



# National Science Foundation Support of Social, Behavioral and Economic Sciences

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National Science Foundation

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# NSF in a Nutshell

- Independent federal agency
- Supports basic research & education
- Uses grant mechanism
- Low overhead; highly automated
- Discipline-based structure
- Cross-disciplinary mechanisms
- Use of rotators and permanent staff
- National Science Board

# National Science Foundation Act of 1950

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

# What NSF Supports

NSF supports basic research:

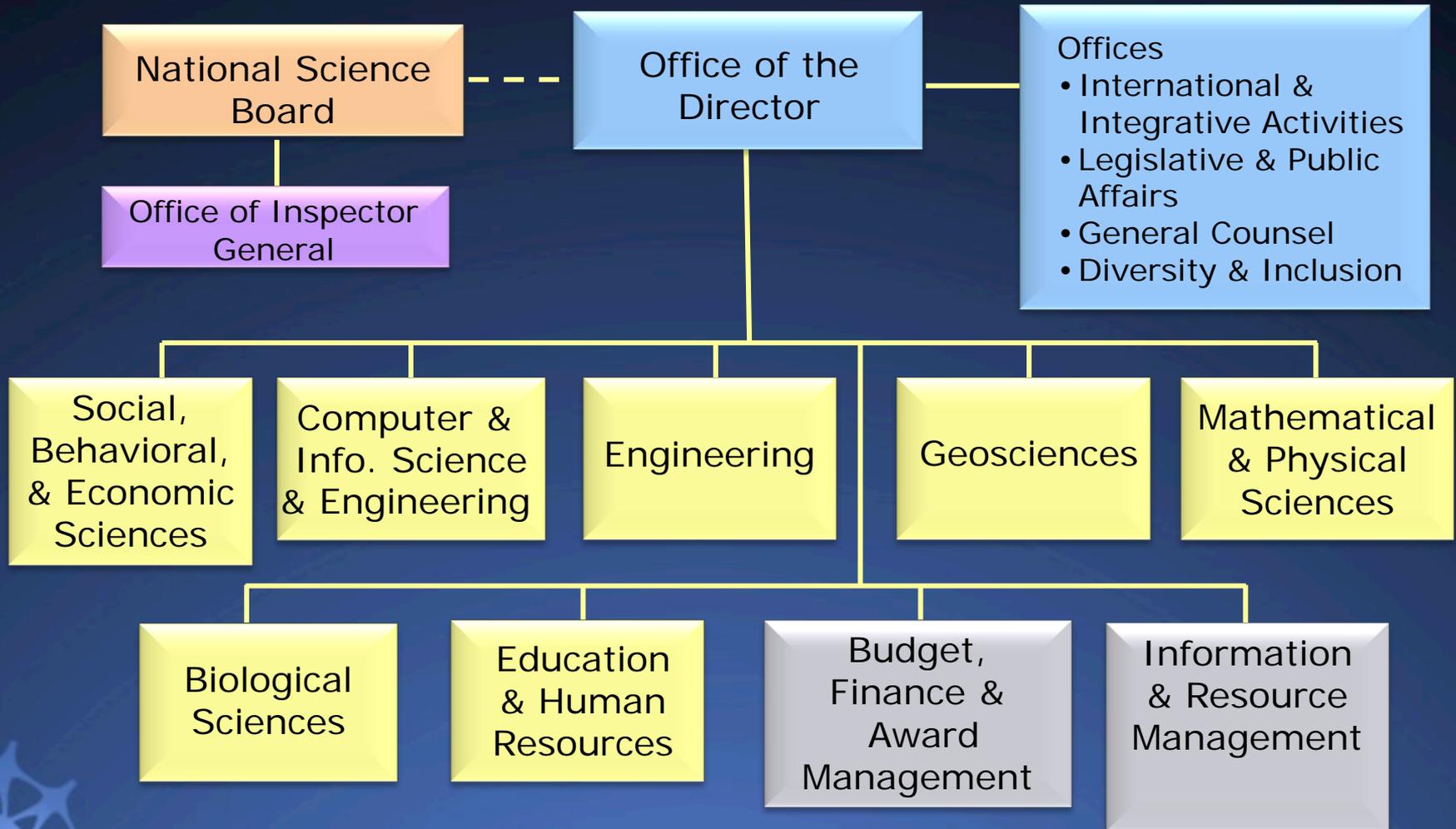
- grounded in a broader theoretical framework;
- focused on one or a few questions grounded in that broader framework;
- using scientifically sound approaches to assess the viability of answers to those questions; and
- its focused results contribute to enhancement of broader theoretical knowledge.

