

National Science Foundation 101

DR. STEVEN BRECKLER, PROGRAM DIRECTOR, BCS, NSF SBE
SBRECKLE@NSF.GOV

DR. ANNA FISHER, PROGRAM DIRECTOR, BCS, NSF SBE
AVFISHER@NSF.GOV

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U.S. National Science Foundation
Directorate for Social, Behavioral and
Economic Sciences

Mission History



Addressing two urgent challenges to our nation:

1. Lack of opportunity for every talent that is present in our nation (all ethnicities and geographic areas)
2. Lack of jobs and innovation in the U.S.



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NSF's 3 Major Priorities



STRENGTHENING
ESTABLISHED NSF

With **investments that expand the frontiers of knowledge and technology.**



INSPIRING THE MISSING
MILLIONS

Using **interventions and capacity building** that enhance and broaden participation.



ACCELERATING TECHNOLOGY
AND INNOVATION

Through innovative, **cross-cutting partnerships** and programs.

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The Federal Research Funding Landscape



Supporting . . .

- ☐ Basic research across all fields of fundamental science and engineering, *except the medical sciences*
- ☐ Scientific infrastructure (supercomputers, telescopes, and state-of-art tools)
- ☐ STEM education and training



National Institutes of Health
Turning Discovery Into Health

Supporting Research on . . .

- ☐ Causes, diagnosis, prevention and cure of human diseases
- ☐ Processes of human growth and development
- ☐ Biological effects of environmental contaminants
- ☐ Mental, addictive and physical disorders



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Drawing a (Fuzzy) Line

Biological research on mechanisms of disease in humans, including on the etiology, diagnosis, or treatment of disease or disorder, is normally not supported. Biological research to develop animal models of such conditions, or the development or testing of procedures for their treatment, also are not normally eligible for support.

However, research with etiology, diagnosis- or treatment-related goals that advances knowledge in engineering, mathematical, physical, computer, or information sciences is eligible for support.

-- PAPPG (NSF 24-1)



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Where is Child Development Research at NSF?

Directorate for Social, Behavioral, and Economic Sciences (SBE)



Division of Behavioral and Cognitive Sciences

- Developmental Sciences (DS)
- Perception, Action, and Cognition (PAC)
- Cognitive Neuroscience
- Social Psychology (SP)
- Human Networks and Data Science (HNDS)
- Linguistics
- Science of Learning and Augmented Intelligence (SL)



Division of Social and Economic Sciences

- Law and Science (LS)
- Decision, Risk, and Management Sciences (DRMS)
- Accountable Institutions and Behavior (AIB)
- Measurement, Methodology, and Statistics (MMS)



Where is Child Development Research at NSF?

Directorate for STEM Education (EDU)

- Division of Research on Learning in Formal and Informal Settings (DRL)
 - EDU Core Research (ECR)
 - Discovery Research PreK-12 (DRK-12)
 - Innovative Technology Experiences for Students and Teachers (ITEST)
 - Research on Innovative Technologies for Enhanced Learning (RITEL)
 - Advancing Informal STEM Learning (AISL)
- Division of Equity and Excellence in STEM Education (EES)
 - Experiential Learning for Emerging and Novel Technologies (ExLENT)
 - Racial Equity in STEM Education (EHR Racial Equity)
 - EPSCoR Centers of Research Excellence in Science and Technology (EPSCoR CREST Centers)



Where is Child Development at NSF?

Directorate for Computer and Information Science and Engineering (CISE)

- Human-Centered Computing (HCC)
 - Human-Technology Interfaces
 - Computing for Creativity
 - Computer-Mediated Communication
 - Assistive and Adaptive Technology
 - Social Impacts of Computing
- Robust Intelligence (RI)
 - Artificial Intelligence
 - Computer Vision
 - Human Language Technologies
 - Computational Neuroscience

Directorate for Biological Sciences (BIO)

- Behavioral Systems
 - Animal Behavior
- Developmental Systems
 - Animal Developmental Mechanisms
- Neural Systems
 - Nervous System Organization
 - Behavioral Plasticity
 - Social/Emotional Regulation of Behavior
 - Neuroendocrine and Neuroimmune Function
- Physiological and Structural Systems
 - Whole-Organism Physiological Mechanisms



Where is Child Development Research at NSF?

