

Introduction to NSF Funding

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Objectives

- Provide an overview of the agency, its different funding mechanisms and types of awards.
- Guide how to find specific funding opportunities and determine which program to submit a proposal to.
- Review NSF Proposal Components & New Guidelines/Requirements for IRB, DMPs and Collaborators & Affiliations
- Explain NSF merit review criteria and how and when to communicate with program officers.
- Provide hands-on practice searching

Agency Mission


- To promote the progress of science;
- To advance the national health, prosperity, and welfare;
- To secure the national defense.

(NSF Act of 1950)

A nation that creates and exploits new concepts in science and engineering and provides global leadership in research and education.

NSF funds Basic Science Research.

Research questions grounded in a broad theoretical framework.



Scientifically sound methods



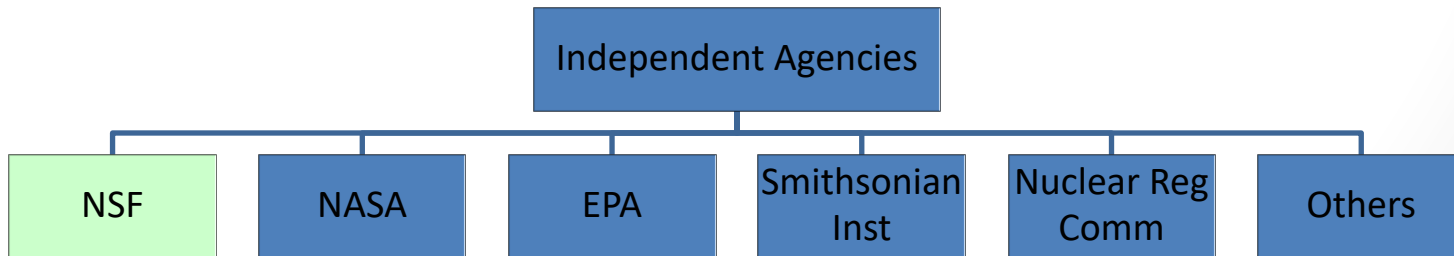
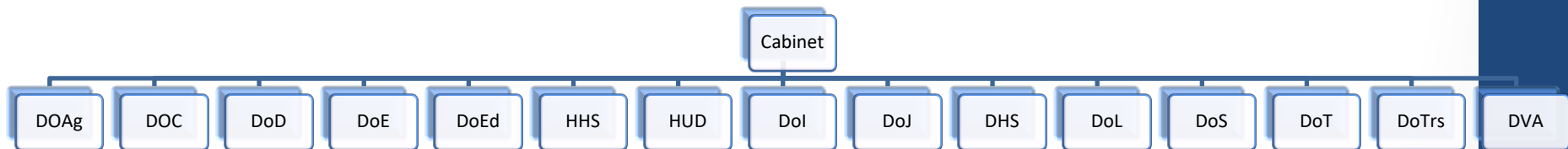
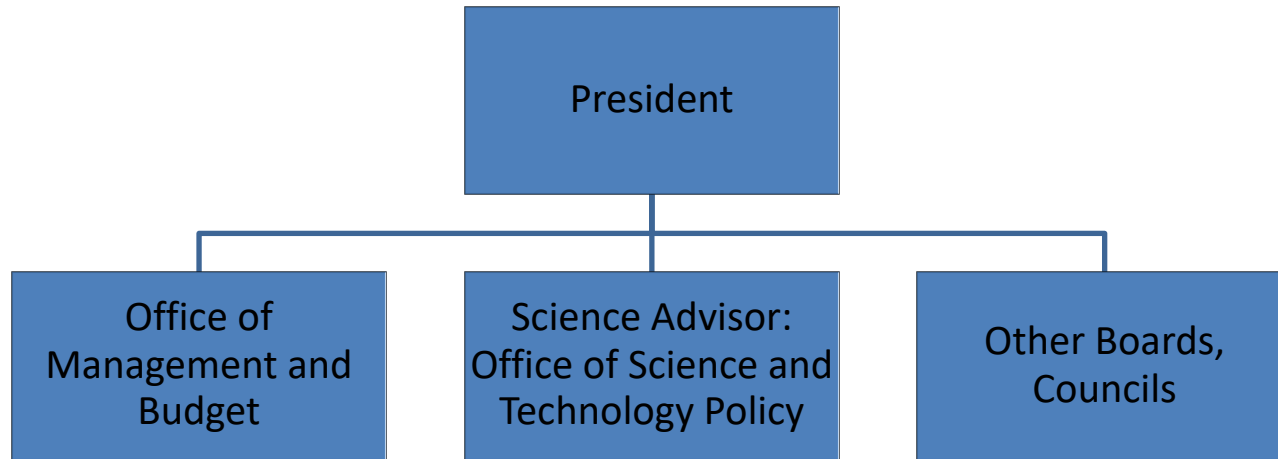
Results contribute to enhancement of broader theoretical knowledge.

