

# Funding Opportunities in SBE



Social, Behavioral, and Economic Sciences Directorate  
March 3, 2017

# PRESENTED BY

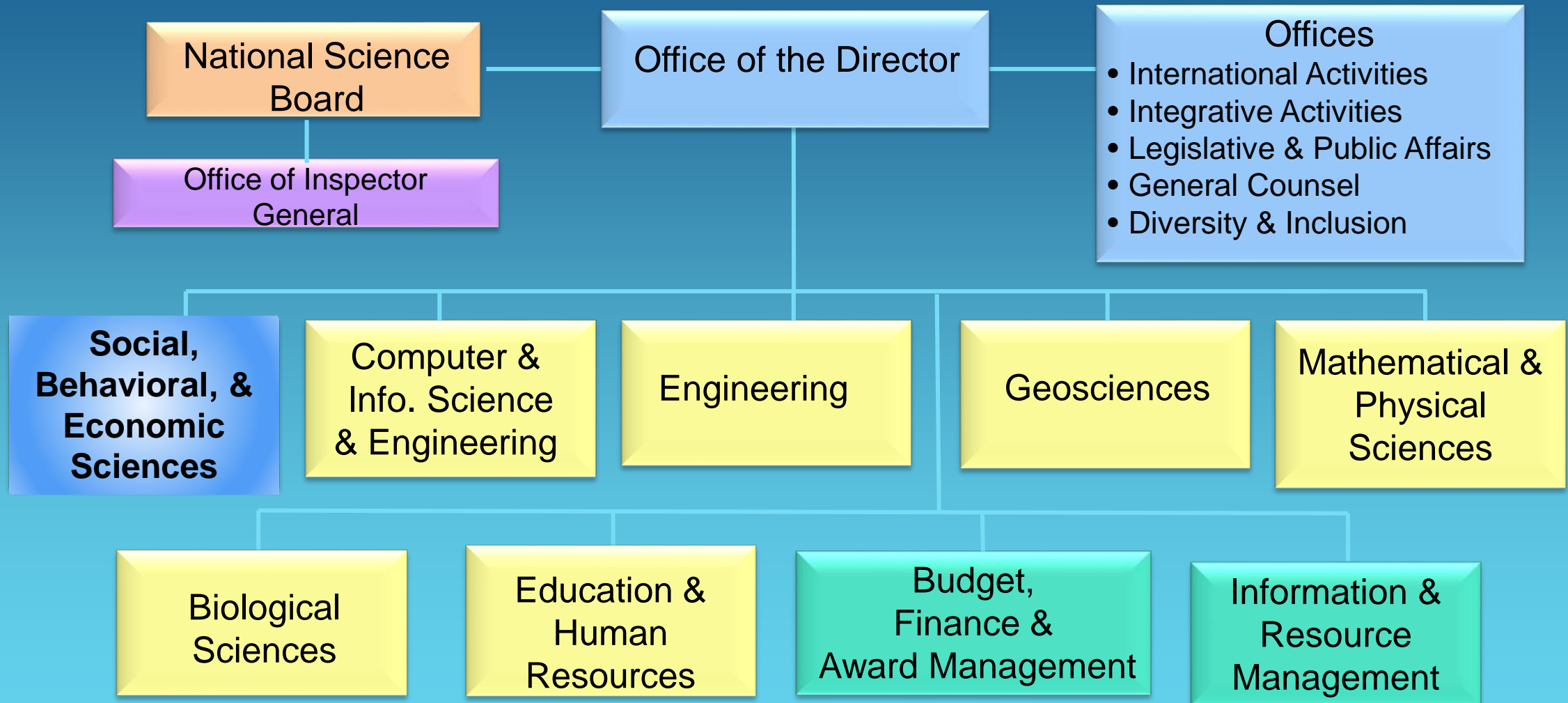
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National Science Foundation



