NSF Funding Webinar - Social, Behavioral, and Economic Sciences

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Deputy Assistant Director, SBE

National Science Foundation

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Welcome to all Attendees!

- Georgetown University
- Catholic University of America
- George Mason University
- Central Washington University
- NASEM
- NIIF
- SFS
- UC Berkeley
- University Maryland at Baltimore County
- University of the District of Columbia
- University of Virginia
- And more...



NSF in a Nutshell

- Created by Congress in 1950 "to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense..."
- Annual budget of about \$8.1 billion (Fiscal Year 2019) funds approximately 24 percent of all federally supported basic research conducted by America's colleges and universities





Leadership and Organization



Dr. Sethuraman Panchanathan NSF Director

The National Science Board





NSF Organization

Directorates

- Biological Sciences
- Computer & InformationScience & Engineering
- Education & Human Resources
- Engineering
- Geosciences
- Mathematical & Physical Sciences

Social, Behavioral & Economic Sciences

Office of the Director

- Legislative & Public Affairs
- General Counsel
- Integrative Activities
- International Science and Engineering
- Diversity and Inclusion

Administrative Offices

- Budget, Finance, and Award Management
- ► Information & Resource Management

NSF Funds All Fields of Science & Engineering



Biological Sciences



Engineering



Mathematical & Physical Sciences



Computer & Information Science & Engineering



Geosciences (including Polar Programs)



Integrative Activities



Education & Human Resources



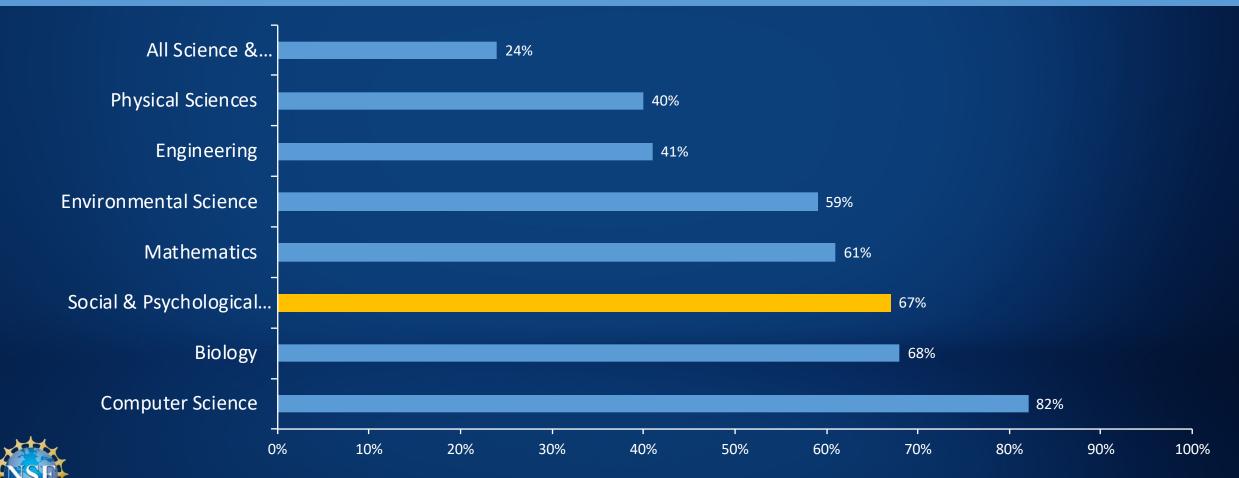
Social, Behavioral & Economic Sciences (SBE)



International Science and Engineering



NSF Support of Academic Basic Research in Selected Fields



Directorate for Social, Behavioral and Economic

Sciences



Arthur "Skip" Lupia

Assistant Director



Kellina Craig-Henderson

Deputy Assistant Director

Behavioral and Cognitive Sciences



Marc Sebrechts
Division Director

- Archaeology
- Biological Anthropology
- Cultural Anthropology
- Human Networks and Data Science
- Social Psychology
- Cognitive Neuroscience
- Developmental Sciences
- Science of Learning and Augmented Intelligence
- Linguistics & Dynamic Language Infrastructure
- Perception, Action and Cognition