Many Cross-Cutting Programs

- Smart and Connected Health
- Strengthening American Infrastructure
- Growing Convergence Research
- Collaborative Research in Computational Neuroscience
- Secure and Trustworthy Cyberspace



Social Psychology Program

SBE / BCS



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Social Psychology Program

Supports research & research infrastructure with strong potential for creating transformative advances in the *basic understanding of human social behavior*.

Among the many research topics supported are social cognition, attitudes, social and cultural influence, stereotypes, motivation, decision making, group dynamics, aggression, close relationships, social and affective neuroscience, social psychophysiology, emotions, prosocial behavior, health-related behavior, and personality and individual differences.

Research samples should represent substantial ranges of ethnicities, socioeconomic backgrounds, cultures and other dimensions of human populations.

Interdisciplinary, multidisciplinary and convergent research approaches are encouraged.

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Developmental Sciences Program

SBE / BCS



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Developmental Sciences Program

Supports basic research that advances our *understanding of developmental processes* within the domains of perceptual, cognitive, neural, social, emotional, language, and motor development *across the lifespan* by working with any appropriate populations for the topics of interest including infants, children, adolescents, adults (including aging populations), and non-human animals.

Supports research investigating *factors that affect developmental processes*, including family, peers, school, community, culture, media, physical, genetic, and epigenetic influences.

The program does not support research focused primarily on health outcomes.



Developmental Sciences Program

- ❑ New Program Solicitation from Feb 14, 2024
 - ❑ Clarifies budgetary guidelines
 - ❑ Limits number of submissions from the same PI/co-PI per review cycle
 - ❑ Introduces new guidance about:
 - ❑ Describing and motivating sampling choices
 - ❑ Describing anticipated constraints on generalizability
 - ❑ Describing cultural competence within the research team for proposals that include participants from groups underrepresented in developmental science research



Special Recent Opportunities from SBE: Dear Colleague Letters (DCL)

[DCL: Stimulating Diversification in Language Science Research](#)

[DCL: Expanding Geographic and Institutional Diversity in Social, Behavioral and Economic Sciences](#)

[DCL: The Social and Behavioral Science of Bias, Prejudice and Discrimination](#)

[DCL: Catalyzing Human-Centered Solutions through Research and Innovation in Science, the Environment, and Society](#)

[DCL: Funding Opportunities for Science and Engineering Research with Impact on Women's Health](#)

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How to Identify Good Fit with a Program?

- ☐ Explore different program descriptions & solicitations on the NSF website
- ☐ Sign up for NSF updates to receive announcements about new DCLs and initiatives
- ☐ Contact a Program Officer to assess program fit with your proposed project
 - ☐ Send a 1-page concept note that addresses both NSF merit review criteria
 - ☐ Ideally, do this well ahead of anticipated deadlines!



NSF Proposal Submission & Merit Review Processes

PHASE I

PROPOSAL
PREPARATION
AND SUBMISSION
90 DAYS

1

OPPORTUNITY
ANNOUNCED

2

PROPOSAL
SUBMITTED

3

PROPOSAL
RECEIVED

PHASE II

PROPOSAL
REVIEW AND
PROCESSING
6 MONTHS

4

REVIEWERS
SELECTED

5

PEER
REVIEW

6

PROGRAM OFFICER
RECOMMENDATION

7

DIVISION
DIRECTOR
REVIEW

PHASE III

AWARD
PROCESSING
30 DAYS

8

BUSINESS
REVIEW

9

AWARD
FINALIZED

Proposal & Award Policies & Procedures Guide (PAPPG)



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Types of Proposals to NSF

NSF supports many different types of proposals for researchers at different career stages

Each Program description/solicitation lists the types of proposals accepted by that program

For example, DS program supports (for full list see DS program solicitation):

- Standard Research Proposals
- Conference/Workshop Proposals (by invitation)
- Faculty Early Career Development (CAREER) Program Proposals
- Rapid Response Research (RAPID) Proposals
- Early-concept Grants for Exploratory Research (EAGER) Proposals

Opportunities for Early Career Researchers

NSF has a number of funding opportunities for graduate students.

