

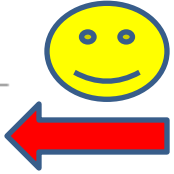
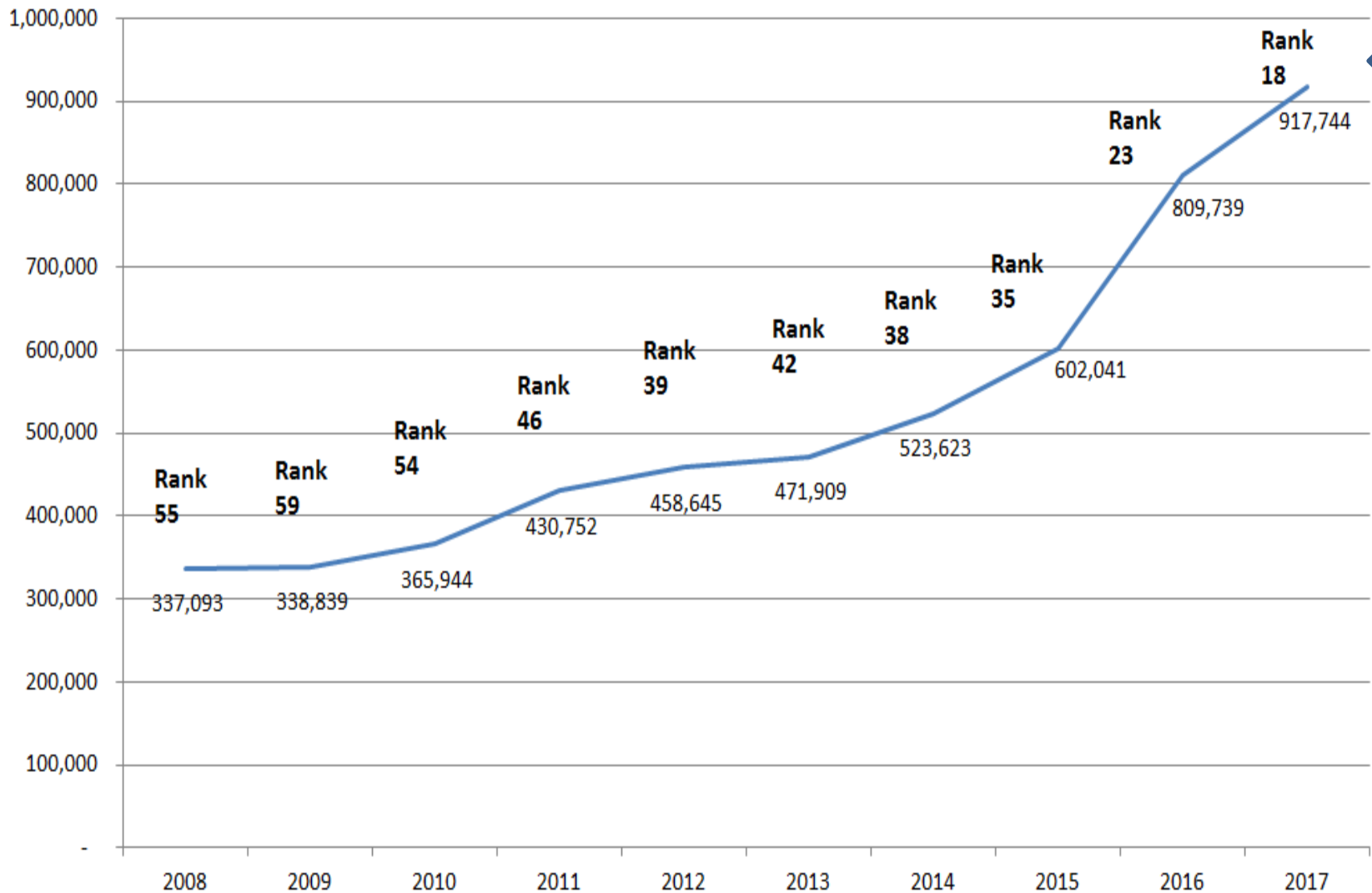
NSF Higher Education Research &  
Development (HERD) Survey