Social and Economic Sciences



Daniel Goroff
Division Director

- Economics
- Accountable Institutions and Behavior
- Security and Preparedness
- Sociology
- Decision, Risk and Management Sciences
- Law and Sciences
- Methodology, Measurement and Statistics
- Science of Organizations Studies
- Secure & Trustworthy Cyberspace
- Ethical and Responsible Research

National Center for Science and Engineering Statistics



Emilda Rivers

<u>Division Director</u>

- Measuring
 - The Nation's Investment in R&D
- The education and workforce characteristics of scientists and engineers
- Developing indicators of the Nation's competitiveness and innovation capacity
- Supporting research on the science and technology enterprise

Office of Multidisciplinary
Activities

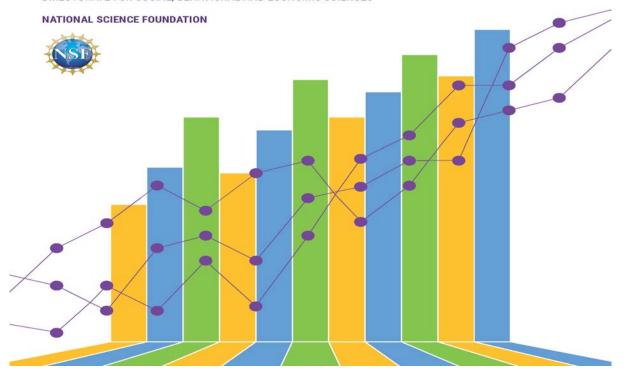
- Research Experiences for Undergraduates Sites
- SBE Postdoctoral Research Fellowships
- Science of Science : Discovery, Communication & Impact



The STEM Workforce and Talent Landscape

2019 | WOMEN, MINORITIES, AND PERSONS WITH DISABILITIES IN SCIENCE AND ENGINEERING

NATIONAL CENTER FOR SCIENCE AND ENGINEERING STATISTICS DIRECTORATE FOR SOCIAL, BEHAVIORAL AND ECONOMIC SCIENCES





NSF and SBE's Response to the COVID-19 Pandemic

RAPID funding mechanism

CARES Act

73 awards = \$9.5M With regular appropriations 200 awards = \$27M

University of Memphis RAPID: Systemic Differences in **Employee Outcomes** from COVID-19 and the Effectiveness of Organizational Response

The COVID-19 pandemic has forced millions of employees to: (a) work remotely, (b) continue to work in low-paying "essential" work, at great risk to their own health, or (c) face sudden unemployment.

This research will study how these changes have impacted people from different demographic and socioeconomic backgrounds.



New York University **RAPID: Examining** public spatial behavior during the COVID-19 outbreak

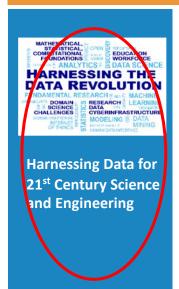
Social distancing measures have taken on a sense of urgency in population-dense metropolitan areas, which host a large portion of the COVID-19 cases.

This research captures how new forms of spatial behavior emerge, while testing how existing theories of spatial behavior hold under extraordinary circumstances. This will be done by capturing and coding immersive, first-person, geolocated videodiaries of metropolitan residents going about their daily streetscape activity, as life shifts to adapt to new social distancing and curfew orders.



NSF's TEN Big Ideas

RESEARCH IDEAS







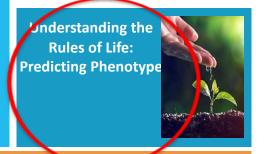








Quantum Leap: Leading the Next Quantum Revolution



" ... bold questions that will drive NSF's long-term research agenda — questions that will ensure future generations continue to reap the benefits of fundamental S&E research."

PROCESS IDEAS

Mid-scale Research Infrastructure









Growing Convergence Research at NSF



NSF INCLUDES: Enhancing STEM through Diversity and Inclusion



The SBE sciences are engaged in most of the 10 Big Ideas!