NSF does not fund Clinical Research.

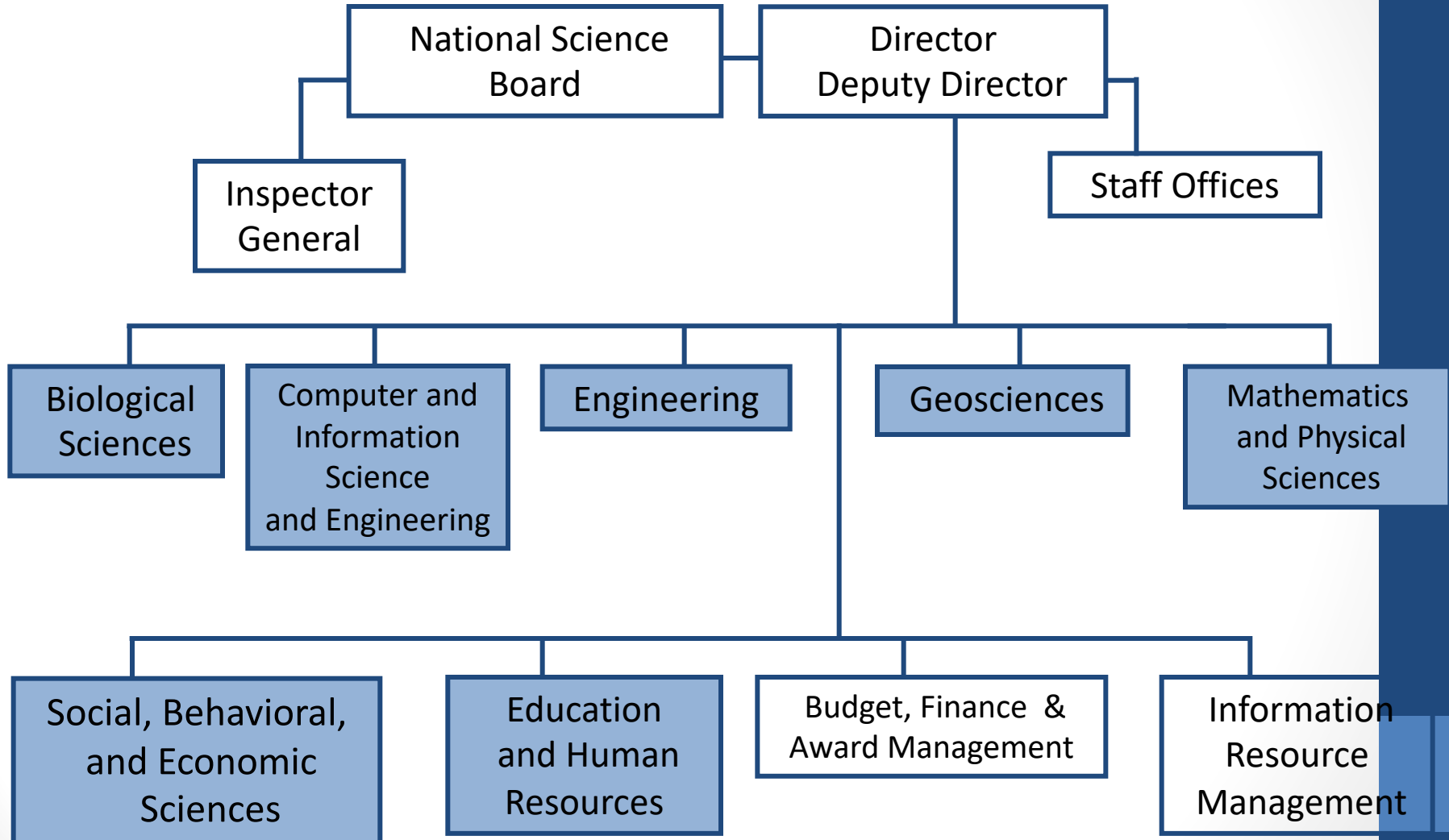
NSF does not fund Applied Research.

