



**NSF SUPPORT OF THE
SOCIAL, BEHAVIORAL, AND ECONOMIC
SCIENCES**

Dr. Frank P. Scioli



Office of the Director

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

**Social and Economic
Sciences**

**Behavioral and Cognitive
Sciences**

Science Resources Statistics

FY 2009 Budget Emphases

Discovery Research

- **Strengthening the Core**
- **Science of Science and Innovation Policy**
- **Complexity and Systems Thinking**
 - *research on complexity and interacting systems; & environmental research*
 - *\$Cyber-enabled Discovery and Innovation*
- **Adaptive Systems Technology**

Research Infrastructure SRS: SciSIP activities

Learning REU Sites

Stewardship

Science of Science & Innovation Policy

- First solicitation in FY 2007
- Current FY 2009 solicitation has
December 16, 2008 deadline
 - Analytical Tools
 - Model Building
 - Data Development and Augmentation
 - Increased funding in FY 2009
- Related infrastructure activities

Program Officer: Julia Lane

So What Does the Science Involve?

- **Understanding:**

develop usable *knowledge* and *theories*

- **Measurement:**

improve and expand science *metrics, datasets* and *analytical models and tools* that are replicable and generalizable

- **Community development:**

cultivate a *community of practice* focusing on SciSIP across the academy, the public sector and industry both nationally and internationally

Complexity & Systems Thinking

- **Research on complexity and interacting systems (including environmental research) in the core Cyber-enabled Discovery & Innovation First NSF-wide solicitation in FY 2008**
 - **Three themes (complexity, data extraction, & virtual organizations)**
 - **Mix of core activities and NSF-wide solicitation**

Adaptive Systems Technologies

- *Multi-directorate initiative*
 - *Seeks to develop new technologies based on a better understanding of biological and particularly neurological systems.*
- *In the SBE context*
 - *Applying and expanding what we know from cognitive and learning sciences*
 - *Strongly related to programs in Developmental & Learning Science; Perception, Action & Cognition; Cognitive Neuroscience; and Linguistics.*

Science of Learning Centers

- Managed by SBE with NSF-wide funding
 - Multidisciplinary
 - Large scale
 - 10 years of funding, if progress warrants
- 6 Centers currently funded
 - Cohort 1: Boston U., Carnegie-Mellon, U. of Washington
 - Cohort 2: Gallaudet, Temple, UCSD
- Developing a network of centers
 - Workshops
 - Student activities
 - International linkages
 - Opportunities for supplements, SGERs

Program Officer: Soo-Siang Lim and Joan Straumanis

Themes

- New Technologies
- Intertwinements with Natural and Life Sciences
- Centrality of Mind/Brain
 - Adaptive Systems Technology
- Complexity
 - Cyber-Enabled Discovery & Innovation
 - Emergent phenomena
 - Tipping points
 - Links to policy

Social, Behavioral & Economic Sciences Programs

Disciplinary

- Cultural Anthropology
- Physical Anthropology
- Archaeology
- Linguistics
- Social Psychology
- Economics
- Sociology
- Political Science

