



NSF SUPPORT OF THE SOCIAL, BEHAVIORAL, AND ECONOMIC SCIENCES

Ping Li, Program Director

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Perception, Action, and Cognition
Directorate for Social, Behavioral, and
Economic Sciences



Office of the Director

**Directorate for Social,
Behavioral & Economic
Sciences**

**Social and Economic
Sciences**

**Behavioral and Cognitive
Sciences**

Science Resources Statistics

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



Social and Economic Sciences

FY08 Program Allocations (Approximate)

- Cross-Directorate Activities \$3.8M
- Decision, Risk, & Management Sciences \$6.55M
- Economics \$23.8M
- Innovation and Organizational Change \$2.5M
- Law and Social Science \$4.5M
- Methodology, Measurement & Statistics \$3.6M
- Political Science \$8.2M
- Science and Society \$7.6M
- Sociology \$8.1M





Decision, Risk, and 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



Program Officers: Robert O'Connor, Jacqueline Meszaros and Jon Leland



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

Program Officers: Dan Newlon, Nancy Lutz, George Von Furstenberg



Innovation and Organizational Change

- Supports research which uses theory combined with empirical validation
- Looks to expand the concepts, models and methodologies of change in organizations and institutions



Program Officer: Jacqueline Meszaros



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 Officer: Susan Haire



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



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



Program Officers: Brian Humes and Phil Paolino



Science and Society

S&S 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 orientations they take to the subject matter, as well as by different focuses within the subject area.

Program Officers: Fred Kronz, Laurel Smith Doerr, Steve Zehr



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: Pat White and Kevin Gotham



SES Target Dates

January 15 & August 15

Economics

Law and Social Science

Methodology, Measurement & Statistics

Political Science

Sociology

January 18 & August 18

Decision, Risk, & Management Sciences

February 1 & August 1

Science and Society

February 2

Innovation and Organizational Change

Division of Behavioral and Cognitive Sciences

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



Behavioral and Cognitive Sciences

FY08 Program Allocations (Approximate)

- Archaeology & Archaeometry \$6.5M
- Cultural Anthropology \$3.4M
- Cognitive Neuroscience \$6.3M
- Developmental & Learning Sciences \$7.0M
- Geography & Regional Science \$6.2M
- Linguistics \$7.41M
- Perception, Action, & Cognition \$6.3M
- Physical Anthropology \$3.8M
- Social Psychology \$5.7M





Archaeology

Funds:

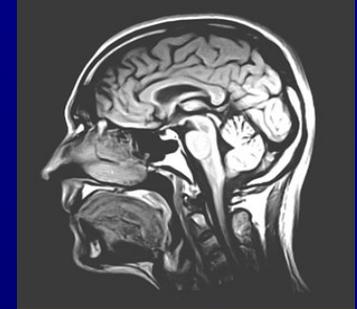
1. Archaeological research that contributes to an anthropological understanding of the past
2. Anthropologically significant archaeometric research

Program Officer: John Yellen



Cognitive Neuroscience

- Program supports highly innovative and interdisciplinary proposals
- Proposals should aim to advance a rigorous understanding of how the human brain supports:
 - thought
 - perception
 - affect
 - action
 - social processes
 - and other aspects of cognition and behavior, including how such processes develop and change in the brain and through evolutionary time.



Program Officer: Stacia Friedman-Hill and Douglas Whalen



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

Program Officer: Deborah Winslow



Developmental and Learning Sciences



- Supports studies that increase our understanding of cognitive, social, and biological processes related to children and adolescents' learning in formal and informal settings
- Supports research on learning and development that:
 - incorporates multidisciplinary, multi-method, microgenetic, and longitudinal approaches
 - develops new methods and theories
 - examines transfer of knowledge from one domain to another
 - assesses peer relations, family interactions, social identities, and motivation
 - examines the impact of family, school, and community resources
 - assesses adolescents' preparation for entry into the workforce
 - investigates the role of demographic and cultural characteristics in children's learning and development

