsed and has been submitted by [name of Research Office]."

Single Copy Documents: Suggested Reviewers. Provide names and contact information for 4-8 individuals who have expertise appropriate to review the proposal. Do not include the names of people with whom you have conflicts.

Single Copy Documents: Conflicts of Interest. For the PI, all Co-PIs, and all Senior Personnel, including Chinese collaborators on IRCN and US-China Collaborative Research proposals and São Paulo state collaborators on US-São Paulo Collaborative Research proposals, list all persons or institutions with which there is a conflict of interest, using an alphabetized spreadsheet with the following column headers: full name (last name first), institutional affiliation, and type of conflict (e.g., advisor, advisee, co-author in last 48 months, collaborator, institutional). Do not include the names of people with whom you do not have conflicts as this may unnecessarily limit qualified reviewers. In addition, list all subawardees who would receive funds through the Dimensions award.

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## B. Budgetary Information

Cost Sharing: Inclusion of voluntary committed cost sharing is prohibited

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## C. Due Dates

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

April 10, 2012

## 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. Comprehensive information about using Grants.gov is available on the Grants.gov Applicant Resources webpage: [http://www07.grants.gov/applicants/app\\_help\\_reso.jsp](http://www07.grants.gov/applicants/app_help_reso.jsp). 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 where they will be reviewed if they meet NSF proposal preparation requirements. 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 of interest with the proposal.

### 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 judgments.

What is the intellectual merit of the proposed activity?

How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields? How well qualified is the proposer (individual or team) to conduct the project? (If appropriate, the reviewer will comment on the quality of the prior work.) To what extent does the proposed activity suggest and explore creative, original, or potentially transformative 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?

Examples illustrating activities likely to demonstrate broader impacts are available electronically on the NSF website at: <http://www.nsf.gov/pubs/gpg/broaderimpacts.pdf>.

Mentoring activities provided to postdoctoral researchers supported on the project, as described in a one-page supplementary document, will be evaluated under the Broader Impacts criterion.

## Additional Solicitation Specific Review Criteria

For research proposals, reviewers will also be asked to evaluate whether the proposal defines a bold agenda that will use innovative approaches to integrate examination of the three dimensions of biodiversity as defined in this document. Strong plans for integration of the information and results from the project with other global data should be clearly detailed in the proposal.

For International Research Coordination Network (IRCN) proposals, reviewers will be asked to evaluate whether the project will advance a field or create new directions in research or education by implementing networking strategies to communicate and coordinate research, training, and educational activities across disciplinary, organizational, geographic, and international boundaries.

US-China and US-São Paulo Collaborative Research Projects will also be reviewed with respect to the extent to which they demonstrate substantial collaboration between the US and China or US and São Paulo partners and enhance research on the dimensions of biodiversity. The most competitive projects will be those in which the international collaboration brings substantial additional value to the project.

For all proposals involving international collaborations, reviewers will consider: mutual benefits, true intellectual collaboration with the foreign partner(s), benefits to be realized from the expertise and specialized skills, facilities, sites and/or resources of the international counterpart, and active research engagement of U.S. students and early-career researchers, where such individuals are engaged in the research or IRCN activities.

NSF staff also 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.

## **B. Review and Selection Process**

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

Reviewers will be asked to formulate a recommendation to either support or decline each proposal. The Program Officer assigned to manage the proposal's review will consider the advice of reviewers and will formulate a recommendation.

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 deadline or target date, or receipt date, whichever is later. 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 Research 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/award\\_conditions.jsp?org=NSF](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](mailto: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](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=aag).

Special Award Conditions:

For US-São Paulo Collaborative Research projects, FAPESP awardees are subject to FAPESP reporting and administration requirements as appropriate and outlined in the FAPESP Dimensions of Biodiversity/NSF-Biota/FAPESP Call for Proposals at [<http://www.fapesp.br/biota/dimensions-NSF>]. Annual and final reports of projects awarded by NSF and FAPESP should describe activities of the entire collaborative effort.

Investigators receiving NASA funds will also send copies of their annual and final reports to the designated NASA program manager. The relevant NSF and NASA program officials will review these reports and approval will be made through NSF. If an award is made to a NASA Center, any other U.S. Federal executive agency, or an FFRDC, directly through NASA, then these investigators should follow NASA's reporting requirements.

All investigators receiving NASA funding should plan on participating in annual NASA programmatic meetings in the US.

## 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, 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 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. The project outcomes report 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](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=aag).

## VIII. AGENCY CONTACTS

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*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:

- Richard Inouye, BIO/DEB, telephone: (703) 292-4974, email: [Dimensions@nsf.gov](mailto:Dimensions@nsf.gov)
- George W. Gilchrist, BIO/DEB, telephone: (703) 292-7138, email: [Dimensions@nsf.gov](mailto:Dimensions@nsf.gov)
- Matt Kane, BIO/DEB, telephone: (703) 292-7186, email: [Dimensions@nsf.gov](mailto:Dimensions@nsf.gov)
- Samuel M. Scheiner, BIO/DEB, telephone: (703) 292-7175, email: [Dimensions@nsf.gov](mailto:Dimensions@nsf.gov)
- Anne M. Maglia, BIO/DBI, telephone: (703) 292-7380, email: [Dimensions@nsf.gov](mailto:Dimensions@nsf.gov)
- Michael Sieracki, GIO/OCE, telephone: (703) 292-2688, email: [Dimensions@nsf.gov](mailto:Dimensions@nsf.gov)
- Lewis Incze, GEO/OCE, telephone: (703) 292-7585, email: [Dimensions@nsf.gov](mailto:Dimensions@nsf.gov)
- Scott Heckthorn, BIO/IOS after Jan 15, 2012, telephone: (703) 292-8420, email: [Dimensions@nsf.gov](mailto:Dimensions@nsf.gov)
- Douglas J. Levey, BIO/DEB, telephone: (703)292-5196, email: [Dimensions@nsf.gov](mailto:Dimensions@nsf.gov)
- Leslie Rissler, BIO/DEB, telephone: (703) 292-7836, email: [Dimensions@nsf.gov](mailto:Dimensions@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).

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).

Contacts for US-São Paulo Collaborative Research Projects

Dr. Samuel M. Scheiner, NSF BIO/DEB, telephone: (703) 292-7175, email: [sscheine@nsf.gov](mailto:sscheine@nsf.gov),

Dr. Patricia Brant Monteiro, Directora de Area de Ciencias Biologicas e Agrarias, Director of Biology and Agronomy, email: [patricia@fapesp.br](mailto:patricia@fapesp.br)

For specific questions involving the NASA partnership and relevance of proposals to NASA

Woody Turner, NASA/ESD, telephone: (202) 358-1662, email: [woody.turner@nasa.gov](mailto:woody.turner@nasa.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, National Science Foundation Update is a free e-mail subscription service 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 when new publications are issued that match their identified interests. Users can subscribe to this service by clicking the "Get NSF Updates by Email" link on the [NSF web site](#).

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>.

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

or telephone: (703) 292-7827

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

## PRIVACY ACT AND PUBLIC BURDEN STATEMENTS

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