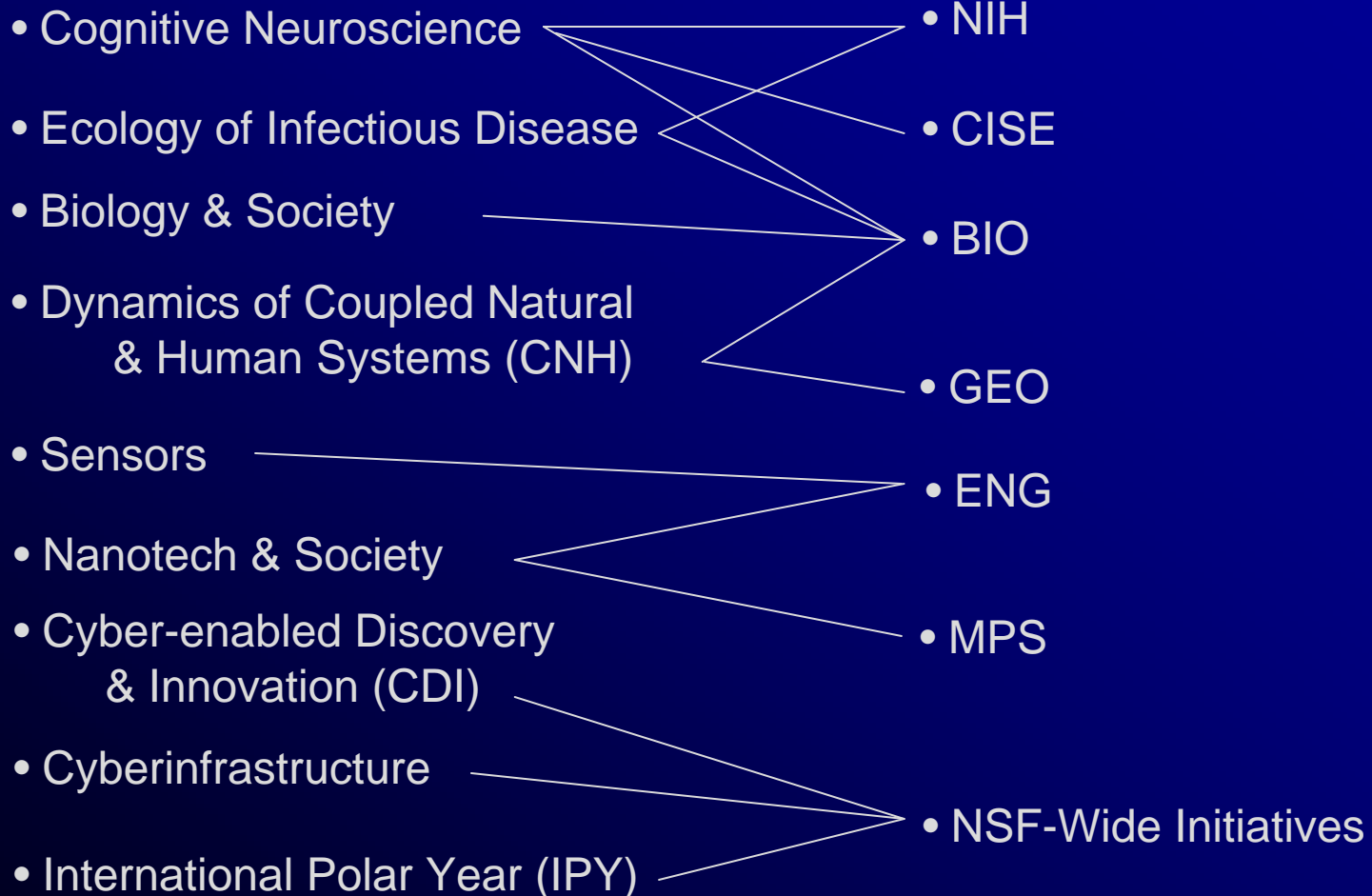
Inter-Disciplinary

- Cognitive Neuroscience
- Developmental & Learning Sciences
- Documenting Endangered Languages
- Perception, Action & Cognition
- HOMINID
- Geography & Regional Science
- Environmental, Social & Behavioral Science
- Decision, Risk & Management Sciences
- Science of Science & Innovation Policy
- Innovation & Organizational Sciences
- Methodology, Measurement & Statistics
- Science & Society
- Law & Social Sciences

Social, Behavioral & Economic Sciences Joint Funding

Joint-Funded Programs

Funding Partners





Cross-Directorate Activities

- Serves both divisions – SES and BCS
- Administers and coordinates programs to increase underrepresented groups in science and engineering
 - Research Experiences for Undergraduates
 - Minority Postdoctoral Fellowships
- Provides information on cross-Foundation/cross-cutting programs

