



NCSES Engagements with Academic Experts in Statistical Agency Research

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www.nsf.gov/statistics



National Center for Science and Engineering Statistics (NCSES)

- ❖ One of 13 principle federal statistical agencies, formerly the Division of Science Resources Statistics (SRS)
- ❖ Serves as a central federal clearing house for the collection, interpretation, analysis, and dissemination of objective data on science, engineering, technology, and research and development.
- ❖ Established within NSF by Section 505 of the America COMPETES Reauthorization Act of 2010 with expanded mandate



Science, engineering, technology, research – complex topics

- ❖ Innovation
- ❖ U.S. competitiveness
- ❖ Interdisciplinary (multidisciplinary, transdisciplinary)
- ❖ Knowledge diffusion
- ❖ Postdoctoral position
- ❖ Educational and occupational pathways

Research needs

- ❖ Construct and measurement development
 - Validity and reliability

- ❖ Survey methodology
 - Questionnaire design
 - Appeals and incentives
 - Contact and nonresponse strategies
 - Design of experiments and testing

- ❖ Statistical
 - Frame development
 - Sample design
 - Nonresponse adjustments
 - Modeling, estimation, analyses
 - Disclosure and confidentiality protection
 - Data visualization



Types of Engagements with academic experts

- ❖ Informal interactions
 - Hallway discussions
 - Conferences, presentations, short courses
 - Restricted data licensees and other data users



Types of Engagements with academic experts

❖ Formal engagements

- Expert panels
 - Short-term, 1 to 2 days
 - Longer-term, 1 to 2 years
- National Academies of Science, CNSTAT panels
 - Short-term, 1 to 4 day workshops
 - Longer-term, multi-year panel
- Grants
 - NSF-ASA fellowship program
 - Specific solicitations
- Cooperative agreements
 - Via NASS IAA
- Contracts

Examples of panels and workshops

- ❖ Human Resources Experts Panel
 - Pathways of scientists and engineers

- ❖ Data visualization expert panel
 - Presentation of state S&T indicators data

- ❖ CNSTAT workshop
 - R&D in NonProfit organizations

- ❖ CNSTAT panel
 - Indicators of science and technology

- ❖ Statistical expert panel
 - Sample expansion and redesign for Survey of Doctorate Recipients



Examples of grants, agreements & contracts

- ❖ ASA-NSF Fellowship
 - Three researchers over a five-year period
 - Summers at NCSES

- ❖ Grant Solicitations
 - Dozen+ researchers over three-year period
 - All research conducted at home institution

- ❖ Cooperative agreement via NASS IAA
 - Washington State University
 - University of Nebraska

- ❖ Contracts
 - IDIQ – Indefinite delivery, indefinite quantity

Summary of experiences

- ❖ Workshops -- work well if
 - Focus is on specific topics
 - Able to identify experts

- ❖ CNSTAT panels and workshops -- work well
 - High quality and authoritative

- ❖ Grants -- mixed
 - Researcher is in the drivers seat
 - Agency input may or may not be taken
 - Fellows working on-site work well,
 - Ability to interact on daily basis



Summary of experiences

- ❖ Cooperative agreements – works well if
 - Agency needs and research interests are aligned
 - Researcher actively seeks agency interactions
 - Researcher presents seminars and meets with agency staff on a regular basis

- ❖ Contracts -- work well if
 - Statement of work is clearly defined
 - Agency is highly involved



Questions?