NSF Graduate Research Fellowship Program (GRFP) supports outstanding graduate students who are pursuing full-time research-based master's and doctoral degrees in STEM or in STEM education.

- GRFP Solicitation
- NSF GRFP Youtube channel

Doctoral Dissertation Research Improvement Grants (DDRIG): Some NSF programs offer grants to doctoral students, including several programs in SBE: Linguistics; Methodology Measurement & Statistics

- Learn more about programs that offer DDRIG grants

NSF offers Postdoctoral Research Fellowships to support independent postdoctoral research

- Learn more about SBE Postdoctoral Research Fellowships program

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PHASE I – PROPOSAL PREPARATION AND SUBMISSION

~ 90 DAYS

- ❑ All funding opportunities are announced on the NSF website and Grants.gov. Program Descriptions, Program Announcements and Program Solicitations are mechanisms used by NSF to generate proposals.
- ❑ NSF receives proposals via Research.gov and routes them to the appropriate programs.
 - ❑ A proposal may be returned without review if it does not meet NSF proposal preparation requirements such as page limitations and formatting instructions as specified in the PAPPG or program solicitation.



PHASE II – PROPOSAL REVIEW AND PROCESSING ~ 6 MONTHS

- ❑ All NSF proposals are reviewed through use of the two NSF-approved merit review criteria: **Intellectual Merit** and **Broader Impacts**. Some solicitations may have additional review criteria.
 - ❑ The Intellectual Merit criterion encompasses the potential to advance knowledge.
 - ❑ The Broader Impacts criterion encompasses the potential to benefit society.
- ❑ Both review criteria are given *full consideration*
- ❑ External reviewers' analyses and evaluation of the proposal provide information to the NSF Program Officer in making a recommendation regarding the proposal.



NSF Five Review Elements

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



More on Broader Impacts



➤ Inclusion

Increasing and including the participation of women, persons with disabilities and underrepresented minorities in STEM.



➤ STEM education

Improving education and educator development — at any level — in science, technology, engineering and mathematics.



➤ Public engagement

Increasing public scientific literacy and public engagement with STEM.



➤ Societal well-being

Improving the well-being of individuals in society.



➤ STEM workforce

Developing a more diverse, globally competitive STEM workforce.



➤ Partnerships

Building partnerships between academia, industry and others.



➤ National security

Improving national security.



➤ Economic competitiveness

Increasing the economic competitiveness of the U.S.



➤ Infrastructure

Enhancing infrastructure for research and education.

❑ [NSF broader impacts framework](#)

❑ [Dear Colleague Letter: A Broader Impacts Framework for Proposals Submitted to NSF's Social, Behavioral, and Economic Sciences Directorate](#)

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NSF Review & Decision Processes

- ☐ NSF programs obtain the input of external reviewers via:
 - ☐ “Ad hoc” review only
 - ☐ Panel review only
 - ☐ “Ad hoc” + Panel review

- ☐ NSF program officers consider the input of reviewers as one of several factors when making funding recommendations to award or decline proposals
 - ☐ Since NSF receives more highly rated proposals than can be funded each year, program officers strive to build a portfolio of awarded projects that invests in diverse ideas, funds a mix of experienced and early-career researchers, supports research across the entirety of the nation, and builds research capacity at institutions that have historically received less federal research funding

