

National Science Foundation Funding Opportunities and Grant-writing Tips for Social, Behavioral, and Economic Scientists

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National Science Foundation

- 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 \$7 billion



Social, Behavioral and Economic Sciences Directorate

- 1 of 7 NSF Directorates
- Annual budget of approximately \$254 million
- Funds more than 50% of federally funded basic research in SBE fields in academic institutions
- Most of the funds go to peer-reviewed grants to individuals and small groups
- Also provides funding to major surveys; collect data on the science and engineering enterprise



Social and Economic Sciences

Behavioral and Cognitive Sciences **National Center for Science** and Engineering Statistics



Social and Economic Sciences Division

- Sociology
- Political Science
- Economics
- Law and Social Sciences (LSS)
- Science of Organizations (SoO)
- Decision, Risk, and Management Science (DRMS)
- Methodology, Measurement, and Statistics (MMS)
- Science, Technology, and Society (STS)



Behavioral and Cognitive Sciences Division

- Archaeology
- Cultural Anthropology
- Social Psychology
- Geography and Spatial Sciences (GSS)
- Linguistics
- Cognitive Neuroscience
- Developmental and Learning Sciences (DLS)
- Documenting Endangered Languages
- Biological Anthropology
- Perception, Action, and Cognition (PAC)



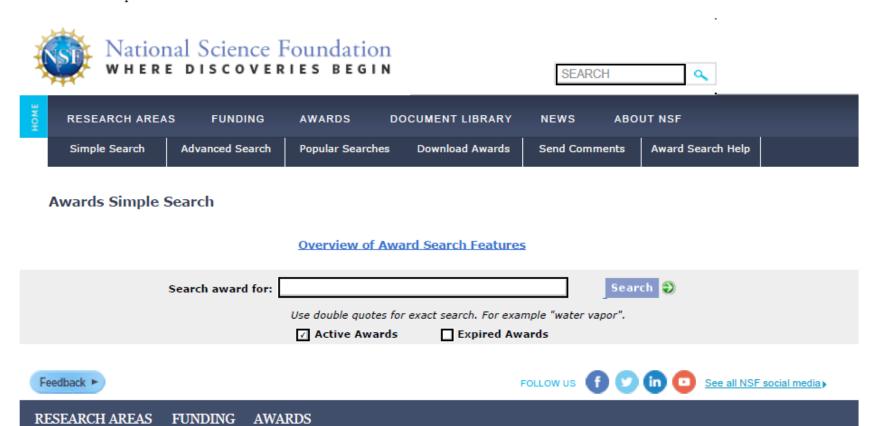
Check program dates

- Sociology Regular panel submissions
 - August 15
 - January 15

- Sociology DDRIG (Doctoral Dissertation Research Improvement Grants)
 - October 15
 - February 18 (invited R&R from fall submissions)

Homework assignment

NSF Award Search: Simple Search.

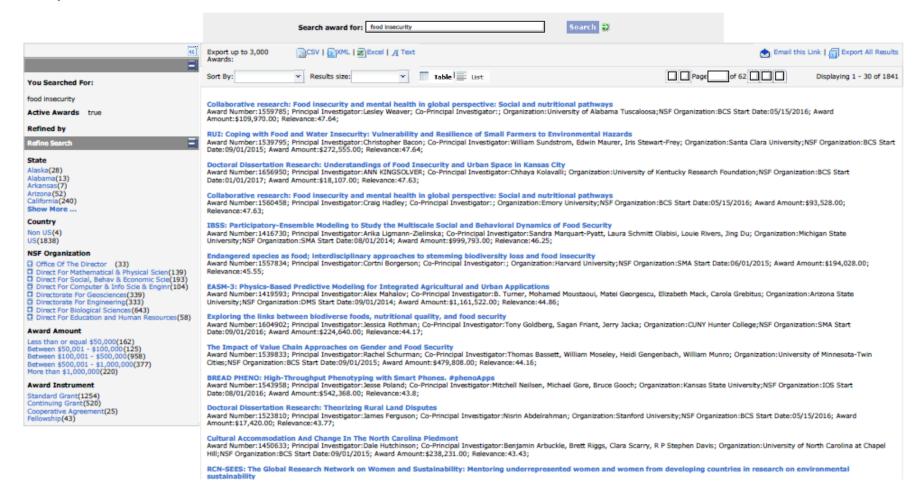




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SEARCH

Simple Search Results





Where to start with writing a proposal?