NSF DOES fund research using Qualitative Methods

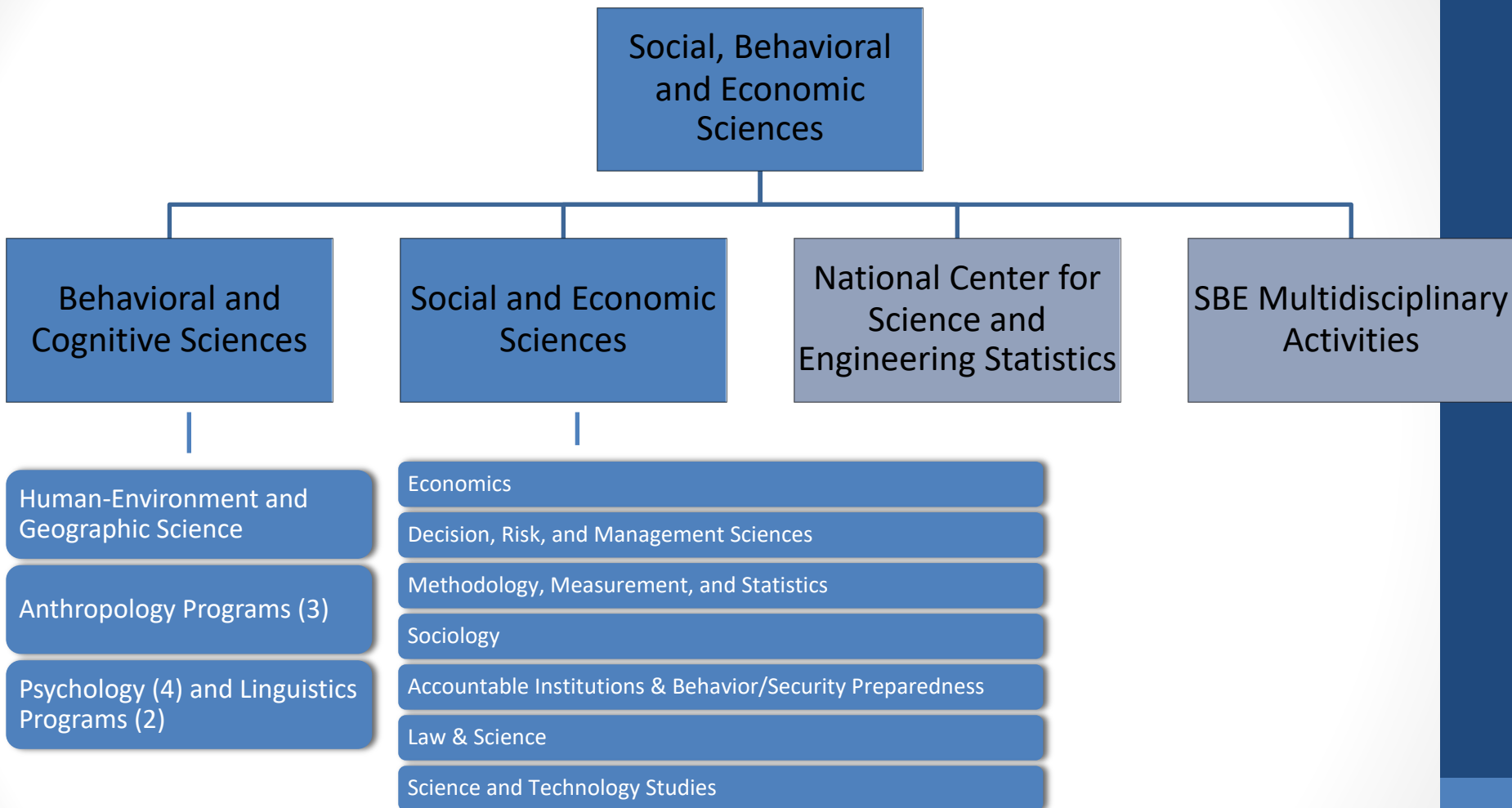
An independent agency of the Executive Branch of the U.S. Government



Agency Organization & Function



Directorates => Divisions => Programs, Sections or Clusters



=> Consult cognizant Program Officers for program specific information and READ Program Solicitations carefully!