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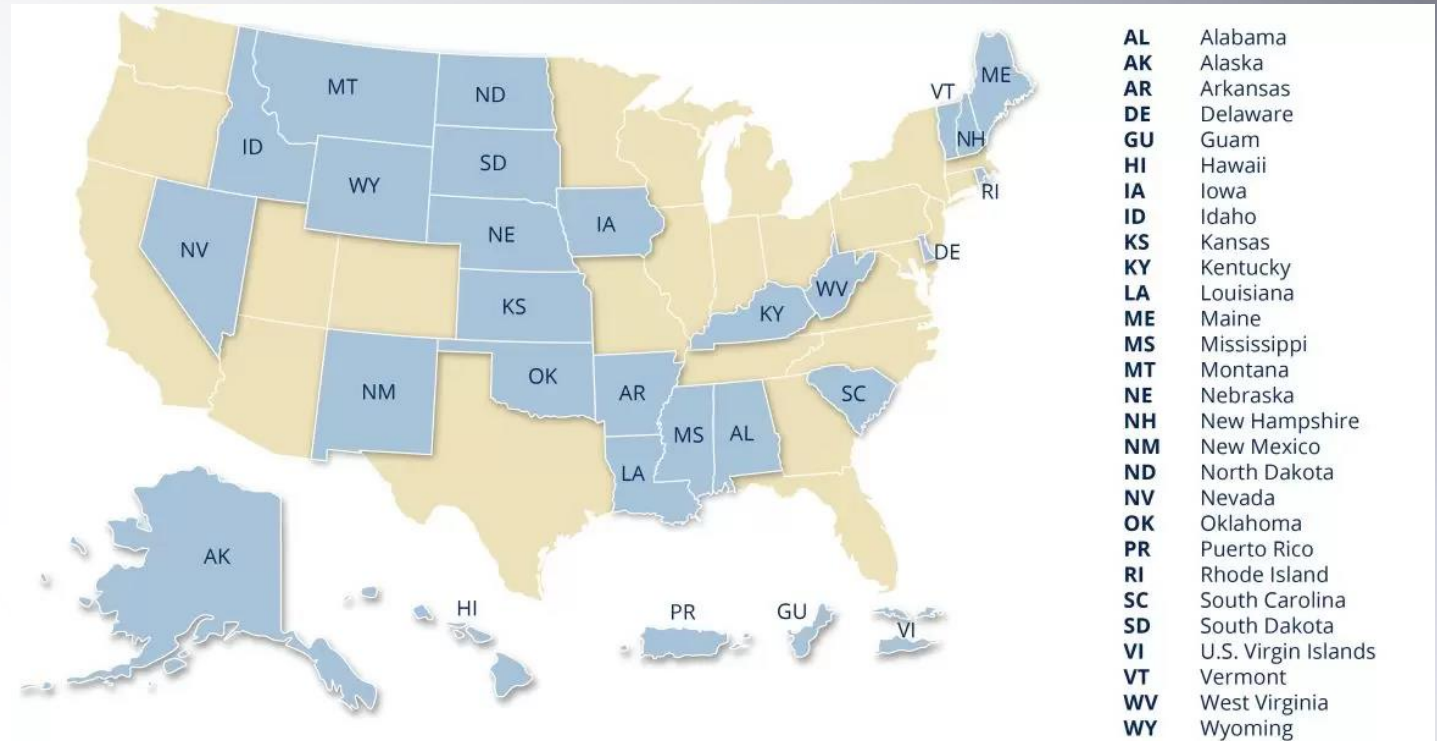


NSF Initiatives for Building Diverse Program Portfolios

- ❑ Faculty Early Career Development Program (CAREER)
 - ❑ Foundation-wide activity that offers NSF's most prestigious awards in support of early-career faculty who have the potential to serve as academic role models in research and education and to lead advances in the mission of their department or organization
- ❑ Established Program to Stimulate Competitive Research (EPSCoR)
 - ❑ Foundation-wide activity that pursues a mission to enhance the research competitiveness of targeted jurisdictions by strengthening science, technology, engineering and mathematics (STEM) capacity and capability through a diverse portfolio of investments from talent development to local infrastructure



EPSCoR Jurisdictions Map



DCL: Expanding Geographic and Institutional
Diversity in Social, Behavioral and Economic Sciences



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SBE Initiatives for Building Diverse Program Portfolios

☐ Build and Broaden Program

- ☐ Supports fundamental SBE research and research capacity building at minority-serving institutions
- ☐ Partnerships can be with or among MSIs
- ☐ PIs can apply directly to this program

☐ Science of Broadening Participation Program

- ☐ Uses SBE theories, methods, and analytic techniques to understand factors that enhance as well as barriers that hinder our ability to expand participation in education, the workforce, and major social institutions
- ☐ Submit through core program but indicate appropriate for SBP



Not Ready to Submit a Proposal Yet?