- Harnessing the Data Revolution
- Future of Work at the Human Technology Frontier
- Navigating the New Arctic
- Rules of Life
- INCLUDES
- Mid-Scale Research Infrastructure
- Growing Convergence Research
- NSF 2026

- Windows on the Universe
- Quantum Leap



Harnessing the data revolution for 21st-Century science and engineering



There are three principal components of the Harnessing the Data Revolution big idea:

- Research across all NSF Directorates
- 2. Educational pathways Innovations grounded in an education-research-based framework
- 3. Advanced cyberinfrastructure accelerating data-intensive research



The Future of Work at the Human-Technology Frontier

"...to understand and explain how constantly evolving technologies are changing the world of work and the lives of workers and how people can in turn shape those technologies"

Research Themes

- Building the human-technology partnership
- Augmenting human performance
- Illuminating the socio-technological landscape
- Fostering lifelong learning





Navigating the new Arctic (NNA)



- Establishing an observing network of mobile and fixed platforms and tools across the Arctic
- Documenting and understand the Arctic's rapid biological, physical, chemical, and social changes

Understanding the Rules of Life



Rules that explain and predict living systems.

- Cross spatial, temporal, organizational scales
- Interaction of biological components and environment





INCLUSION ACROSS THE NATION OF COMMUNITIES OF LEARNERS THAT HAVE BEEN UNDERREPRESENTED DISCOVERERS IN ENGINEERING AND SCIENCE (NSF INCLUDES)

- Long-term goal: fund new research, models, and partnerships that lead to demonstrable progress in meeting the challenge of broadening participation in science and engineering
- FY 2016
 - NSF INCLUDES Network Design & Devt Pilots
 - NSF INCLUDES Alliances
- FY 2017
 - NSF INCLUDES Alliances
 - NSF INCLUDES Backbone Organization
 - Supplements to link projects in current portfolio





NSF Cross Directorate Research Priorities

Understanding the Brain (UtB)



Smart and Connected Communities (S&CC)



Cyberlearning for Work at the Human-Technology Frontier (Cyberlearning)

Integrative Strategies for Understanding Neural and Cognitive Systems (NCS)



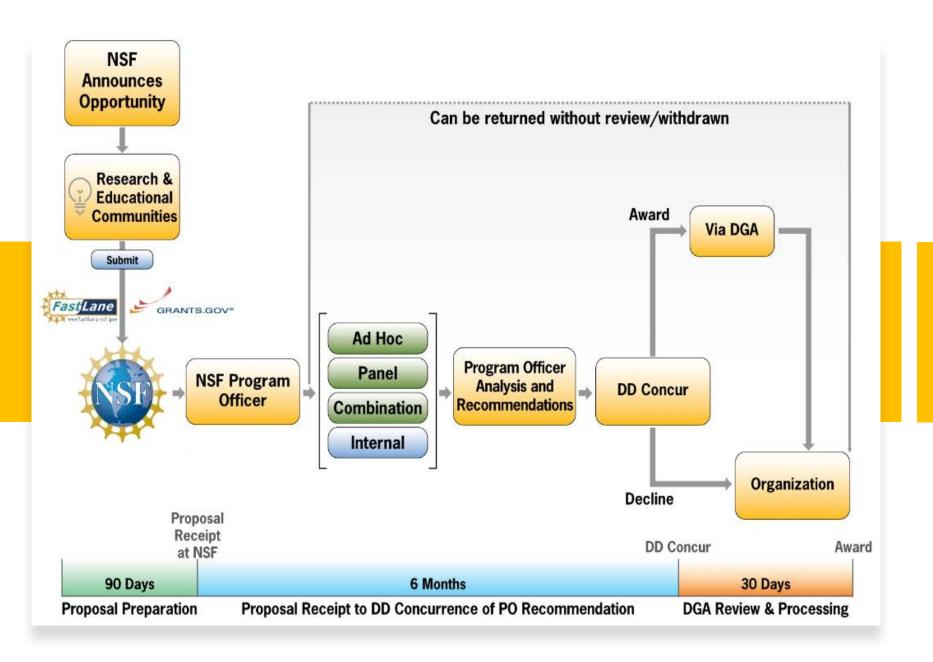
Innovation Corps (I-Corps)