***Institutionally Financed Research***

# NSF HERD Survey

- collects data on research and development (R&D) expenditures at higher education institutions in the U.S. by field of research and source of funds (<https://researchadmin.asu.edu/topical-guide/nsf-herd-survey>)
- completed annually for a given fiscal year (Sept 1-Aug 31) and is due by the end of January of the following year
- results of the survey are primarily used to:
  - assess trends in R&D expenditures across the fields of science and engineering (S&E)
  - rank institutions by R&D expenditures
  - maintain data from previous fiscal years for historical trend analysis purposes
- information is vital for decision making by federal, state, and academic planners regarding future R&D funding priorities
- NYU places significant importance on the results of the survey

# NYU (includes Washington Square, School of Medicine and Global Campuses), HERD Ranking & Total R&D expenditures (in 1000s)





# Things you may not know about the HERD Survey

- Conducted annually since FY 1972, significantly redesigned in FY 2010
- Census of all U.S. universities and colleges with minimum of \$150,000 of R&D spending (N = 903 in FY 2017)
- Survey response rate has consistently been over 95% - thank you!
- Survey results are eagerly anticipated by a large community of stakeholders each year – HERD survey tables are most viewed of all of the NSF surveys
- Survey results are combined with other NSF R&D surveys to estimate total R&D performance within the U.S.
- Survey data and reports available at <https://nsf.gov/statistics/srvyherd/>

- Types of data collected:
  - Foreign sources of funding
  - Medical School R&D
  - Clinical Trial R&D
  - Type of funding agreement: grant vs contract
  - Specific cost elements of R&D expenses  
(salaries, software, equipment, etc.)
  - Headcount of personnel paid from R&D accounts



# What can be included in institutionally-financed research?

- Funding should be designated for R&D.
- Exclude project types not considered R&D on HERD.

Competitively awarded internal grants for research (organized research)

- Startup packages/bridge funding/seed funding → **i.e., Faculty research accounts (Fund 20)**
- University tuition assistance, waivers, or remission provided to students working on organized research (departmental or central accounts)
- Other departmental research → **i.e., Gifts with research purpose (Fund22)**

**University Research Challenge Fund (URCF)- captured in Fund 24**

## INCLUDE expenditures that support:

- **Basic Research [BARSH]:** experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without any particular application or use in view;
- **Applied Research [APRSH]:** original investigation undertaken in order to acquire new knowledge. It is directed primarily towards a specific, practical aim or objective;
- **Experimental Development [EXDVP]:** systematic work, drawing on knowledge gained from research and practical experience and producing additional knowledge, which is directed to producing new products or processes or to improving existing products or processes. Note: Extramural funding for fellowships, scholarships, or dissertations generally are categorized as one of the three types of Research;
- **Clinical Trial [CLTRL]:** research studies designed to answer specific questions about the effects of drugs, vaccines, medical devices, tests, treatments, and other therapies for patients. A Clinical Trial is used to determine safety and effectiveness.

INCLUDE expenditures that support (cont'd.):

- **Research [RSH]** – former legacy value that consists of all organized research (basic, applied research and experimental development);
- **Research Training [RSTRN]** - includes the training of individuals in research techniques where such activities utilize the same facilities as other research and development activities;

DO NOT include activity that supports OSA.

- **Other Sponsored Activity [OSA]** - Programs and projects financed by Federal and non-Federal agencies and organizations that involve the performance of work other than instruction and organized research.
  - Examples are: *health service projects, public service projects, and education and community service programs.*



# FAME Purpose Codes

Purpose	Description
ACSUP	Academic Service/Support
APRSH	Applied Research
AUX	Auxiliary Enterprises
BARSH	Basic Research
CAPTL	Capital
CLTRL	Clinical Trial
EXDVP	Experimental Development
INSTR	Instruction
INSUP	Institutional Support
INTRN	Instructional Training
LIBR	Libraries
LPTRA	La Pietra
OIA	Other Institutional Activities
OMP	Op and Maintenance of Plant
OSA	Other Sponsored Activity
PBSVC	Public Service
PTC	Patient Care
RESRV	Reserve
RSH	Organized Research (old legacy code)
RSTRN	Research Training
SCFLW	Scholarship/Fellowship
SSA	Student Services Admin
STAID	Student Aid/Loans

# HERD Survey Sample Template

- 16 questions on the HERD survey.
  - 27 worksheets to fill out.