Program Officer: Amy Sussman



Geography and Regional Science

- Supports research on human, physical, and biotic systems on the Earth's surface, as well as their related subfields
- Investigations into the nature, causes, and consequences of human activity within particular "places and spaces" are encouraged
- Both international & domestic projects which may contribute to related fields are also funded



Program Officers: Dan Hammel & Kenneth Young



Linguistics

- Supports scientific research of all types that focus on human language
 - the syntactic, semantic, phonetic, and phonological properties of individual languages and of language in general
 - the psychological processes involved in the use of language
 - the development of linguistic capacities in children
 - social and cultural factors in language use, variation, and change
 - the acoustics of speech and the physiological and psychological processes involved in the production and perception of speech
 - the biological bases of language in the brain

Program Officer: Joan Maling and Terry Langendoen



Perception, Action and Cognition

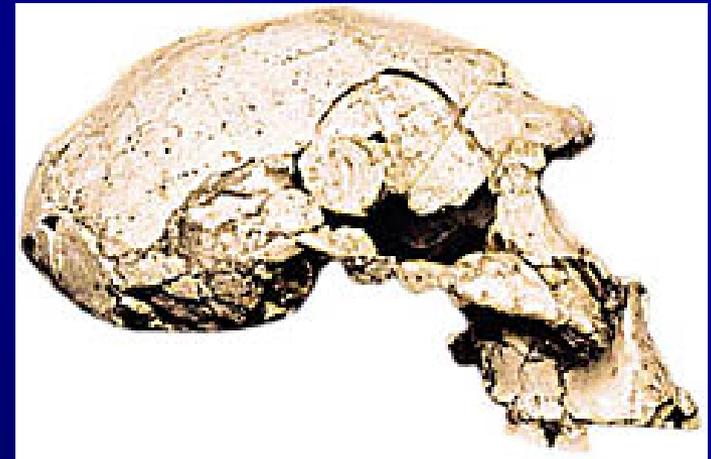
- Supports research on basic processes and functions of human perception, action, and cognition. Topics include, but are not limited to:
 - Attention
 - Memory
 - Reasoning
 - Motor control
 - Spatial Cognition
 - Language Processing
 - Visual, auditory, and tactile perception
 - Perceptual and Conceptual Development
- Research supported by the program encompasses a broad range of theoretical perspectives such as Symbolic Computation, Connectionism, and Dynamical Systems

Program Officer: Ping Li and Betty Tuller



Physical Anthropology

- Supports basic research in areas related to:
 - Human Evolution
 - Anthropological Genetics
 - Human Adaptation
 - Skeletal Biology
 - Primate Biology
 - Ecology and Behavior
- Grants are often characterized by:
 - An underlying evolutionary framework
 - A consideration of adaptation as a central theoretical theme
 - Generalizable Results
- Serves as a bridge between the social and behavioral sciences and the natural and physical sciences



Program Officer: Joanna Lambert



Social Psychology

- Supports research on human social behavior, including cultural differences and development over the life span
- Among the many research topics supported are:
 - attitude formation and change
 - social cognition
 - personality processes
 - interpersonal relations and group processes
 - the self, emotion, social comparison and social influence
 - the psychophysiological correlates of social behavior

Program Officers: Amber Story and Kellina Craig-Henderson



BCS Target Dates

December 1 & July 1

Archaeology & Archaeometry

Physical Anthropology

January 1 & August 1

Cultural Anthropology

January 15 & July 15

Cognitive Neuroscience

Developmental & Learning Sciences

Human Cognition & Perception

Linguistics

Social Psychology

January 15 & August 15

Geography & Regional Science

Doctoral Dissertation Improvement Awards

Small grants to provide funds for items not normally provided through the student's institution

- Archaeology
- Cultural Anthropology
- Decision, Risk, & Management Science
- Economics
- Geography & Regional Science
- Law and Social Science
- Linguistics
- Physical Anthropology
- Political Science
- Science and Society
- Sociology