NSF Programs for Graduate Students and newer Pls

- Doctoral Dissertation Research Improvement Grants (DDRIG)
- Postdoctoral Research Fellowships
- Graduate Research Fellowships
- National Science Foundation Research Traineeship (NRT) Program*
- Robert Noyce Teacher Scholarship Program
- PI standard awards*



Standard Submission Process

* There are some exceptions to submission procedures (e.g., individual awards such as postdoctoral fellowships)



Navigating NSF Documents/ Websites



Review the SBE Programs Page: https://nsf.gov/funding/programs.jsp?org=SBF





Find the Right Program (e.g., DS program

webpage)

Who is the Program Director'

How do you contact the Program Director? ——

How do you apply? The Program Description vs. Solicitation

When do you apply?



Developmental Sciences (DS)

CONTACTS

Name of the last o	Email	Phone	Room
Chalandra Bryan - Program Director	cbryant@nsf.gov	(703) 292-8457	995-39
Kenyatta Johnson - Pgm. specialist	kenjohns@nsf.gov	(703) 292-4850	

PROGRAM GUIDELINES

Apply to PD 08-1698 as follows:

For full proposals submitted via FastLane: standard NSF Proposal & Award Policies & Procedures Guide proposal preparation guidelines apply.

For full proposals submitted via Grants.gov: the NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov Guidelines applies. (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)

Important Information for Proposers

ATTENTION: Proposers using the Collaborators and Other Affiliations template for more than 10 senior project personnel will encounter proposal print preview issues. Please see the Collaborators and Other Affiliations Information website for updated quidance.

A revised version of the NSF Proposal & Award Policies & Procedures Guide (PAPPG) (NSF 18-1), is effective for proposals submitted, or due, on or after January 29, 2018. Please be advised that, depending on the specified due date, the guidelines contained in NSF 18-1 may apply to proposals submitted in response to this funding opportunity.

DUE DATES

Target date or deadline?

January 15, 2019

Full Proposal Target Date

January 15, Annually Thereafter

July 15, 2019

Find the right program: (scrolling down....)

How do I know if my research is relevant to a particular program?

SYNOPSIS

DS supports basic research that increases our understanding of cognitive, linguistic, social, cultural, and biological processes related to human development across the lifespan. Research supported by this program will add to our knowledge of the underlying developmental processes that support social, cognitive, and behavioral functioning, thereby illuminating ways for individuals to live productive lives as members of society.

DS supports research that addresses developmental processes within the domains of cognitive, social, emotional, and motor development across the lifespan by working with any appropriate populations for the topics of interest including infants, children, adolescents, adults, and non-human animals. The program also supports research investigating factors that affect developmental change including family, peers, school, community, culture, media, physical, genetic, and epigenetic influences. Additional priorities include research that: incorporates multidisciplinary, multi-method, microgenetic, and longitudinal approaches; develops new methods, models, and theories for studying development; includes participants from a range of ethnicities, socioeconomic backgrounds, and cultures; and integrates different processes (e.g., memory, emotion, perception, cognition), levels of analysis (e.g., behavioral, social, neural), and time scales.

The budgets and durations of supported projects vary widely and are greatly influenced by the nature of the project. Investigators should focus on innovative, potentially transformative research plans and then develop a budget to support those activities, rather than starting with a budget number and working up to that value.

While there are no specific rules about budget limitations, a typical project funded through the DS program is approximately 3 years in duration with a total cost budget, including both direct and indirect costs, between \$100,000 and \$200,000 per year. Interested applicants are urged to explore the NSF awards database for the DS program to review examples of awards that have been made.

The DS program also accepts proposals for workshops and small conferences. These typically have total cost budgets, including direct and indirect costs, of approximately \$35,000.

In addition to consulting the NSF awards database, it is often useful for interested applicants to submit (via email) a summary of no more than one page so that the Program Director can advise the investigator on the fit of the project for DS prior to preparation of a full proposal. New Investigators are encouraged to solicit assistance in the preparation of their project proposals via consultation with senior researchers in their area, pre-submission review by colleagues, and attendance at symposia and events at professional conferences geared towards educating investigators seeking federal funding.