Program Officer: Fahmida Chowdhury

Social and Behavioral Dimensions of National Security, Conflict, and Cooperation (NSCC)

- National Science Foundation (NSF) and the Department of Defense (DoD) are initiating a university-based social and behavioral science research activity that focus on areas of strategic important to the U.S. national security policy
- NSF and DoD intend to
 - Develop the DoD's social and human science intellectual capital in order to enhance its ability to address future challenges
 - Enhance the DoD's engagement with the social science community
 - Deepen the understanding of the social and behavioral dimensions of national security issues
- NSF and the DoD will bring together universities, research institutions, and individual scholars and will support disciplinary, interdisciplinary and collaborative projects

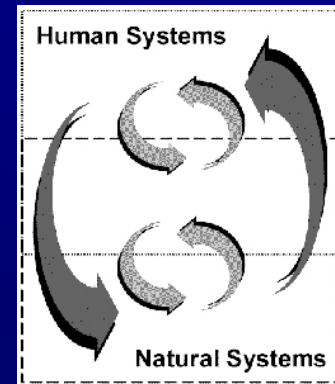
NSCC

- Letter of Intent Due Date (required)
 - September 30, 2008
- Full Proposal Deadline
 - October 20, 2008
- Program Solicitation: 08-594
- Estimated Number of Awards
 - 10 to 15; Awards will be based on the recommendations of NSF/DoD review process
 - 1-5 for Workshops (NSCC/W)
 - Up to an all inclusive total of \$50,000 to \$150,00 each, for a duration of one year
 - 8-10 for Small Awards (NSCC/SA)
 - Up to an all inclusive total of \$500,000 each, over a duration of two to three years
 - 1-3 for Large Awards (NSCC/LA)
 - Up to an all inclusive total of \$2 million per year for a duration of three to five years for each awarded proposal

Program officers: Amber Story and Jonathan Leland

Dynamics of Coupled Natural and Human Systems (CNH)

- CNH promotes quantitative, interdisciplinary analyses of relevant human and natural system processes and complex interactions among human and natural systems at diverse scales.
- Educational Opportunity
 - Undergraduate students
 - Graduate students
 - K-12 Educator
- Program guidelines and due date
 - 07-598 Solicitation
 - Full Proposal Deadline Date: November, 18, 2008



Program Officer: Tom Baerwald

CNH Sample Awards

- Integration of circulation, population, habitat, and socioeconomic models to assess how biological reserves function in a coral reef ecosystem, how different stakeholder groups influence the operation of the reserves, and the efficacy of different reserve designs in promoting both local economic development and ecosystem conservation.

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

FY07 Program Allocations

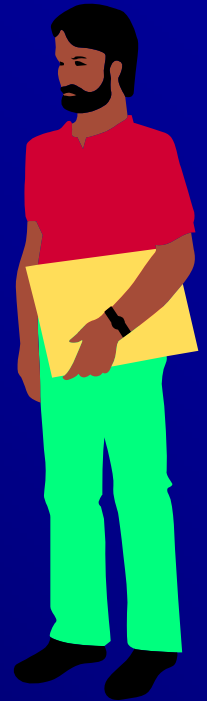
- Cross-Directorate Activities \$3.8M
- Decision, Risk, & Management Sciences \$6.55M
- Economics \$23.8M
- Innovation and Organizational Change \$2.5M
- Law and Social Science \$4.5M
- Methodology, Measurement & Statistics \$3.6M
- Political Science \$8.2M
- Science and Society \$7.6M
- Sociology \$8.1M





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
- In FY06, IOC is particularly interested in studies that shed light on how best to organize for scientific knowledge creation when researchers must share critical resources, such as major instruments or IT infrastructure.