NSF does not support:

- clinical research
- counseling
- business
- management
- social work
- planning
- legal training
- practice-oriented professional degree programs



# NATIONAL SCIENCE FOUNDATION



# SBE'S MISSION

- Promote the understanding of people and their lives by supporting research that:
  - Reveals basic facets of human behavior and
  - Helps provide answers to important societal questions and problems
- Work with other disciplines to ensure that basic research and solutions to problems build upon the best multidisciplinary science
- Provide mission-critical statistical information about science and engineering in the U.S. and the world

# SBE IN A NUTSHELL

- Funding Breakdown:
  - Peer-reviewed grants to individuals and small groups
    - Approximately 5,000 proposals and 1,000 awards in a typical year
  - Including research grants, doctoral dissertation research improvement grants, research experiences for undergraduates, workshops and supplements
  - Major surveys to collect data on the science and engineering enterprise
    - Through National Center for Science and Engineering Statistics and grants to the research community

# SBE BUDGET TRENDS (Millions)

- Fiscal Year 2015 SBE request is \$272 Million
- Increase of 6% over Fiscal Year 2014



Directorate for Social,  
Behavioral and Economic  
Sciences

Dr. Fay Lomax Cook, Assistant  
Director

Dr. Joanne Tornow, Deputy Assistant  
Director

Division of Behavioral  
and Cognitive Sciences

Division of Social  
and Economic  
Sciences

National Center for  
Science and Engineering  
Statistics

SBE Office of Multidisciplinary  
Activities (Virtual)

# Behavioral and Cognitive Sciences Division

...supports research to develop and advance scientific knowledge about humans spanning areas of inquiry including brain and behavior, language and culture, origins and evolution, and geography and the environment.



# Behavioral & Cognitive Sciences

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graph TD; Root[Behavioral & Cognitive Sciences] --- L1[Cognitive Neuroscience]; Root --- L2[Developmental & Learning Sciences]; Root --- L3[Perception, Action & Cognition]; Root --- L4[Linguistics]; Root --- L5[Geography and Spatial Sciences]; Root --- R1[Documenting Endangered Languages]; Root --- R2[Archaeology and Archaeometry]; Root --- R3[Cultural Anthropology]; Root --- R4[Physical Anthropology]; Root --- R5[Social Psychology];
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Cognitive Neuroscience

Developmental & Learning Sciences

Perception, Action & Cognition

Linguistics

Geography and Spatial Sciences

Documenting Endangered Languages

Archaeology and Archaeometry

Cultural Anthropology

Physical Anthropology

Social Psychology

# Social and Economic Sciences Division

...seeks to enhance our understanding of human, social and organizational behavior by building social science infrastructure, by developing social disciplinary and interdisciplinary research projects that advance knowledge in the social and economic sciences.



# Social and Economic Sciences

Decision, Risk, & Management Sciences

Economics

Science, Technology and Society

Science of Organizations

Law and Social Sciences

Methodology, Measurement & Statistics

Political Science

Sociology

# SBE OFFICE OF MULTIDISCIPLINARY ACTIVITIES

- Coordinating SBE's participation in NSF-wide and crosscutting activities, including:
  - Interdisciplinary Behavioral and Social Science Research
  - SBE Postdoctoral Research Fellows
  - SBE Research Experiences for Undergraduate Sites
  - Science of Learning Centers
  - Science of Science and Innovation Policy

# NATIONAL CENTER FOR SCIENCE AND ENGINEERING STATISTICS

- Nation's primary source of data and analysis on the science and engineering enterprise
- Designs, supports and directs 13 periodic surveys, other data collections and research projects
- 30 publications yearly
- Congressionally-mandated publications:
  - *Science and Engineering Indicators*
  - *Women, Minorities and Persons with Disabilities in Science and Engineering*

# Cross-Cutting Activities

- Secure and Trustworthy Cyberspace
- Dynamics of Coupled Natural and Human Systems
- Collaborative Research in Computational Neuroscience
- Understanding the Brain
  - Cognitive Science and Neuroscience
  - Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative
- Many more...