# NSF IN A NUTSHELL

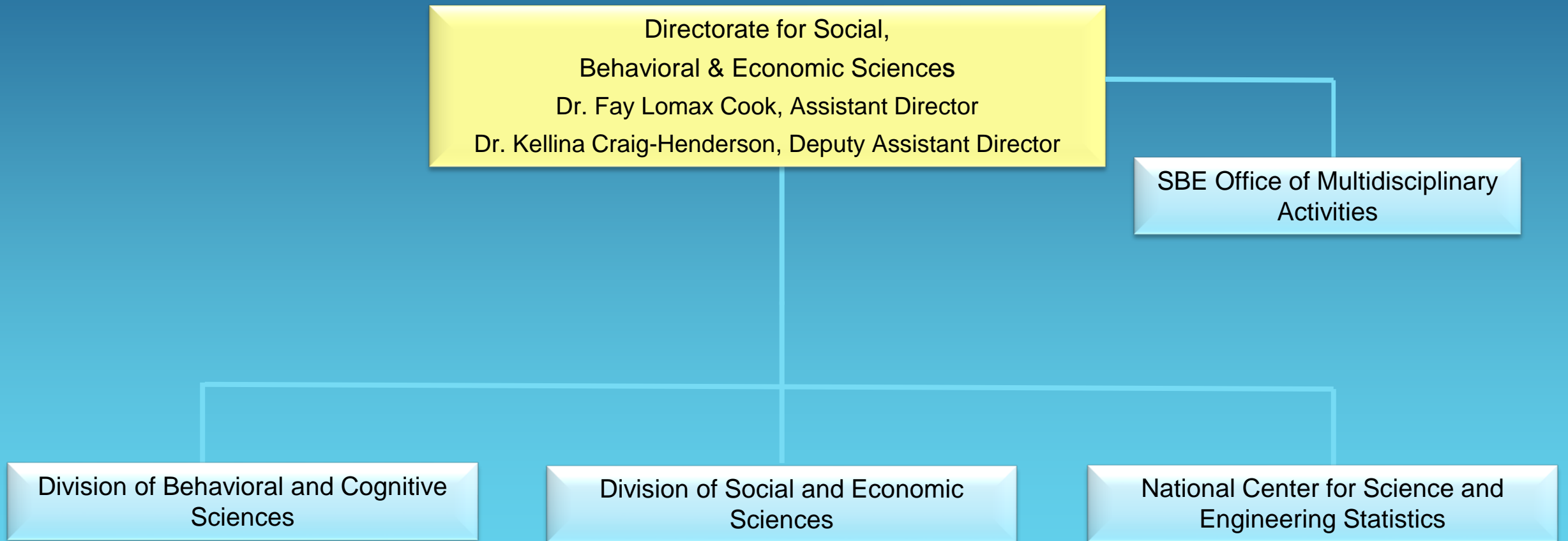
- Independent federal agency created by Congress in 1950 "to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense..."
- Annual budget of about \$7.0 billion
- Currently about 11,000 new awards per year, with an average duration of three years

# NATIONAL SCIENCE FOUNDATION



# NSF SBE OVERVIEW

## \$272 MILLION ANNUAL BUDGET (FY 2015 ENACTED)





# 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 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 the National Center for Science and Engineering Statistics and grants to the research community

# BEHAVIORAL AND COGNITIVE SCIENCES (BCS)

Supports research to develop and advance scientific knowledge on:

- Human cognition
- Language
- Social behavior
- Culture
- Interactions between human societies and the physical environment





# BEHAVIORAL AND COGNITIVE SCIENCES

## Programs:

- Archaeology and Archaeometry
- Biological Anthropology
- Cultural Anthropology
- Cognitive Neuroscience
- Developmental and Learning Sciences
- Documenting Endangered Languages
- Geography and Spatial Sciences
- Linguistics
- Perception, Action, & Cognition
- Social Psychology