- A basic idea
 - Research questions/ hypotheses
 - Literature
 - Methodology
- Check to see what awards have been previously funded (<u>www.nsf.gov/awardsearch/</u>)
- Decide which program



In crafting your proposal, work towards a focused, clear research design.

Theoretical approach and current status of research on the topic.

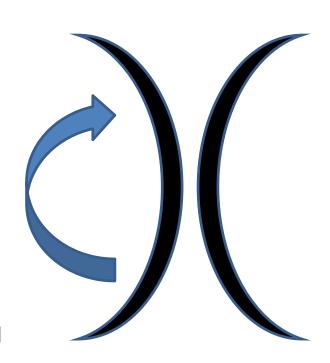
Pose research questions and/ or define hypotheses to be tested.

Select methods to answer questions or test hypotheses.

Data collection and analysis

Specifically address how the proposed data analysis will answer questions or test hypotheses.

Make the case for intellectual merit (innovation and contribution to current science) and broader impacts (benefit to society)



Be sure to pay attention to ...



- Data Management Plan (DMP)
 - All proposals must describe plans for data management and sharing
 - Fastlane will not allow submission of a proposal missing a plan.

Postdoctoral Mentoring Plan

- If request money for a postdoc, must have plan as supplementary doc (1 page)
- IRB (Human Subjects) Clearance
 - No award involving human subject can be made without IRB approval or exemption.
 - This approval is not needed at the time of proposal application, but Pis are urged to have their approval pending.



Proposal Tips

- Give yourself plenty of time
 - Do not expect to be successful by "throwing something together at the last minute"
 - Proposal writing is a craft
- Focus on theoretical foundations and prospective theoretical contributions of the project.
- Build in a strong case for societal benefits.
- Make sure the budget is well justified.
- Target the right program; ask for co-reviews.

Peer Review

- Share with colleagues and get feedback
- Remove jargon and highly technical language
- A well written proposal demonstrates the quality of work you do
- The proposal is your presentation of self

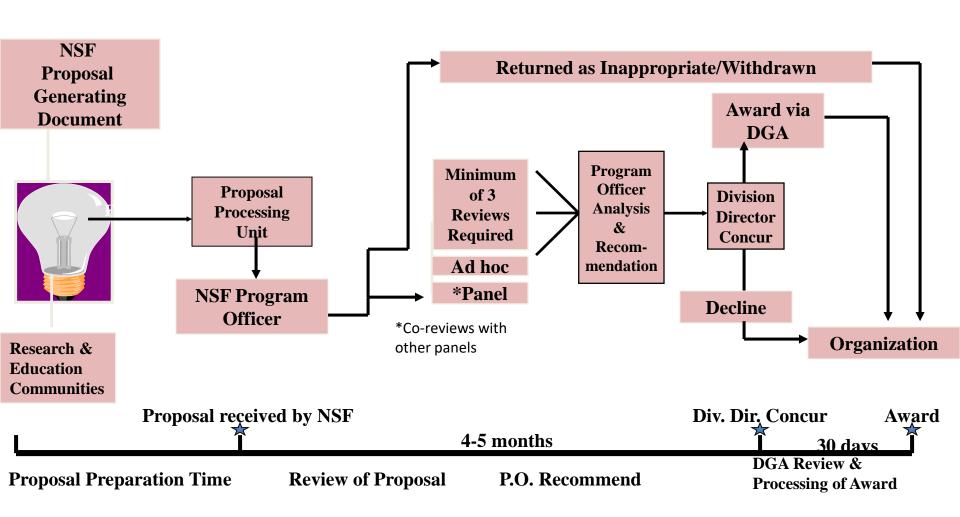


Merit Review & Data management plan

- Intellectual Merit
 - (Potential to advance knowledge)
- Broader Impact
 - (Potential to benefit society and contribute to specific, desired societal outcomes)
- Data Management Plan
 - (sharing data, coding schemes, analysis strategies; archiving to assure replication of findings)



Proposal Processing





Homework Assignment

- Become familiar with NSF's submission rules and review criteria
 - NSF Proposal & Award Policies & Procedures Guide PAPPG).
 - https://www.nsf.gov/pubs/policydocs/pappg17_1 /index.jsp
 - (NEW in Jan 2017!!)