# NSF-Wide Investments

- Science, Engineering and Education for Sustainability (multiple programs)
  - Graduate Research Fellowship Program
  - NSF Research Traineeships Program
  - Advance: Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers
  - Science and Technology Centers: Integrative Partnerships
  - Partnerships for International Research and Education
  - Faculty Early Career Development Program
  - Many more...
- 

# FINDING A HOME FOR YOUR PROPOSAL

- Scientific focus
- Mechanism
  - Workshop?
  - Dissertation research?
  - A quick trip to a disaster site?
  - A basic research project?
  - Support for student research?
  - Something really exploratory/risky?
  - Training?

# Finding Funding: www.nsf.gov/funding/

## Funding



### Find Funding

[A-Z Index of Funding Opportunities](#)

[Recent Funding Opportunities](#)

[Upcoming Due Dates](#)

[Advanced Funding Search](#)

[Interdisciplinary Research](#)

[How to Prepare Your Proposal](#)

[About Funding](#)

### Proposals and Awards

[Proposal and Award Policies and Procedures Guide](#)

#### Introduction

[Proposal Preparation and Submission](#)

- [Grant Proposal Guide](#)
- [Grants.gov Application Guide](#)

[Award and Administration](#)

- [Award and Administration Guide](#)

[Award Conditions](#)

[Other Types of Proposals](#)

[Merit Review](#)

[NSF Outreach](#)

[Policy Office](#)

*Related*

[Recovery Act](#)

## Find Funding

Get NSF funding information by [✉ email](#) or [RSS](#) [RSS](#).

### FUNDING OPPORTUNITY SEARCH

Keyword:\*

Search:

- Funding Opportunities (program synopses and solicitations)  
 Award Database (titles and abstracts of previous years' awards)

[Search](#) [Reset](#)

[Advanced Funding Search](#)

### OTHER WAYS TO FIND FUNDING

#### [A-Z Index](#)

Index of words appearing in the titles of all funding opportunities.

#### [Special Programs](#)

[For Undergraduate Students](#)  
[For Graduate Students](#)  
[For Postdoctoral Fellows](#)  
[For K-12 Educators](#)  
[Small Business Programs](#)  
[For Veterans](#)  
[Broadening Participation](#)

#### [Program Areas](#)

[Crosscutting and NSF-wide](#)  
[Biological Sciences](#)  
[Computer & Information Science & Engineering](#)  
[Education and Human Resources](#)  
[Engineering](#)  
[Environmental Research & Education](#)  
[Geosciences](#)  
[International & Integrative Activities](#)  
[Mathematical & Physical Sciences](#)  
[Social, Behavioral & Economic Sciences](#)

#### [Recently Announced Funding Opportunities](#)

All funding opportunities ordered by the date they were published on the NSF web site.

#### [Upcoming Due Dates](#)

All funding opportunities ordered by their next due dates.

#### [Solicitations that Limit the Number of Proposals an Organization Can Submit](#)

Solicitations that have limits on the number of proposals that may be submitted by one

# Selected SBE Opportunities

- Integrative Strategies for Understanding Neural and Cognitive Systems
- Industry/University Cooperative Research Centers (I/UCRCs) focused on Understanding the Brain's Structure and Function
- Forensic Science: Opportunity for Breakthroughs in Fundamental and Basic Research and Education.
- I/UCRCs in Areas Relevant to Forensic Sciences
- Youth Violence: Opportunity for Breakthroughs in Fundamental Basic Research
- Stimulating Research Related to the Science of Broadening Participation
- Research on Privacy in Today's Networked World
- Assessing the Impacts of Recent and On-going Changes in Federal Science Policy

# SBE Funding for Student Research

- Doctoral Dissertation Research Improvement Grants (some programs only)
- Research Experiences for Undergraduates
  - Available in all programs
  - Two types of awards
    - 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
- Research Experiences for Teachers (RET)
  - Gives K – 12 teachers experience in research in coordination with REU projects

# EArly-concept Grants for Exploratory Research (EAGER)

- Exploratory work on untested, potentially transformative ideas
- High-risk, high-potential payoff
- \$300,000 maximum; 2 years
- Five-eight page project description
- Internal review required; external optional
- Contact Program Director 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
- Two-five page project description
- Internal review required; external optional
- Available in all programs
- Contact Program Director 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

# Application Process

- Your Sponsored Research Office registers you in FastLane.
- You get access to the proposal modules.
- You write up the proposal sections.
- Give your research office access.
- Your institution reviews, signs, & submits it.
- NSF reviews the proposal.
- Awards are made to the institution for your research.