RELATED PROGRAMS

Facilitating Research at Primarily Undergraduate Institutions

Faculty Early Career Development Program

What Has Been Funded (Recent Awards Made Through This Program, with Abstracts)

Map of Recent Awards Made Through This Program

News

Click this!

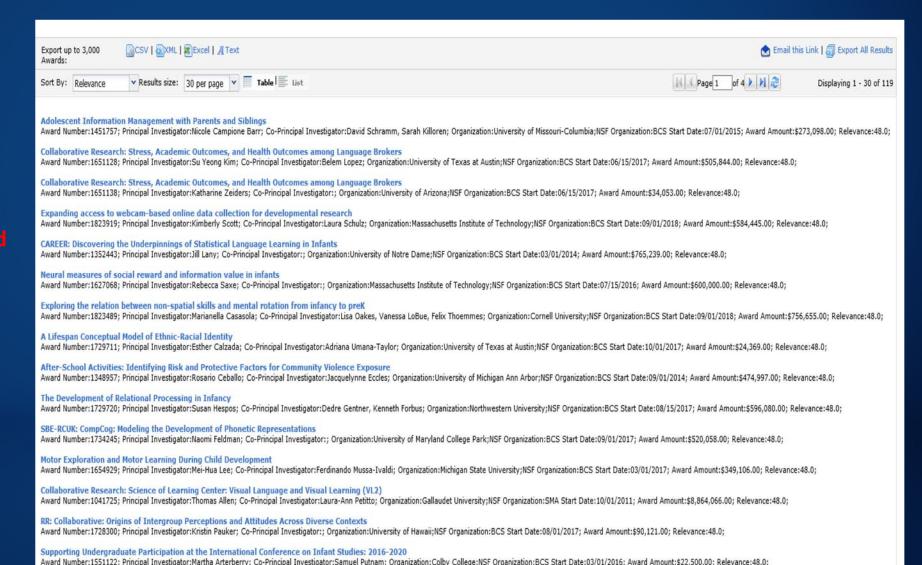


Find the Right Program: Awards recently made

What has been funded through a particular program?

Click on a title to get the abstract





Find the Right Program: Abstracts of Awards

You can review the abstracts of awards made through a particular program.

Recently Made

Chalandra Bryant BCS Division Of Behavioral and Cognitive Sci SBE Direct For Social, Behav & Economic Scie
September 1, 2018
August 31, 2021 (Estimated)
\$756,655.00
Marianella Casasola mc272@cornell.edu (Principal Investigator)
Lisa Oakes (Co-Principal Investigator)
Vanessa LoBue (Co-Principal Investigator)
Felix Thoemmes (Co-Principal Investigator)
Cornell University
373 Pine Tree Road
Ithaca, NY 14850-2820 (607)255-5014
DS - Developmental Sciences
1698
1698

ABSTRACT

Mental rotation, the ability to mentally manipulate a visual representation of an object and recognize its appearance from a different orientation, shows stability from infancy through preschool. This ability predicts mathematical achievement in kindergarten and beyond as well as entry into the Science, Technology, Engineering, and Mathematics (STEM) fields. The present work focuses on identifying how non-spatial processes contribute to mental rotation abilities. Findings will help identify ideal time points for intervention, advance understanding of the factors that contribute to mental rotation, and address how individual differences in mental rotation during infancy predict later abilities. This work will involve the creation and refinement of measures that can be used to trace the development of mental rotation from infancy into preschool; thereby, not only contributing new tools to the field, but also yielding insights that can inform current theoretical conceptions of mental rotation and its relation to non-spatial processes.

The critical research question is as follows: What are the non-spatial processes that contribute to mental rotation abilities and their development? Associations between mental rotation, object features, processing bias, and motor experience will be examined using a cross-sequential design with overlapping age cohorts. The investigators will recruit an infant cohort at 8 months, a toddler cohort at 20 months, and a preschool cohort at 3 years. Each cohort will be assessed at three time points -- every six months for infants (i.e., 8, 14, and 20 months), every 8 months for toddlers (i.e., 20, 28, and 36 months), and every year for preschoolers (3, 4, and 5 years). When examined at a specific age, the sample will provide a snapshot into the association between mental rotation and non-spatial skills (i.e., object features, processing bias, and motor experience). The longitudinal design will allow the investigators to follow participants across infancy, toddlerhood, or the preschool years. This approach provides an opportunity to understand how non-spatial skills, such as more precocious motor skills during infancy, may shape mental rotation over time. Such findings are central to bolstering understanding of the possible mechanisms by which particular types of