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: R. Saylor Breckenridge



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 Brian Schaffner



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 Jan Stets



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

September 3 and 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

FY07 Program Allocations

- 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

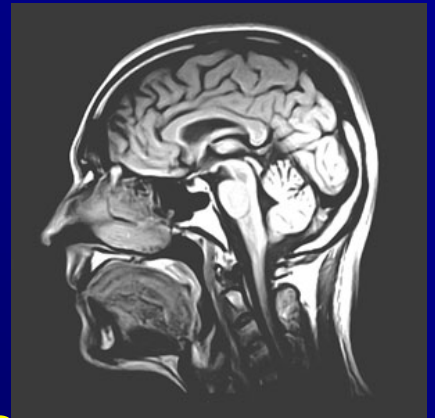
Funds:

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



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: Ping Li and Stacia Friedman-Hill



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 and Susan Penfield



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



Documenting Endangered Languages

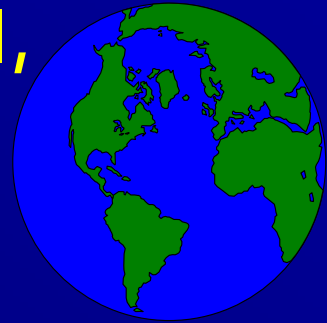
- This partnership between NSF (National Science Foundation) and NEH (National Endowment for the Humanities) supports projects to develop and advance knowledge concerning endangered human languages.
- Funding will support fieldwork and other activities relevant to recording, documenting, and archiving endangered languages, including the preparations of lexicons, grammars, test samples and databases.
- Program guidelines and due date
 - 06-577 Solicitation
 - Full Proposal Deadline Date: September 15, 2008

Program Officer: Susan Penfield



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: Tom Baerwald, Scott Friendschuh & Kenneth Young



Linguistics

- Supports scientific research of all types that focus on human language as an object of investigation
 - 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 Eric Potsdam



Perception Action and Cognition

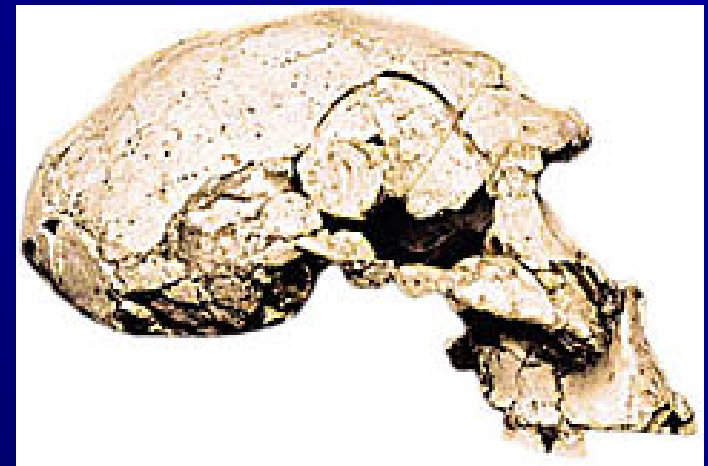
- Supports basic research on human cognitive and perceptual functions
- Topics include, but are not limited to:
 - Attention
 - Memory
 - Spatial Cognition
 - Language Processing
 - Perceptual and Conceptual Development
 - Visual, Auditory, and Tactile Perception
 - Reasoning
- Research supported by the program encompasses a broad range of theoretical perspectives such as Symbolic Computation, Connectionism, and Dynamical Systems

Program Officer: Betty Tuller and Vincent Brown



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: Jean Turnquist



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, Kellina Craig – Henderson and Gil Clary



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





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.