Agency Organization & Function

- Core Programs - Disciplinary-based
- Cross-Directorate (interdisciplinary) Programs, e.g.:
 - Dynamics of Integrated Socio-Environmental Systems (CNH2)
 - Innovations at the Nexus of Food-Energy-Water (INFEWS)
 - Smart & Connected Communities (SCC)
- Special Initiatives (announced via Dear Colleague Letters):
 - Science of Broadening Participation
 - COVID RAPID funding
- International Initiatives:
 - SBE-RCUK Agreement (now SBE-UKRI)
 - Belmont Forum (e.g., Transdisciplinary Research for Ocean Sustainability)
- Rotating Program Officers (aka Director or Managers) & Merit Review Process

Funding Opportunities

Types of Proposals & Awards

- “Regular” or Standard Research
- Doctoral Dissertation Research (DDRI/DDRIG)
- New Investigators (CAREER)
- High Risk Awards (RAPID, EAGER)

- Research Community Building: Workshop, Conference, & Research Coordination Networks (RCNs)

- Training: Graduate Research Fellowships, Post-doctoral Fellowships, Research Experiences for Undergraduates (REU), International Research Experiences for Students (IRES), Research Traineeship (NRT)

- Equipment, Travel
- Facility, Center

NSF's Big Ideas for Future Investments

- Future of Work at the Human-Technology Frontier
- Growing Convergence Research
- Harnessing the Data Revolution
- Navigating the New Arctic
- Understanding the Rules of Life
- Windows on the Universe
- Quantum Leap
- Mid-scale Research Infrastructure
- NSF INCLUDES
- NSF 2026

\$30 million investment in
each in 2019

What is “Convergence Science”?

- Research driven by a specific and compelling problem [“Wicked Problems”].
- Deep integration across disciplines.
- Increasingly mentioned in new cross-directorate initiatives
- May 6, 2019 Dear Colleague Letter: Request for Information on Future Topics for the NSF Convergence Accelerator (NSF 19-065)

How to Find Funding

Search NSF.gov - <https://www.nsf.gov/>

“Research Areas”

“Funding”

- Key word search
- Browse A-Z index by title
- Browse by Research Area, Special Program
- Upcoming Due Dates
- Recent Funding
- Other

“Awards”

Sign up for alerts -

<https://service.govdelivery.com/accounts/USNSF/subscribe/new>

The NSF Proposal

Proposal Submission

- Unless otherwise specified, proposals are submitted by *Institutions* via Sponsored Research Offices (awards are made to institutions)
- Proposals may be submitted via FastLane.nsf.gov (recommended) or via Research.gov
- PIs must have a [FastLane](#) ID

The screenshot displays the FastLane NSF website interface. At the top left is the FastLane logo with the URL www.fastlane.nsf.gov. To its right is a description: "FastLane is an interactive real-time system used to conduct NSF business over the Internet. FastLane is for official NSF use only. [More About FastLane...](#)". On the top right, there are navigation links: "NSF Home | News | Site Map | FastLane Help | Grants.gov Help | Contact Us" and a "FastLane User Support" box with contact information: "(7 AM to 9 PM Eastern Time + M-F) 1-800-673-6188" and "FastLane Availability (recording): 1-800-437-7408". Below the header is a dark blue navigation bar with links: "Proposals, Awards and Status", "Proposal Review", "Panelist Functions", "Research Administration", and "Financial Functions". A secondary bar below it contains: "Honorary Awards", "Graduate Research Fellowship Program", and "Postdoctoral Fellowships and Other Programs". On the left side, there is a "Quick Link" section with several expandable items: "Special Exceptions to the NSF Deadline Date Policy Due to Natural or Anthropogenic Events", "Registration Information", "Award Search and Funding Trends", "FastLane FAQs (Opens new Browser Window)", "Grants.gov FAQ (Opens new Browser Window)", "DEMONSTRATION SITE", and "System Use Notification". The main content area on the right is titled "Advisories" and contains a notice dated "01/25/19": "ALERT: A few proposal deadlines are delayed. Click here for details. Implementation of the new PAPPG (NSF 19-1) is also delayed. Please continue using PAPPG (NSF 18-1) until further notice. (Opens new browser window)".