Examples follow:

- Question 1 has 2 worksheets
- Question 9 has 6
- Question 11 has 4
- Question 12 has 1
- Question 14 has 3

**Question 1. How much of your total expenditures for research and development (R&D) came from the following sources in FY 2018? (See definition of R&D on the previous page.)**

- In rows a, b, c, d, and f. Include both **direct** and **recovered indirect costs** (reimbursement of F&A costs from external sponsors).
- Report the **original source** of funds, when possible.
- Include **all** fields of R&D (e.g., sciences, engineering, humanities, education, law, arts). See full listing in Question 9.

Source of funds	R&D expenditures (Dollars in thousands) (for example, report \$25,342 as \$25)
<b>a. U.S. federal government</b> Any agency of the United States government. Include federal funds passed through from another institution. Funds from FFRDCs should be treated as direct federal funding.	\$ <input type="text"/>
<b>b. State and local government</b> Any state, county, municipality, or other local government entity in the United States, including state health agencies. Include state funds that support R&D at agricultural and other experiment stations. <i>Public institutions</i> should report state appropriations restricted for R&D activities here rather than in row e, Institutional funds.	\$ <input type="text"/>
<b>c. Business</b> Domestic or foreign for-profit organizations. Report funds from a company's nonprofit foundation in row d.	\$ <input type="text"/>
<b>d. Nonprofit organizations</b> Domestic or foreign nonprofit foundations and organizations, except universities and colleges. Report funds from your institution's 501(c)3 foundation in row e1. Funds from other universities and colleges should be reported in row f.	\$ <input type="text"/>
<b>e. Institutional funds</b>	
1. Institutionally financed research All R&D funded by your institution from accounts that are only used for research. Exclude institution research administration and support (e.g., office of sponsored programs).	\$ <input type="text"/> (Confidential <sup>1</sup> )
2. Cost sharing Include committed cost sharing other than unrecovered indirect costs.	\$ <input type="text"/> (Confidential <sup>1</sup> )
3. Unrecovered indirect costs Calculate this amount as follows for your externally funded R&D only (preferably on a project-specific basis) using the appropriate cost rate—on-campus, off-campus, etc. <ul style="list-style-type: none"> <li>• First, multiply the <u>negotiated</u> rate by the corresponding base.</li> <li>• Second, subtract recovered indirect costs.</li> </ul>	\$ <input type="text"/> (Confidential <sup>1</sup> )
4. Total institutional funds <sup>2</sup>	\$ <input type="text" value="0"/>
<b>f. All other sources</b> Other sources not reported above, such as funds from foreign governments, foreign or U.S. universities, and gifts designated by the donors for research.	\$ <input type="text"/>
<b>g. Total<sup>2</sup></b>	\$ <input type="text" value="0"/>

<sup>1</sup> Information from confidential items is not published or released for individual institutions; only aggregate totals will appear in publications. In accordance with the National Science Foundation Act of 1950, as amended, and other applicable federal laws, your

**Question 9A–B. What were your FY 2018 R&D expenditures in the computer and information sciences and engineering funded by the federal agency sources below? (R&D expenditures from nonfederal sources will be reported in Question 11.)**

- Question 9 total (page 18, row K, column h) should match Question 1, row a.
- Please see "Reference Materials" on the survey website for a list of the subagencies belonging to each agency shown below.
- If an individual project involves more than one of the 40 fields of R&D, please prorate expenditures when possible and report the amount for each field involved.
- For subrecipient funding, report the agency that sponsored the original award.
- Funding from FFRDCs should be reported under the primary sponsoring agency for that center.

**R&D expenditures from federal sources<sup>1</sup>**  
(Dollars in thousands)

R&D Fields (Examples listed below)	(a) USDA	(b) DoD	(c) Energy	(d) HHS, includes NIH	(e) NASA	(f) NSF	(g) Other	(h) Total <sup>2</sup>
<b>A. Computer and Information Sciences</b>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/> 0
<b>B. Engineering</b>								
1. Aerospace, Aeronautical, and Astronautical Engineering	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/> 0
2. Bioengineering and Biomedical Engineering	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/> 0
3. Chemical Engineering	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/> 0
4. Civil Engineering	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/> 0
5. Electrical, Electronic, and Communications Engineering	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/> 0
6. Industrial and Manufacturing Engineering	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/> 0
7. Mechanical Engineering	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/> 0
8. Metallurgical and Materials Engineering	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/> 0
9. Other Engineering	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/> 0
10. Total <sup>2</sup>	\$ <input type="text"/> 0	\$ <input type="text"/> 0	\$ <input type="text"/> 0	\$ <input type="text"/> 0	\$ <input type="text"/> 0	\$ <input type="text"/> 0	\$ <input type="text"/> 0	\$ <input type="text"/> 0