# SOCIAL AND ECONOMIC SCIENCES (SES)

SEEKS TO ENHANCE OUR UNDERSTANDING OF HUMAN, SOCIAL AND ORGANIZATIONAL BEHAVIOR BY SUPPORTING **DISCIPLINARY** AND **INTERDISCIPLINARY** RESEARCH THAT ADVANCES KNOWLEDGE IN THE SOCIAL AND ECONOMIC SCIENCES, AND BY BUILDING SOCIAL SCIENCE **INFRASTRUCTURE**

## Disciplinary programs:

- Economics
- Political Science
- Sociology

## Interdisciplinary programs:

- Decision, Risk, and Management Sciences
- Science of Organizations
- Methodology, Measurement, and Statistics
- Science, Technology, and Society
- Law and Social Sciences

# OVERVIEW OF STEM DATA AVAILABLE FROM THE NATIONAL CENTER OF SCIENCE AND ENGINEERING STATISTICS (NCSES)

- NCSES is a federal statistical agency within the SBE Directorate.
- NCSES provides data users with objective, high-quality statistical information on U.S. and international science, engineering, technology, and R&D, and fosters research that improves the measurement and understanding of the science and engineering enterprise.
- Five surveys collect data from or about universities and students:
  - Higher Education Research and Development Survey
  - Survey of Science & Engineering Research Facilities
  - Survey of Earned Doctorates
  - Survey of Federal Science and Engineering Support to Universities, Colleges and Nonprofit Institutions
  - Survey of Graduate Students and Post doctorates in Science and Engineering

# NCSES DATA OF INTEREST

- Detailed Statistical Tables or eTables by survey:

<http://www.nsf.gov/statistics/tables-by-survey.cfm>

- Institution level ranking tables for measures such as R&D expenditures, research space, number of S&E graduate students, S&E doctorates awarded.
- Academic Institution Profiles: <http://ncesdata.nsf.gov/profiles/>
  - Selected data for individual institutions on doctorates, graduate students, research funding and expenditures from four NCSES surveys.
- WebCASPAR: <https://ncesdata.nsf.gov/webcaspar/>
  - Online table generator for NCSES data. Can choose data from several NCSES surveys by selected institutions and years to create custom tables.
    - For more information contact Ronda Britt, [rbritt@nsf.gov](mailto:rbritt@nsf.gov).

# INFRASTRUCTURE

## **American National Election Survey (ANES) –**

Time-series surveys of voting, public opinion, and political participation (1948-2012)

## **General Social Survey (GSS) –**

Time series surveys that monitor changes in social characteristics and attitudes in the United States (1972-2014)

## **International Social Survey Programme (ISSP)-**

53 nation survey collaboration covering social science research topics

## **Panel Study of Income Dynamics (PSID) –**

Longest running longitudinal household survey in the world on socio-economics and health over time and across generations (1968 – 2013)

# INFRASTRUCTURE, CONTD.

## **Integrated Public Use Microdata Series, International (IPUMS-I) -**

Collects and distributes census data from around the world - currently 614 million person records from 277 censuses in 82 countries

## **Luxembourg Income Data Center (LIS) -**

Harmonizes datasets with income, wealth, employment, and demographic data from a large number of countries.

## **Federal Statistical Research Data Center (RDC)-**

Access to restricted-use microdata from a variety of statistical agencies, US Census Bureau Headquarters University of MD, College Park.

# ON THE HORIZON...

- Newly established (2015) “Diversity and Inclusion in Government Council” (OPM, OMB, & EEOC)
- SBE outreach to Minority Serving Institutions
- Women and Minorities in STEM Booster Act of 2016 (2017-2021) (pending approval)
- Broadening participation in HBCUs NSF 17-027
  - Contacts: [hhapke@nsf.gov](mailto:hhapke@nsf.gov), [kgyimahb@nsf.gov](mailto:kgyimahb@nsf.gov)

# FUNDING OPPORTUNITIES



# PROPOSAL MECHANICS

- Standard research grants
- CAREER awards
- High risk awards (EAGER, RAPID)
- Doctoral Dissertation Research Improvement grants\*
- Training programs
  - Graduate Research Fellowships
  - Post-doctoral Fellowships
  - Research Experiences for Undergraduates
- Workshops
- Major Research Instrumentation (MRI) Awards
- Research Coordination Nks (RCNs)

# ACCESS TO NSF FUNDING

- **Submit a proposal** to a standing program or submit a proposal to a special competition.
- **Merit Review** by advisory panel or ad hoc reviewers or combination of the two.