Note:

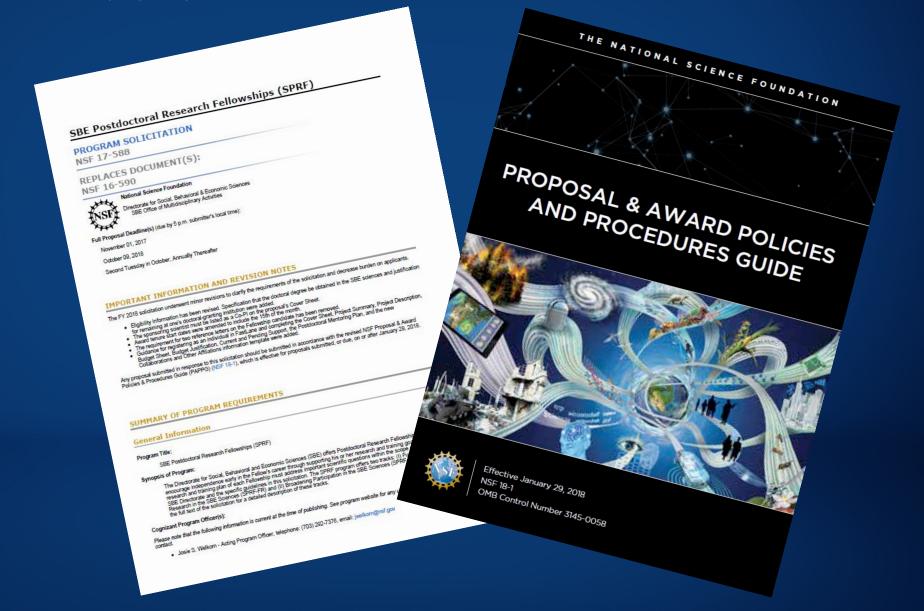
- Program Manager
- Duration
- Awarded amount
- Co-funded?
- Topic area



Preparing your Application



Before you apply... READ!!!





Next Steps

After you have narrowed down to programs that match your area of research and you have read the program page and (solicitation):

If you are unsure regarding whether your work fits a given program, reach out to that Program Director by EMAILING a 1-page summary of your planned research project (IM and BI). Get feedback about project fit with program goals

Email ALL relevant programs in a SINGLE email.

Request a phone meeting if the program is a good fit.

- Make this request EARLY (well before the deadline)
- Follow-up if you have not heard back within 1- week
- Ask about other relevant programs and initiatives



Starting a Grant Submission: Your University Submits the Grant Proposal, Not You!

- Start your budget and figure out the direct costs on the activities that you have planned.
- Email your Sponsored Research Office
 - Get a Fastlane ID and log in and start on shorter, but required documents
 - Bring your budget draft to make sure that all necessary costs are included in calculations.
 - Find out what your campus requires for routing timelines and internal approvals are needed. Many campuses require grants to be signed off before the actual grant deadline. Plan for this time.
- Be nice to your SRO



Your Sponsored Research Office (SRO)

- The Sponsored Research office is the authority on the universities' guidelines for research proposals submission to outside entities. They are also instrumental in obtaining official signatures and Fastlane submission.
- Your SRO can help you understand requirements (sections required, page limits, etc.)
- SROs help to develop your budget and determine annual and total costs (includes direct costs to carry out the project and indirect costs – a rate negotiated by your institution and NSF)



Typical Components of an NSF Grant Proposal

- Cover Page
- Project Summary (1 page)
- Table of Contents (auto-generated)
- Project Description (15 pages)
- References cited
- Biographical sketches (for all senior PIs on the project)
- Budget
- Current and Pending Support
- Facilities, Equipment, and other Resources
- Post-doctoral mentoring Plan (if applicable)
- Data Management Plan
- Supplemental Documentation (if applicable—no letters of support)