Important NSF Resources

- *Proposal & Award Policies & Procedures Guide (PAPPG)*

Current: NSF 20-01

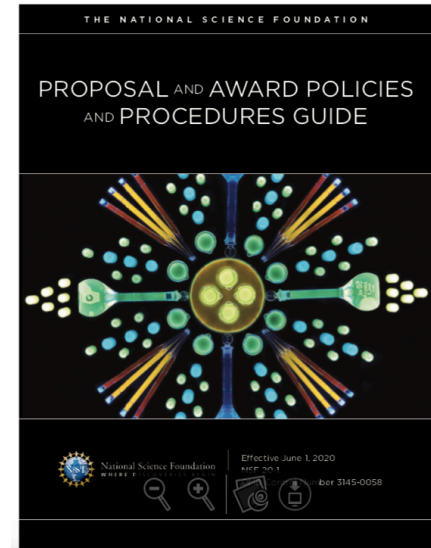
https://www.nsf.gov/pubs/policydocs/pappg20_1/nsf20_1.pdf

- Specific Program Descriptions and Solicitations

- Agency Outreach Events – see:

NSFGrantsConferences.com

=> <https://nsfpolicyoutreach.com> and program websites



Geography and Spatial Sciences Program (GSS)

PROGRAM SOLICITATION
NSF 17-566

REPLACES DOCUMENT(S):
NSF 14-537



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

September 02, 2017

First Thursday in September, Annually Thereafter

Proposal submission deadline

IMPORTANT INFORMATION AND REVISION NOTES

This solicitation provides instructions for submission of proposals to the Geography and Spatial Sciences (GSS) Program. In the following kinds of awards: regular research awards, awards for conferences, group travel and research community-development activities, research coordination network (RCN) awards, and faculty research awards (FARA) awards. This solicitation also provides guidance with respect to the preparation of faculty early-career development (CAREER) award proposals to GSS, although CAREER proposals are submitted under the terms of the NSF-wide CAREER solicitation.

GSS continues to conduct one annual competition for new proposals for regular research project awards, awards for conferences, group travel, and research community-development activities, and research coordination networks. The deadline for submission of these kinds of proposals is the first Thursday in September, as identified in this solicitation. GSS conducts one annual competition for CAREER proposals in accordance with the proposal submission deadline date specified in the CAREER solicitation. GSS will consider FARA proposals at any time, although investigators must discuss the relevance for submitting a FARA proposal with GSS program directors, and they must receive approval from a GSS program director to submit a formal FARA proposal.

A different solicitation includes instructions for preparation of proposals of Doctoral Dissertation Research Improvement (DDRI) proposals to be submitted to GSS (effective 10/1/2017). It is cooperative with the GSS-DDRI solicitation. DDRI proposals may be submitted to GSS at any time after July 1, 2017. Only DDRI proposals can be submitted to GSS at any time and subject to prior contact between the investigator and GSS program director.

This solicitation notes special review criteria that GSS asks reviewers, and panel members to address regarding the expected larger-term significance of a project as well as its likelihood of success. Although the wording of these criteria is slightly different than in the previous GSS solicitation, their substance remains the same.

This solicitation provides clarification regarding proposal preparation for submission to the Geography and Spatial Sciences Program. If a project is being undertaken by researchers at multiple organizations, a single organization must be identified as the prime, and a single principal investigator for the entire project must be identified by that organization, with funds distributed among partner organizations as subawards from the prime organization. Direct submission of related collaborative sets of proposals by multiple organizations is not permitted.

Any proposal submitted in response to this solicitation should be submitted in accordance with the revised NSF Proposal & Award Policies & Procedures Guide (PAPPG) (NSF 17-1), which is effective for proposals submitted, or due, on or after January 26, 2018.