Behavioral & Cognitive Sciences

Scientific Basis of Individual and Team Innovation and Discovery

- Cognitive scientists, social psychologists and engineers discussed the psychological study of science and engineering
- Frontiers of collaborative research include:
 - Memory and analogy mechanisms in creative design
 - Computational models of creativity
 - Models of synergy between individuals and teams
 - Ways to build more innovative teams
 - Management and leadership in innovation and creativity
 - Impact of disciplinary cultures on transformative work

Social Organization of Science and Science Policy

- Social scientists examined the organization and political, economic and social contexts in which science and science policy succeed or flounder
- Understanding interrelationships in the national innovation system
 - How intellectual, social and physical organization influence creativity and innovation
 - How scientific knowledge and expertise influence policy and decisions
 - How global changes in economic, political, and social relationships influence the production and uses of science and technology
 - How changes in science and technology influence patterns of globalization and well being



Cross-Directorate Activities

- Serves both divisions – SES and BCS
- Administers and coordinates programs to increase underrepresented groups in science and engineering
- Supports human resource development and infrastructure improvement
- Provides information on cross-Foundation/cross-cutting programs

Science Resources Statistics

Advancing Measures of Innovation

- Improve comparability, scope, relevance and availability of data
 - Redesign surveys
 - Improve data sample frames, links and aggregability
 - Map the globalization and capitalization of R&D
 - Collaborate with other Federal agencies on R&D and innovation metrics
 - Collaborate with other agencies such as UNESCO to improve the international comparability of workforce and mobility data
 - Utilize new cyberinfrastructure-based data extraction, matching and manipulation techniques

NSF's Goals

- Measurement: improve and expand science *metrics, datasets* and *analytical tools*
- Understanding: develop usable *knowledge* and *theories*
- Community development: coordinate efforts among federal agencies, cultivate a community of experts focusing on SciSIP
- International partnerships that promote science and technology advancements

Investigator Initiated Research (1)

- Theoretical and conceptual models of scientific discovery and technological innovation
 - Psychological and organizational studies of discovery and innovation
 - Agent-based and network model development
- Statistical and econometric tools for estimating returns to science and engineering investments
 - Sector-specific science metrics involving relevant scientific communities
 - Comparisons of public and private R&D expenditures and returns

Investigator Initiated Research (2)

- Qualitative tools
 - Case studies
 - Ethnographic studies
 - Retrospective analyses
 - Cross-national comparisons
- Bibliometric tools
- Cyber-tools
- Many levels of analysis: cognitive, organizational, regional, national, and transnational
- Interdisciplinary and international collaborations encouraged



How to Develop a Proposal

- **Determine your long-term research and education goals**
- **Develop your bright idea**
 - Survey the literature
 - Contact Investigators working on topic
 - Prepare a brief concept paper
 - Discuss with colleagues/mentors
- **Prepare to do the project**
 - Determine available resources
 - Realistically assess needs
 - Develop preliminary data
 - Present to colleagues/mentors/students



How to Develop a Proposal

- **Determine possible funding sources**
- **Understand the ground rules**
 - Read carefully announcements and instructions
 - Determine whether your project fits program scope
 - Look over prior award abstracts
 - Ascertain evaluation procedures and criteria
 - Talk with NSF Program Officer
- **Coordinate with your institution and sponsored research office**
- **Ask PIs for copies of proposals**

"Few things are harder to put up with than the annoyance of a good example." Mark Twain



Budget Tips

- **Amounts**
 - Reasonable for work -- Realistic
 - Well Justified -- Need established
 - In-line with program guidelines
- **Eligible costs**
 - Personnel
 - Equipment
 - Travel
 - Other Direct Costs, Subawards
 - Facilities & Administrative Costs



Human Subjects

- No award for a project involving human subjects can be made without prior Institutional Review Board (IRB) approval of the research activity.
- The PI may request Human Subjects evaluation from the IRB of a nearby institution.