# What is an NSF proposal?

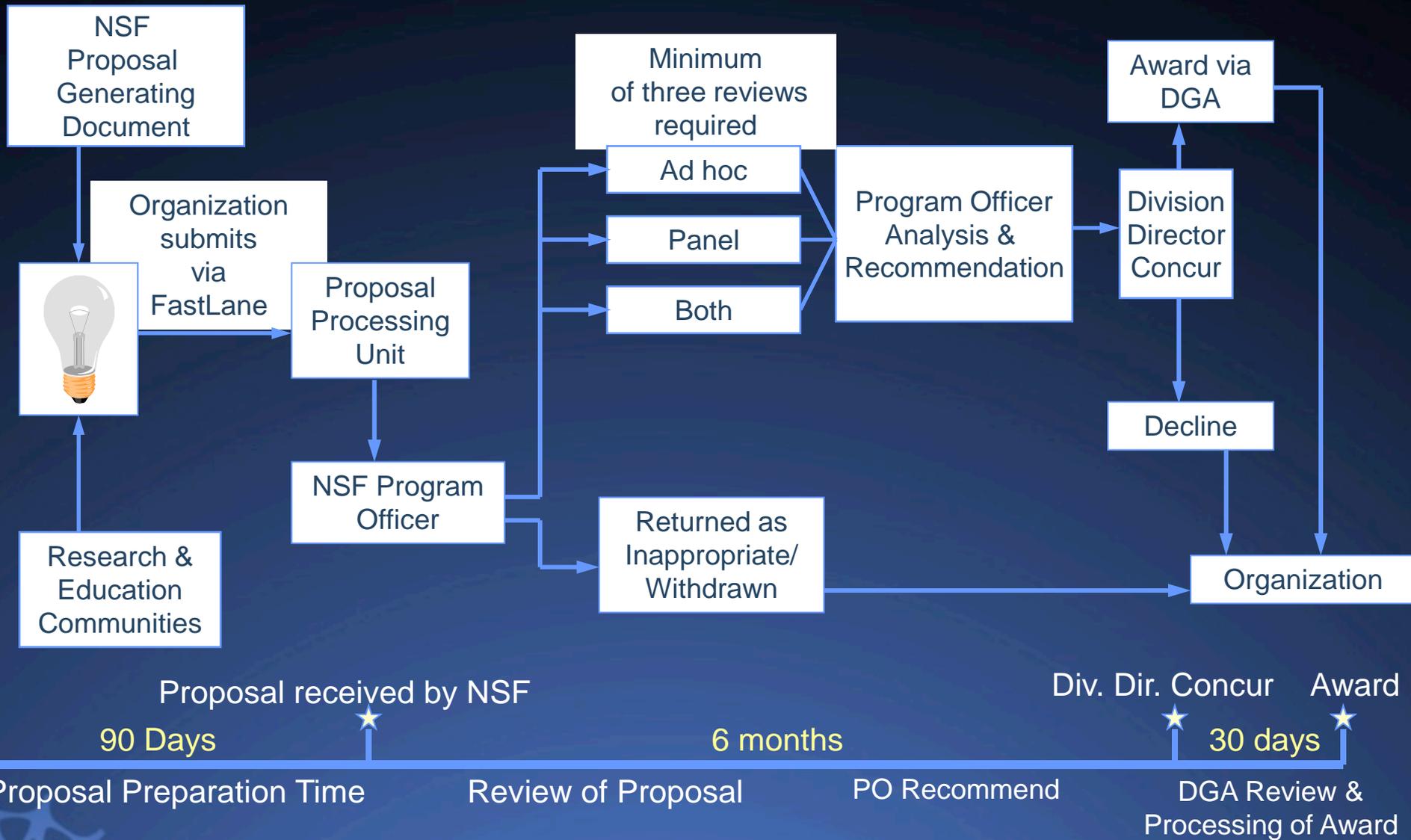
- Cover Page
- Project Summary
- Project Description
- References Cited
- Biographical Sketches
- Budget Form
- Budget Justification
- Facilities, Equipment, and Other Resources
- Current & Pending Support
- Data Management Plan
- Postdoctoral Researcher Mentoring Plan

# Grant Proposal Guide (GPG)

[http://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=gpg](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg)

- Provides guidance for preparation and submission of proposals to NSF
- Describes process -- and criteria -- by which proposals will be reviewed

# Proposal Process & Timeline



# Planning your Proposal

- Read program announcements and solicitations carefully
- Search previous award abstracts
- Contact the cognizant Program Director, once you can...
  - articulate your research question
  - how you propose to answer it
  - and know what has been done previously on the topic
- Talk to your Sponsored Research Office

# Contacting the Program Director

- Introduce yourself:
  - What's your training, your expertise?
  - What level of appointment do you have?
- Summarize your proposed research
  - What is your research question?
  - How you will try to answer it?
  - Why would anyone care about this question?
- Ask specific questions about program fit!!