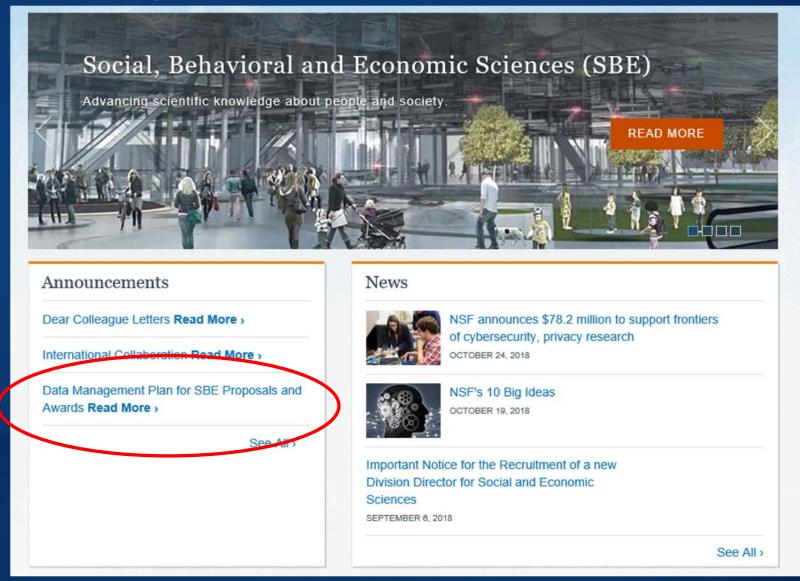
Collaborators and Other Affiliators Document

^{*} Programs may deviate from this list – be sure to read the solicitation closely

Defining the Proposal Budget

- Be attentive to the PAPPG and the different budget categories and what they allow.
- Starting your grant proposal with the budget will help you determine what the scope of the activities are
- Personnel costs, whether PI salary, graduate assistantships, or postdocs, add up quickly once the salary, fringe, and IDC are calculated
- Work with your SRO to understand what costs are allowable, what costs are required (for example, fringe or tuition), and what the final total will be once IDC is calculated

SBE Data Management Plan





NSF Review Criteria

Intellectual Merit -Encompasses the potential to advance knowledge Broader Impacts Encompasses the potential
to benefit society and
contribute to the
achievement of specific,
desired societal outcomes



Intellectual Merit

- Will the proposed activity advance basic science, knowledge, and understanding within its own field or across different fields?
- Is the project likely to be successful?
 - Qualifications of the proposer/ team
 - Sufficient access to resources
- To what extent does the proposed activity explore creative and original concepts?
- How well-conceived and organized is the proposed activity?

Broader Impacts: the potential to benefit society and contribute to the achievement of specific, desired societal outcomes

- Demonstrate societal impacts with specificity
- Disseminate results broadly to enhance scientific and technological understanding
- Make data available to others, where applicable/appropriate (public access)
- Enhance the infrastructure for research and education, such as facilities, instrumentation, networks and partnerships
- Broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)
- Promote teaching, training and learning



- Overlooking key aspects of the program announcement and requirements
- Lacking specificity about methods and/ or predictions
- Underdeveloped or vague data analysis plan
 - Disconnect between framing/ motivation and proposed activity
 - Failing to establish feasibility
 - Not tailoring your proposal to the appropriate audience (disciplinary vs. multidisciplinary panel)



Common Myths

- NSF only funds scholars at elite institutions
- NSF only funds "famous" academics
- Once declined, always declined
- Advisory committees make funding decisions

Your Proposal is Declined. What now?

- Develop a thick skin.
- Take time to digest the reviews and then get back up and plan to resubmit if you can address weaknesses noted in the reviews
 - Persistence can pay off!
- Carefully consider how you will address all weaknesses (you don't get extra space) or whether you need to reformulate the project
- Schedule a time to talk to the program director (after you have had time to digest the reviews) to discuss the appropriateness and plans for resubmission



Questions





Thank you!

Kellina Craig-Henderson, Ph.D.

Deputy Assistant Director

Directorate for Social, Behavioral and Economic Sciences (SBE)

(http://www.nsf.gov/dir/index.jsp?org=SBE)

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