Standard Review Criteria

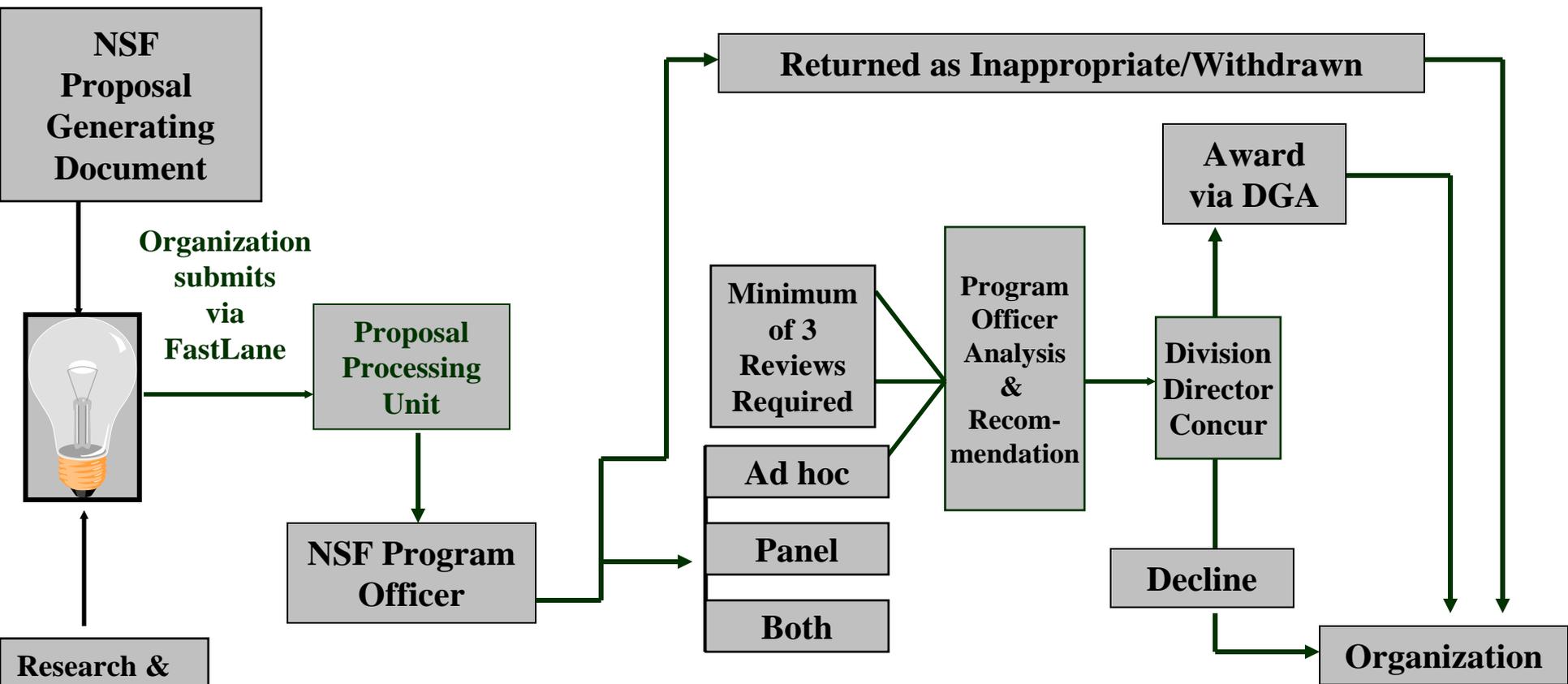
- 1. What is the intellectual merit and quality of the proposed activity?**
 - Importance
 - Qualifications
 - Creativity and originality
 - Conception and organization
 - Access to resources
 - Potential in transformative science
- 2. What are the broader impacts of the proposed activity?**
 - Training
 - Diversity
 - Infrastructure
 - Dissemination/Public Awareness
 - Societal Benefits

Types of Support

- Standard Research Grants (including Collaborative research proposals)
- Postdoctoral Fellowships
- Small Grants for Training and Research
- Conference and Workshop Awards
- CAREER Awards



Proposal Process & Timeline



Proposal received by NSF

Div. Dir. Concur

Award

90 Days

6 months

30 days

DGA Review & Processing of Award

Proposal Preparation Time

Review of Proposal

P.O. Recommend

DGA Review & Processing of Award

National Science Foundation

Where
Discoveries
Begin