## NSF Review Criteria

- **Intellectual merit** – “highest quality” and have the potential to advance, if not transform, the frontiers of knowledge.
- **Broader impacts**... should contribute more broadly to achieving societal goals.

# INFORMATION ABOUT FUNDING

- Regular Program Announcements: Usually have target dates
- Special Program Initiatives. May come once in a while
- Dear Colleague Letters (DCLs)
  - NSF 16-143 (Foundation-wide, congressional mandate)
  - NSF 17- 027 (already referred to)
- Funding information available at NSF website
  - <https://www.nsf.gov/funding/aboutfunding.jsp>

# WHAT TO CONSULT AND WHO TO CONTACT

- Documents to read before you prepare a proposal:
  - The solicitation or program announcement for the specific competition (and maybe an FAQ sheet).
  - The *NSF Proposal and Award Policies and Procedures Guide (PAPPG; NSF 16-001)*, which usually is updated annually.
  - If there are disagreements between *PAPPG* and the solicitation, the solicitation takes precedence.
- If you have questions or need help, contact:
  - The relevant program officer(s) if you have questions re: appropriateness of a proposal or interpretation of proposal-preparation guidelines and rules. (E-mail usually is better for initial contact, and it's best to make contact well before the proposal-submission deadline.)
  - The **FastLane** user-support desk if you have technical or procedural questions or problems. **(Call 800-673-6188 between 7 AM and 9 PM ET M-F.)**

# MANAGING AWARDS SUCCESSFULLY

- Documents to read after you have received an award
  - The award letter from NSF (and all references cited in it).
  - The *NSF Proposal and Award Policies and Procedures Guide*.
  - Note that these documents give awardees considerable responsibility subject to some limitations
- If you have questions or need help, contact:
  - The managing NSF program officer (who will be named in the award letter, with updates visible on research.gov).
  - The NSF grants officer (also named in the award letter or accessible via <http://www.nsf.gov/bfa/dga/docs/liaison.pdf>).
- Become aware of critical issues and processes for managing awards
  - Examples include reporting requirements for PIs, no-cost extension procedures, pre-award spending, transferring an award to a different organization, managing subawards, redirecting funds across budget lines.

# OPPORTUNITIES FOR PRIMARILY UNDERGRAD INSTITUTIONS (PUI)

- What's a PUI?
- Funded in SBE through regular programs, standard merit review process.
- Research in Undergraduate Institutions Awards (RUI): work on your campus.
- Research Opportunity Awards (ROA): working with an NSF-funded PI at the campus of a research university.
- Solicitation 14-579 has details about special info to include in proposal.

# OPPORTUNITIES FOR FUTURE SBE SCIENTISTS

- Graduate Research Fellowship Program (GRFP).
- Research Assistantships funded by NSF research awards.
- Doctoral Dissertation Research Improvement Grants (DDRIG).
- NSF-funded mentoring programs in SBE fields
  - Political Science: Ralph Bunche Summer Institute
  - Economics: AEA Summer Training Program

# RESEARCH EXPERIENCES FOR UNDERGRADUATES (REU)

- Regular NSF proposals can put undergraduate students in the budget, or ask for REU (Research Experiences for Undergraduates) Supplements. **Contact the Program Director for your existing grant or for the grant that you are planning to submit, to find out how that program handles REU Supplements.**
- REU Sites are standalone projects; every NSF directorate has an annual REU Site competition. See NSF REU program page at [http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5517&from=fund](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5517&from=fund). **Deadline 4<sup>th</sup> Wednesday in August, annually.**
- More specific details on the SBE REU Sites program can be found here: [https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=503644](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503644)
- All REU Site proposals are reviewed in multi-disciplinary panels. There is one competition for the entire SBE Directorate.



