



Fostering Diversity and Data Collection

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THE NSF STATUTORY MISSION

To promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense; and for other purposes.

—From The National Science Foundation Act of 1950 (P.L. 81-507)



Different Types of Diversity

Kinds of Diversity:

Demographics

Geographical data

Type of Institution

Career stage

And more...

Data Collection

Standard participant surveys (from NSF)

Annual and Final Reports for every award

Information from the Proposal/Award

Biosketch

Cover Page

Program Review

Awards database

And more...



Fostering Diversity - Different Programs

NSF solicitations address both traditional research programs and those that directly address diversity goals. ALL have two merit review criteria – scientific merit and broader impacts. Some examples:

- **Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (INCLUDES)** – NSF-wide, managed through the Education and Human Resources Directorate
- **Organizational Change for Gender Equity in STEM Academic Professions (ADVANCE)** - NSF-wide, managed through the Education and Human Resources Directorate
- **Faculty Early Career Development Program (CAREER)**
- **Launching Early-Career Academic Pathways in the Mathematical and Physical Sciences (LEAPS-MPS)**
- **Mid-scale Research Infrastructure-1 and 2**
- **Division of Physics: Investigator-Initiated Research Projects (PHY)**



Data Collection - Demographics

- Research Participants (Persons directly supported through an award)
 - Optional survey (self reported) for researchers submitting a proposal
 - Automatic request for self –reported demographic (and other) data
 - Annual and Final reports
- Reviewers and panelists
 - Optional survey (self-reported) when logging into the review system
- Broad view of award participants (persons touched by the award but not directly supported)
 - Annual and Final reports
 - Reports and statistics generated through the award (by the investigators)



Data Collection – NSF Awards database

<https://www.nsf.gov/awardsearch/>

Keywords

State

Country

Size of award

Type of award

Principal Investigator

Institution

And more...

Data types (awards only):

- Scientific area
- Geographical
- Funded through a specific Program

~~• Demographics~~

~~• Type of Institution~~



Data Collection - Institution Type and Career Stage

Institution type:

Different definitions for different institutions: Carnegie classification, primarily undergraduate, degree granting, minority serving, community college, four year institution, non-academic, non-degree granting, etc.

- Different definitions across programs leads to problems aggregating data
- Collecting the data is not automatic
- In many cases the institutions self-certify (when the institution type matters)

Career stage:

- Proposal cover page gives date of PhD
- Biosketch can give further information
- Collecting data is not automatic and the PhD date can give misleading information for those on less traditional career paths



NCSES

National Center for Science and Engineering Statistics (NCSES):

The National Center for Science and Engineering Statistics (NCSES) is the nation's leading provider of statistical data on the U.S. science and engineering enterprise.



- Not part of NSF's internal data collection
- Staff expertise is available when questions arise about best or accepted practices



NSF Reports and Resources

- NSF Annual Merit Review:
https://www.nsf.gov/nsb/publications/2020/merit_review/FY-2019/nsb202038.pdf
- Biannual Survey of Researchers and Reviewers:
<https://insightpolicyresearch.com/projects/math-and-science-partnership-program-intermediate-trends-in-math-and-science-partnership-changes-in-student-achievement-with-management-information-system-2/>



Questions?