You can engage with NSF even if you are not yet ready to submit a proposal by volunteering to serve as a reviewer.

In addition to providing a great service to NSF and the science community, reviewers benefit from gaining firsthand knowledge of the NSF review process and discover strategies to write strong proposals.

To become an NSF reviewer, you can send an e-mail to the NSF program officer(s) of the program(s) that fits your expertise. Introduce yourself and identify your areas of expertise, and let them know that you are interested in becoming a peer reviewer. It is helpful if you include your CV with current contact information.



International Partnerships



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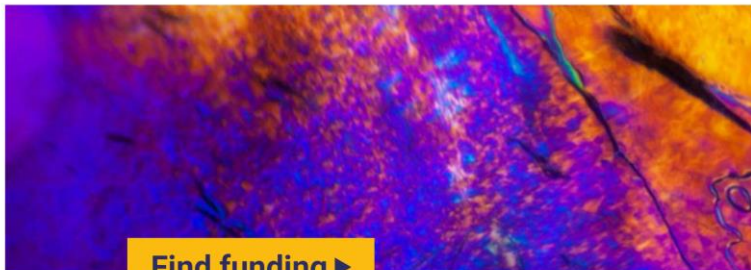


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We invest in researchers and their ideas

The Swiss National Science Foundation (SNSF) funds excellent research at universities and other institutions – from chemistry to medicine to sociology. Thousands of teams are generating knowledge for a better future for all. Together with our partners, we play a key role in shaping research in Switzerland.

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International Collaboration Opportunities at NSF

Research and education in science and engineering benefit immensely from international cooperation. NSF enables and encourages U.S. scientists, engineers, and their institutions to avail themselves of opportunities to enhance their research and education programs through international cooperation. NSF also provides opportunities for future generations of U.S. scientists and engineers to gain the experience and outlook they will need to function productively in an international research and education environment.

Below are examples of current international collaborations. Please contact the corresponding country Program Director [here](#) for information on other opportunities.

- [Canada](#) Dear Colleague Letter: NSF and NSERC Collaborative Research Opportunities in Artificial Intelligence and Quantum Science ([NSF 22-031](#))
- [Czech Republic](#)
- European Union Dear Colleague Letter: Research Collaboration Opportunity in Europe for NSF Awardees ([NSF 22-056](#))
- [France](#)
- [India](#) Dear Colleague Letter: Special Guidelines for Submitting Collaborative Proposals under U.S. National Science Foundation (NSF) and the Department of Biotechnology (DBT) of India Collaborative Research Opportunities ([NSF 24-054](#))
- Ireland Dear Colleague Letter: United States-Ireland-Northern Ireland R&D Partnership ([NSF 20-064](#))
- [Israel](#) Dear Colleague Letter: U.S.-Israel Binational Science Foundation (BSF) Collaboration/NSF-BSF ([NSF 20-094](#))
- [Italy](#) Dear Colleague Letter: NSF-Italian Ministry of Universities and Research Lead Agency Opportunity on Artificial Intelligence ([NSF 24-055](#))
- [Nordic Region](#) Dear Colleague Letter: Nordic-U.S. Research Collaboration on Sustainable Development of the Arctic ([NSF 24-070](#))
- [Romania](#) Dear Colleague Letter: NSF and the Romanian Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI) Lead Agency Opportunity in the Mathematical Sciences ([NSF 23-132](#))

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Foreign Funding

- ☐ NSF awards are most typically made to institutions and not to individuals
- ☐ Most commonly funded institutions include:
 - ☐ U.S.-based Institutions of Higher Education
 - ☐ U.S.-based Non-profit, Non-academic Institutions
 - ☐ U.S.-based Tribal Nations
- ☐ NSF rarely provides direct funding support to foreign organizations
 - ☐ Exceptions must be very well-justified





NSF Resources



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The Policy Office in the Division of Institution and Award Support is responsible for develo...more

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NSF Intro and Overview
(Spring 2024)

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