# SBE POSTDOCTORAL RESEARCH FELLOWSHIPS (SPRF)

*Submission Deadline: Last Monday in October, Annually*

The SPRF program has two separate tracks

**\*\*Applicants must choose one\*\***

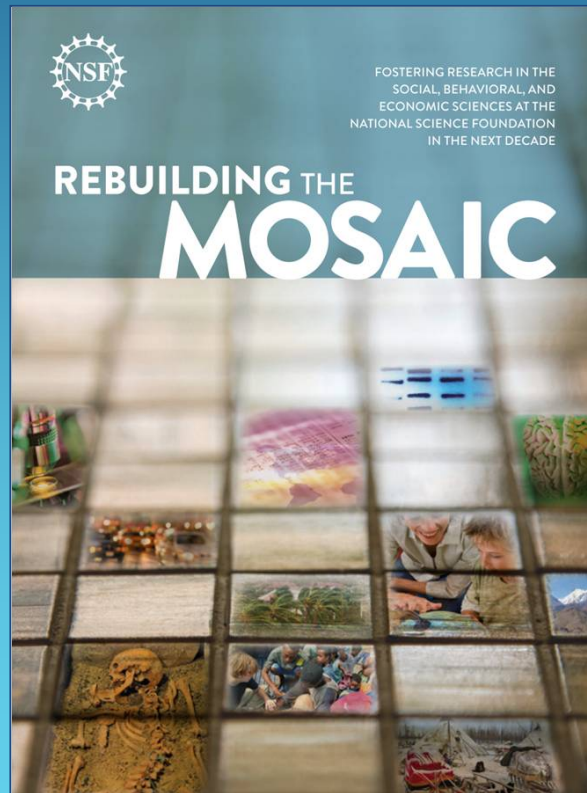
1. Broadening Participation, SPRF-BP
  - To promote diversity in the scientific workforce
  - Previously called the SBE Minority Postdoctoral Research Fellowship
2. Interdisciplinary Research in Behavioral and Social Sciences, SPRF-IBSS
  - To promote research in emerging interdisciplinary fields

SPRF Program Page for details, link to full solicitation, and FAQs:

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=504810](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504810)