Consider opportunities to involve students

- Doctoral Dissertation Improvement Grants (DDRIGs)
- Research Experiences for Undergraduates (REU)
 - REU Supplements: Awards added onto senior awards to sponsor undergraduate student research
 - REU Sites: training programs, often in the summer months, for teaching research methods to undergrads



CAREER Proposals

CAREER Solicitation (NSF 11-690)

- Available in all NSF programs
- Untenured faculty (or comparable)
- Single scholar award
- \$400,000, 5-years minimum award
- Three CAREER proposals lifetime limit
- Mid to late July deadline (varies by discipline and year)
- High Prestige/High Expectations
- Presidential Early Career Awards for Scientists and Engineers (PECASE)



Early-concept Grants for Exploratory Research (EAGER)

- Exploratory work on untested, potentially transformative ideas
- High-risk, high-potential payoff
- \$300,000 maximum; 2 years
- Eight page description
- Internal review required; external optional
- Contact program officer first
- "Your eagerness to get NSF funding is not a good reason to request an EAGER award."
- "Many programs prefer you to submit proposals that undergo merit evaluation by peers before you argue that your ideas are so innovative and unorthodox that they can't be evaluated fairly through normal evaluation processes."



Grants for Rapid Response Research (RAPID)

- Research when data are ephemeral
- \$200,000 maximum; 1 year
- 5 page project description
- Internal review required; external optional
- Available in all programs
- Contact program officer first
- "Wanting the money rapidly is not a good reason to request a RAPID award."

For proposals wishing to capture and analyze ephemeral data, urgency with regard to availability of, or access to data, facilities or specialized equipment, including quick-response research on natural or anthropogenic disasters and similar unanticipated events

Smart & Connected Communities

 The goal of this Smart & Connected Communities (S&CC) solicitation is to support strongly interdisciplinary, integrative research and research capacity-building activities that will improve understanding of smart and connected communities and lead to discoveries that enable sustainable change to enhance community functioning.



Innovations at the Nexus of Food, Energy and Water Systems (INFEWS)

INFEWS is to catalyze well-integrated *interdisciplinary* and convergent research to transform scientific understanding of the FEW nexus.

- Significantly advance our understanding of the food-energy-water system through quantitative, predictive and computational modeling, including support for relevant cyberinfrastructure;
- Develop real-time, cyber-enabled interfaces that improve understanding of the behavior of FEW systems and increase decision support capability;
- Enable research that will lead to innovative solutions to critical FEW systems problems; and
- Grow the scientific workforce capable of studying and managing the FEW system, through education and other professional development opportunities.



Research Advanced by Interdisciplinary Science and Engineering Proposal (RAISE)

RAISE is a type of proposal that may be used to support bold, interdisciplinary projects whose:

- Scientific advances lie in great part outside the scope of a single program or discipline, such that substantial funding support from more than one program or discipline is necessary.
- Lines of research promise transformational advances.
- Prospective discoveries reside at the interfaces of disciplinary boundaries that may not be recognized through traditional review or co-review.



Resource Implementations for Data Intensive Research in the Social Behavioral and Economic Sciences (RIDIR)

As part of NSF's Cyberinfrastructure Framework for 21st Century Science and Engineering (CIF21) activity, the Directorate for Social, Behavioral and Economic Sciences (SBE) seeks to develop user-friendly large-scale next-generation data resources and relevant analytic techniques to advance fundamental research in SBE areas of study



Looking Ahead: Ten Big Ideas







Work at the Human-Technology Frontier: Shaping the Future

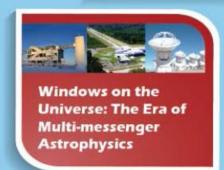


Understanding the Rules of Life: Predicting Phenotype

RESEARCH IDEAS

The Quantum Leap: Leading the Next Quantum Revolution





PROCESS IDEAS



Growing Convergent Research at NSF



NSF-Includes: Enhancing Science and Engineering through Diversity



Mid-scale Research Infrastructure



NSF 2050: Seeding Innovation

Division of Social and Economic Sciences (SES)

- Supports research to develop and advance scientific knowledge focusing on economic, legal, political and social systems, organizations, and institutions
- Supports research on the intellectual and social contexts that govern the development and use of science and technology

Current Division Director: Daniel Sui

Sociology

- The Sociology program supports theoretically-grounded research on systematic
 patterns of social relationships that examine the causes and consequences of human
 behavior, social structure and social change. Studies range from micro to macro levels
 of interaction.
- Topics include, but are not limited to:
 - ✓ Stratification, labor markets, mobility, social change
 - ✓ Organizations, networks, economic and workplace change
 - ✓ Crime, delinquency, social organization and social control
 - ✓ Race, ethnicity, social identity/interactions, culture, education
 - ✓ Family, gender, population, migration, immigration
 - ✓ Social movements, political processes, globalization and more
- The Program supports research that uses the range of social science methodologies —
 experimental, quantitative, qualitative and the combinations of multiple methods—for
 original data collection and secondary data analysis.