# Proposal Development

- What do you intend to do?
  - Testable and falsifiable hypotheses
  - Are the experiments proposed tied to the theory?
- Why is the work important?
  - Theoretical/scientific implications
  - Broader impact to education, society, public dissemination, data-sharing etc.
- What has already been done?
  - Targeted literature review
- How are you going to do the work?
  - Do the experiments related to the theoretical questions?
  - Are the facilities sufficient to do the work?
  - Is the level of effort/budget appropriate for the work proposed?
- Will the results tell us something important?



# NSF Merit Review Principles

- All NSF projects should be of the highest quality and have the potential to advance, if not transform, the frontiers of knowledge.
- NSF projects, in the aggregate, should contribute more broadly to achieving societal goals.
- ...Even if assessment of Broader Impacts outcomes for particular projects is done at an aggregated level, PIs are expected to be accountable for carrying out the activities described in the funded project. Thus, individual projects should include clearly stated goals, specific descriptions of the activities that the PI intends to do, and a plan in place to document the outputs of those activities.

# NSF's Merit Review Criteria

## (Both criteria matter!)

### I. Intellectual Merit (advance knowledge)

- Within/across fields
- Qualifications of investigators/organizations
- Creative, original, potentially transformative
- Conception/organization of project
- Adequacy of resources

### II. Broader Impacts:

- Training
- Diversity
- Infrastructure
- Dissemination/  
Public Awareness
- Societal Benefits

# What Makes a Proposal Competitive?



- Original ideas
- Sound scientific rationale/theoretical basis
  - Critical approach
  - Likely high impact
- Succinct, focused project plan
- Experience in essential methodology
  - PILOT DATA \*\*\*
- Clarity concerning future direction
- Knowledge of subject area / relevant lit review
  - Realistic timeline

# Common Criticisms

- No compelling rationale (no theoretical framework)
- No preliminary data (proof of concept)
- Projects don't relate to the theory
- Results could have alternative explanations
- Overly ambitious
- Insufficient detail
- If the projects "work," what will we really have learned?

# Don't Forget:

- Talk to your Sponsored Research Office EARLY (it signs off on proposal; has deadlines)
- Follow the program/solicitation instructions
- IRB or IACUC approval not needed at the time of submission
- Up-to-date IRB/IACUC approval **MUST BE IN PLACE** before any funds are awarded

# Budget Tips

- Amounts
  - Reasonable for work -- realistic
  - Well-justified
  - In-line with program guidelines
- DDRIG limitations
  - Extraordinary costs of research
  - Not everyday costs (not a fellowship)
  - Equipment
  - Travel (including living expenses)
- Other program/solicitation-specific limitations

# More Tips

- Good to apply to multiple sources: co-review @ NSF, & other agencies (if allowed)
- Learn how proposals will be evaluated; think like those who will review and make decisions
- Have your colleagues review your proposal before submission
- Volunteer to review proposals
- Provide suggested reviewers ('single copy documents')
- Monitor the progress of your proposal through NSF Fastlane – do not contact your Program Director



# Data Management Plan

- What kinds of data, software, and other materials will your research produce?
- How will you manage it? (e.g., metadata standards, standards for format, content, etc.)
- How will you give others access to your data, preserving confidentiality, security, intellectual property, & other rights/requirements?
- How will you archive data and preserve access?
- *Not “one size fits all”!*

# If Your Proposal is Declined ...

- ▶ You are in the majority.
  - Never enough money to fund all the good proposals.
  - The preparation, application, revision, and resubmission experience is a chance to learn.

# If You Have Been Declined ... How to Gain from the Experience

You are given all Reviews and a Summary of the Panel Discussion. ASK yourself and others:

- Do the reviews give guidance for shaping the research in future proposals?
- Did the reviewers misunderstand your intentions?
- Was the proposal submitted to the wrong NSF program?
- The panel discussion is as important as single reviews.
- Your Program Director or faculty mentors can help you interpret the reviews.

# Need help?

- Program Directors
  - NSF: <http://www.nsf.gov>
  - SBE: <http://www.nsf.gov/dir/index.jsp?org=SBE>
- Your faculty & colleagues
- Your Sponsored Research Office