# FUTURE DIRECTIONS IN SBE SCIENCE

# OPPORTUNITIES FOR SBE SCIENCES IN THE 21<sup>ST</sup> CENTURY: 2020 THEMES/REBUILDING THE MOSAIC



## ➤ Future research will be:

- Interdisciplinary
- Data intensive
- Collaborative



# FUTURE RESEARCH WILL BE: 1) INTERDISCIPLINARY, 2) DATA INTENSIVE, AND 3) COLLABORATIVE

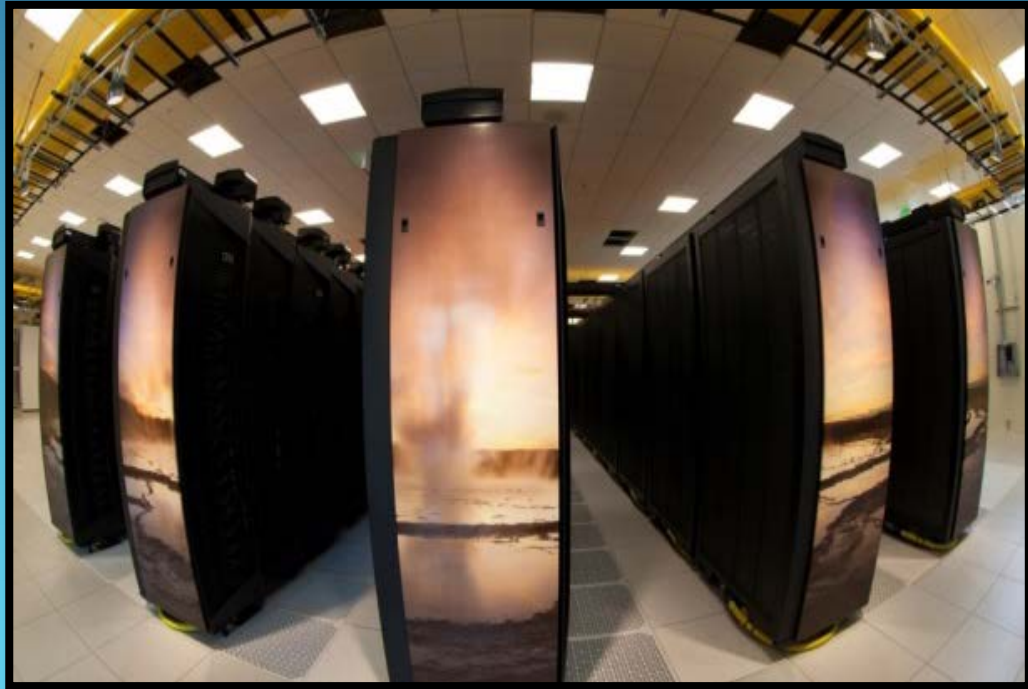
- Interdisciplinary Behavioral and Social Sciences Research (IBSS)
- SBE Postdoctoral Research Fellowships (SPRF; IBSS track)
- Resource Implementations for Data Intensive Research in the Social, Behavioral, and Economic Sciences (RIDIR)
- Science of Learning: Collaborative Networks (SL:CN)

# UNDERSTANDING THE BRAIN

- Cross-directorate activity to enable the scientific understanding of the full complexity of the brain in action and in context
- SBE focus is to understand the dynamic relationship between brain structure and activity and human cognition and behavior.
- 2015 solicitation, Integrative Strategies for Understanding Neural and Cognitive Systems



# CYBERINFRASTRUCTURE FRAMEWORK FOR 21ST CENTURY SCIENCE, ENGINEERING AND EDUCATION (CIF21)

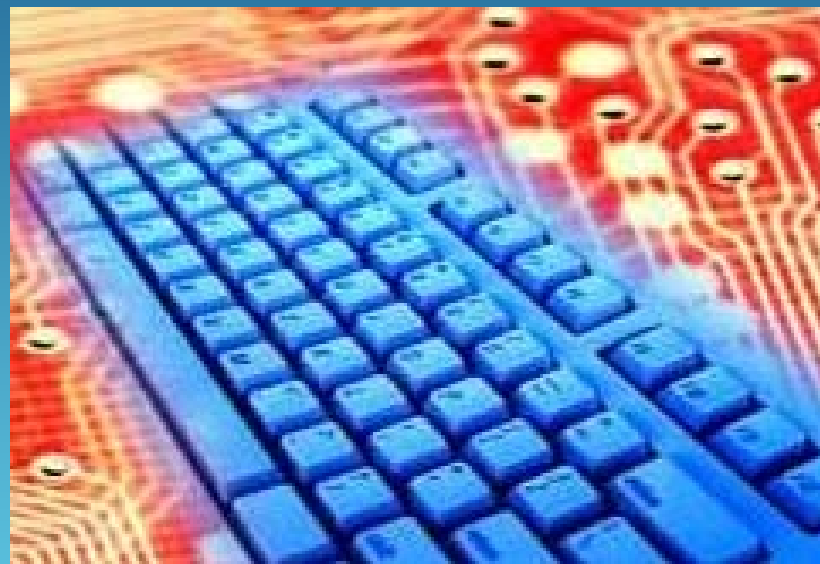


- Support development of user-friendly, large-scale, next-generation data resources and analytical techniques through the Resource Implementations for Data Intensive Research in the Social, Behavioral, and Economic Sciences (RIDIR) program
- Support innovative SBE big data applications through the BIGDATA program

# SECURE AND TRUSTWORTHY CYBERSPACE (SATC)

- Support research at the interstices of the social and computer sciences to achieve secure practices through both market mechanisms and behavioral incentives
- Continue to support research on Privacy in Today's Networked World
- "Cybersecurity is a socio-technical problem — technology alone is not going to solve the problem. . . . The social dimension of security is important."