Program Officers: Kay Meyer, Marie Cornwall

Law and Social Science

- Supports social scientific studies of law and law-like systems of rules, institutions, processes, and behaviors
- Topics can include, but are not limited to
 - research designed to enhance the scientific understanding of the impact of law
 - human behavior and interactions as these relate to law
 - the dynamics of legal decision making
 - the nature, sources, and consequences of variations and changes in legal institutions

Program Officers: Scott Barclay, Mark Hurwitz

Division of Behavioral and Cognitive Sciences

- Supports research to develop and advance scientific knowledge focusing on human cognition, language, evolution, social behavior, and culture
- Supports research on the interactions between human societies and the physical environment

Cultural Anthropology

- Promotes basic scientific research on the causes and consequences of human social and cultural variation
- Supports social scientific research of theoretical importance in all theoretical and empirical subfields
 - Socio-cultural drivers of processes such as deforestation, land cover change, urbanization, and poverty
 - Conflict, cooperation
 - Cultural and social contexts of health and disease

Program Officers: Deborah Winslow, Jeff Mantz

Geography and Spatial Sciences

- Supports research on geographic distributions and interactions of human, physical, and biotic systems on the earth's surface;
- Encourages investigations into the nature, causes, and consequences of human activity and natural environmental processes across a range of scales;
- Funds international and domestic projects which make contributions toward advancing geographic and spatial scientific theory.

Program Officers: Tom Baerwald, Antoinette WinklerPrins



QUESTIONS?

Search the website, www.nsf.gov, then feel free to contact a program officer in a program that you feel you are interested in for further information. Email communication is generally preferred.



Program Information

- The following slides are for your reference
 - The first set offer greater detail on new SBE efforts
 - The second set provides a brief sense of SBE Program and Program Officer names.
- Word to the Wise:
 - Dates, names, etc. change. Double check on websites.

Economics

Supports:

 Both empirical and theoretical economic analysis as well as work on methods for rigorous research on economic behavior



- Research designed to improve the understanding of the processes and institutions of the U.S. economy and of the world system of which it is a part
- Almost all subfields of economics including: econometrics, economic history, finance, industrial organization, international economics, labor economics, public finance, macroeconomics, and mathematical economics

Current Program Officers: Nancy Lutz,

Seung-Hyun,

Kwabena Gyimah-Brempong

Decision, Risk, & Management Sciences

- Supports research that explores fundamental issues in judgment and decision making, risk analysis, management science, and organizational behavior
- Research must be relevant to an operational or applied context, grounded in theory, and based on empirical observation or subject to empirical validation

Current Program Officers: Robert O'Connor, Mary Rigdon

Science of Organizations

- SoO funds research that advances the fundamental understanding of how organizations develop, form and operate.
- Supports research which uses theory combined with empirical validation.
- Looks to expand the concepts, models and methodologies of change in organizations and institutions



Current Program Officer: Quinetta Roberson

Methodology, Measurement, and Statistics

- Seeks proposals that are interdisciplinary in nature, methodologically innovative, and grounded in theory, such as:
 - Models and methodology for social and behavioral research
 - Statistical methodology/modeling directed towards the social and behavioral sciences
 - Methodological aspects of procedures for data collection

Current Program Officer: Cheryl Eavey

Political Science

- Supports scientific research that advances knowledge and understanding of citizenship, government, and politics
- Substantive areas include, but are not limited to:
 - American government and politics
 - comparative government and politics
 - international relations
 - political behavior
 - political economy
 - political institutions
- Supports Doctoral Dissertation Research Improvement Grants

Current Program Officers: Brian Humes and Tim

Science, Technology and Society

STS considers proposals that examine questions that arise in the interactions of engineering, science, technology, and society.

There are four components:

- Ethics and Values in Science, Engineering and Technology (EVS)
- History and Philosophy of Science, Engineering and Technology (HPS)
- Social Studies of Science, Engineering and Technology (SSS)
- Studies of Policy, Science, Engineering and Technology (SPS)

The components overlap, but are distinguished by the different scientific and scholarly.

Program Officers: Fred Kronz, Wenda