Human Subjects

- A tribal community may establish its own Institutional Review Board (IRB) following Federal Policy for the Protection of Human Subjects, Subpart A: The Common Rule for the Protection of Human Subjects (45 CFR 690)

<http://www.nsf.gov/bfa/dias/policy/docs/45cfr690.pdf>



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



Standard Review Criteria

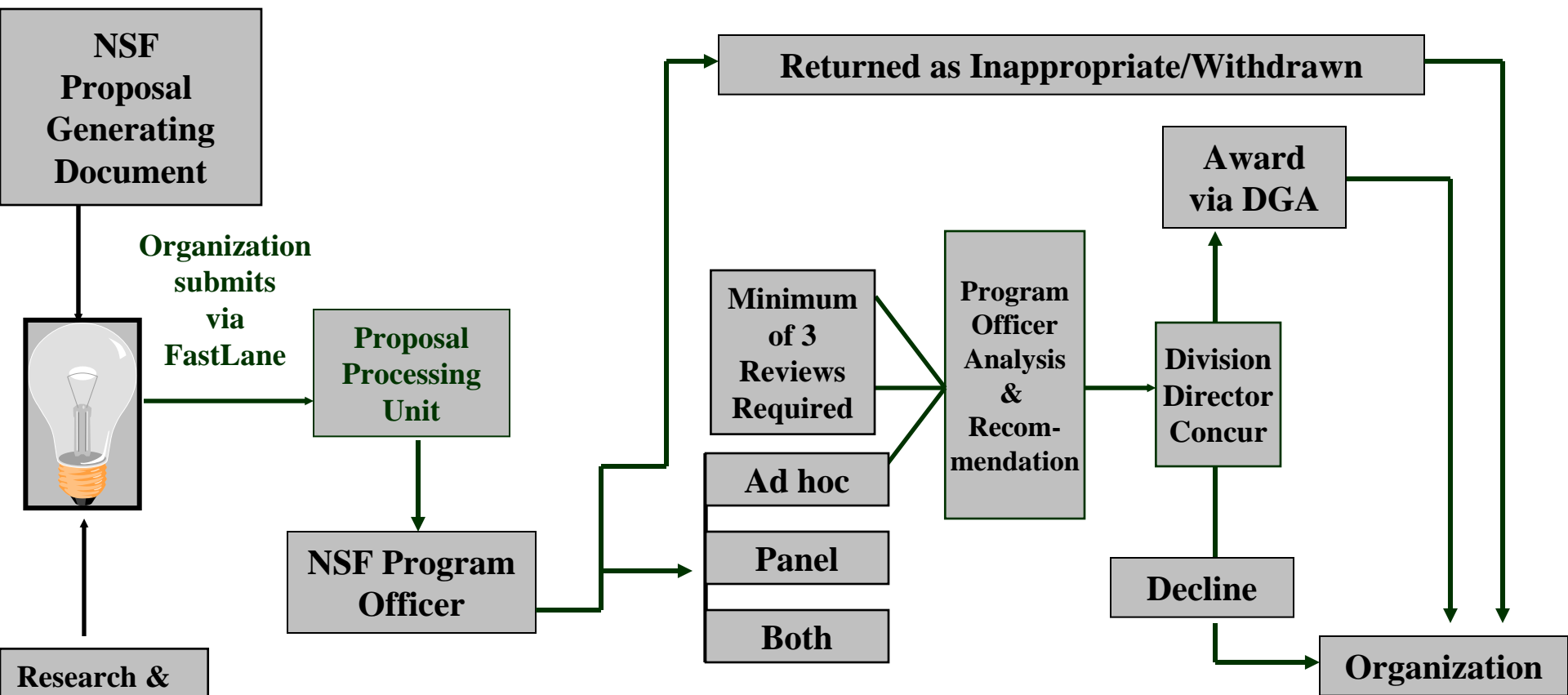
- 1. What is the intellectual merit and quality of the proposed activity?**
 - Importance
 - Qualifications
 - Creativity and originality
 - Conception and organization
 - Access to resources
- 2. What are the broader impacts of the proposed activity?**
 - Training
 - Diversity
 - Infrastructure
 - Dissemination/Public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

Types of Support

- Standard Research Grants
(Collaborative)
- Scholar's Awards
- Postdoctoral Fellowships
- Small Grants for Training and Research
- Conference and Workshop Awards
- CAREER Grants



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