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Parts of an NSF proposal

- Title (be succinct; avoid cute titles)
- Cover sheet (listing PI and co-PIs if any)
- Project Summary (1 page: Overview, Intellectual Merit & Broader Impacts)
- Table of Contents
- Project Description (15 pages for Regular and CAREER, see specific program solicitations for others; sections for IM and BI)
- References cited
- Biographical Sketches (PI and co-PI) – **New template as of 10/20**
- Budget
- Budget Justification
- Current and Pending Support (for PI, co-PIs, and other senior personnel) – **New template as of 10/20**
- Facilities, Equipment, and Other Resources
- Data Management Plan (Max. 2 pages)
- Special Information and Supplementary Documentation
- Collaborators and Other Affiliations

Data-Management Plan

- The **types of data**, samples, physical collections, software, curriculum materials, and other materials to be produced in the course of the project;
- The **standards** to be used for data and metadata format and content (where existing standards are absent or deemed inadequate, this should be documented along with any proposed solutions or remedies);
- **Policies for access and sharing**, including provisions for appropriate protection of privacy, confidentiality, security, intellectual property, or other rights or requirements;
- Policies and provisions for **re-use, re-distribution**, and the production of derivatives; and
- Plans for **archiving data**, samples, and other research products, and for preservation of access to them.

PIs should make all other data, software, and other products of the research readily available to potential users **through institutionally based** archives, repositories, and/or distribution networks so that the **products may be easily accessed by others over long time periods.**

Other Things to Be Aware Of

- Collaborators & Other Affiliations
 - Excel template that must be used – see PAPPG
 - Purpose: to identify persons and institutions with whom PIs have *Conflicts of Interest*, so follow directions!
- IRB Human Subjects Approval
 - Required for issuance of an award (not proposal review). However, changes to the “Common Rule” (45 CFR 690) now allow provisional approval in some cases.
- Sexual Harassment Policy
 - Requires institutions/organizations receiving NSF awards to fully investigate complaints and comply with federal non-discrimination laws, regulations, and executive orders.
 - Will require awardee organizations to notify NSF of any findings/determinations of sexual harassment, other forms of harassment, or sexual assault regarding an NSF funded PI or co-PI.

NSR Merit Review Criteria

Intellectual Merit & Broader Impacts

- **Intellectual Merit:** Potential to advance knowledge
 - To what extent do the proposed activities suggest and explore creative, original, or *potentially transformative concepts*?
 - Is the plan for carrying out the proposed activities well-reasoned, well-organized, and based on a *sound rationale or methodology*?
- **Broader Impacts:** Potential to benefit society and contribute to the achievement of specific desired societal outcomes.
- Program-specific Special Review Criteria (READ the solicitation!!!)

Examples of Broader Impacts

- Improved STEM education and/or educator development
- Development of a diverse scientific workforce
- Enhanced infrastructure for research & education
- Increased public scientific literacy and/or public engagement with science and technology
- Knowledge, products, and other contributions of direct value to society
- Enhanced international scientific collaborations
- Contributions to public policy; national security; improved U.S. economic competitiveness

When and How to Communicate with a Program Officer

An institution with real people who welcome inquiries and communication

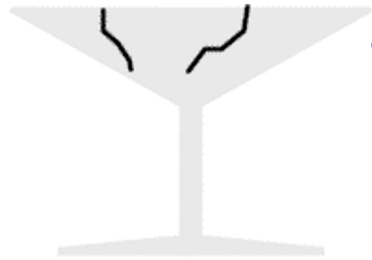


New Headquarters – 2415 Eisenhower Ave., Alexandria, VA

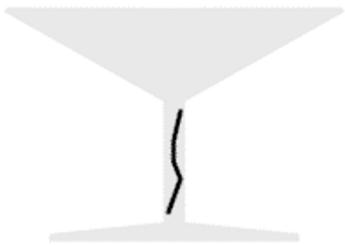
- Email first - DON'T cold call
- Send a 1-2 page project prospectus.
- Ask for feedback on relevance for program, not substance of project.
- Read all information available online first – DON'T ask questions for information that is readily available on the program or agency website.
- For co-review by 2 or more programs, contact all relevant POs in a single message.

QUESTIONS?

Why Proposals Are Declined



- Failure to establish a sound theoretical framework and/or poorly related to relevant literature.



- Flawed research design OR failure to specify research methods in sufficient detail. Often, plans for data analysis are insufficient.



- Sound theoretical framework, solid methodology, but they don't align with each other.

Other Reasons

- Failure to respond to solicitation
- Failure to follow directions
- The project is too focused on a specific case
- Project is “too applied”
- Anticipated contribution incremental
- Bad Luck

General Tips

- Present a compelling problem and a detailed plan for investigating it.
- Convey enthusiasm and passion for the project, but don't exaggerate.
- Include contingency plans.
- It's not (about) You. It's (about) the Science.