- CISE AD Jim Kurose, 1/27/2015





# INCLUSION ACROSS THE NATION OF COMMUNITIES OF LEARNERS THAT HAVE BEEN UNDERREPRESENTED FOR DIVERSITY IN SCIENCE AND ENGINEERING (NSF INCLUDES)

- Long-term goal: fund new research, models, and partnerships that lead to demonstrable progress in meeting the challenge of broadening participation in science and engineering
- Expand, re-frame, and improve alignment of directorate-based broadening participation efforts for greater impact
- FY 2016 pilots
  - Networks for STEM Excellence
  - Empowering All Youth for STEM
- SBE particular interest: the Science of Broadening Participation (Dear Colleague Letter)





# INNOVATIONS AT THE NEXUS OF FOOD, ENERGY, AND WATER SYSTEMS (INFEWS)

## Conserving Water - Producing Energy - Sustaining Food

NSF Awards: Interactions of Food Systems with Water and Energy Systems



FEW: Coupling Economic Models with Agronomic, Hydrologic, and Bioenergy Models for Sustainable Food, Energy, and Water Systems  
Catherine Kling, PI; Iowa State University  
(new conference award in 2015)

- Enhance capacity to explore the interactions among food, energy, and water systems
- Explore the social, political, economic, and cultural dimensions of the food, energy, and water systems

# RISK AND RESILIENCE: CRITICAL RESILIENT INTERDEPENDENT INFRASTRUCTURE SYSTEMS AND PROCESSES (CRISP)

- Understand responses to risks from
  - extreme natural events (hurricanes; earthquakes)
  - people (terrorism; human error)
- Build more resilient infrastructure systems



**SOME TIPS/ENCOURAGEMENTS?**

# ANATOMY OF PROPOSAL REVIEW

## ➤ Intellectual Merit

- Qualifications of PI
- Creativity & Originality
- Transformative?
- Conception & Organization
- Access to Resources
- Advances Scientific Knowledge

## ➤ Broader Impacts

- Importance of Topic
- Mentoring
- Diversity
- Infrastructure
- Dissemination/Publication
- Societal Benefits

# ANATOMY OF NSF GRANT PROPOSAL

- Cover Page
- Project Summary (1 page)
- Table of Contents (auto-generated)
- Project Description (15 pages)
- References cited
- Biographical sketches (for all senior PIs on the project)
- Budget
- Current and Pending Support
- Facilities, Equipment, and other Resources
- Post-doctoral mentoring Plan (if applicable)
- Data Management Plan
- Supplemental Documentation (if applicable—no letters of support)

# STRATEGIES TO ENHANCE YOUR CHANCES

- Read the program announcement very carefully. Missing important details could cost you an Award
- Talk to a Program Officer. A short one page outline of your ideas can serve as the basis for such a discussion. S/he can tell you whether your ideas fit or does not fit the Program Announcement.
- Ask about whether there are other programs or initiatives that may bet better fit for your ideas
- If a proposal is declined, schedule a follow up chat with a program officer to get a feedback on whether/how to revise
- NEVER GIVE UP! Persistence usually Pays off.

# CONSIDERATION IN WRITING YOUR PROPOSAL

- Why is the work important?
- How is the work unique or innovative?
- What approach am I going to use and have I adequately sketched it out? Is it feasible?
- Why will this approach be especially valuable or informative?
- How is the team qualified to do this research?
- What is the contribution of this research to knowledge and how do the results benefit society?

THANK YOU FOR PATIENCE

ANY QUESTIONS?