<sup>1</sup> Key: USDA, Department of Agriculture; DoD, Department of Defense; Energy, Department of Energy; HHS, Department of Health and

**Question 11A–B. What were your FY 2018 R&D expenditures in the computer and information sciences and engineering fields funded by the nonfederal sources below?**

- The totals in row K, page 24 should match the corresponding sources in Question 1, rows b–f.
- If an individual project involves more than one of the 40 fields of R&D, please prorate expenditures when possible and report the amount for each field involved.

**R&D expenditures from nonfederal sources**  
(Dollars in thousands)

R&D Fields (See Question 9, p. 13)	(a) State and local government	(b) Business	(c) Nonprofit organizations	(d) Institutional funds	(e) Other nonfederal sources	(f) Total <sup>1</sup>
<b>A. Computer and Information Sciences</b>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0"/>
<b>B. Engineering</b>						
1. Aerospace, Aeronautical, and Astronautical Engineering	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0"/>
2. Bioengineering and Biomedical Engineering	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0"/>
3. Chemical Engineering	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0"/>
4. Civil Engineering	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0"/>
5. Electrical, Electronic, and Communications Engineering	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0"/>
6. Industrial and Manufacturing Engineering	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0"/>
7. Mechanical Engineering	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0"/>
8. Metallurgical and Materials Engineering	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0"/>
9. Other Engineering	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0"/>
10. Total <sup>1</sup>	\$ <input type="text" value="0"/>	\$ <input type="text" value="0"/>	\$ <input type="text" value="0"/>	\$ <input type="text" value="0"/>	\$ <input type="text" value="0"/>	\$ <input type="text" value="0"/>

**Question 12.** Of the total amount of R&D expenditures reported in Question 1, row g, what were the amounts for the following types of costs?

- Please report only direct costs (including cost sharing) in rows a–e.
- Recovered and unrecovered indirect costs should be reported in rows f1 and f2.

R&D expenditures  
(Dollars in thousands)

**a. Salaries, wages, and fringe benefits**

Include compensation for all R&D personnel whether full-time or part-time, temporary or permanent. Include salaries, wages, and fringe benefits paid from your institution's funds and from external support.

\$

**b. Software purchases**

All payments for software. Include both purchases of software packages and license fees for systems.

**1. Noncapitalized software**

\$

**2. Capitalized software** (If you are unable to distinguish capitalized software from capitalized equipment, report both in row c.)

\$

**c. Capitalized equipment**

Payments for movable equipment exceeding your institution's capitalization threshold. Include ancillary costs such as delivery and setup.

\$

**d. Pass-throughs to other universities or organizations**

(should match the total in Question 8, row e, column 3)

\$

**e. Other direct costs**

Other costs that do not fit into one of the above categories, including (but not limited to) travel, tuition waivers, services such as consulting, computer usage fees, and supplies.

\$

**f. Indirect costs**

**1. Recovered indirect costs**

Reimbursement of Facilities and Administrative (F&A) costs from external sponsors

\$   
(Confidential<sup>1</sup>)

**2. Unrecovered indirect costs**

(should equal Question 1, row e3)

\$   
(Confidential<sup>1</sup>)

**3. Total indirect costs<sup>2</sup>**

\$

**g. Total<sup>2</sup>**

(should match total from Question 1, row g)

\$

Question 14A–C. For the R&D fields below, what portion of your FY 2018 R&D expenditures went for the purchase of capitalized R&D equipment?

Question 14 total (row K, column c) should match Question 12, row c (Capitalized equipment).

R&D Fields (See Question 9, pp. 13–14)	R&D equipment expenditures (Dollars in thousands)		
	(a) Federal	(b) Nonfederal	(c) Total <sup>1</sup>
<b>A. Computer and Information Sciences</b>	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0"/>
<b>B. Engineering</b>			
1. Aerospace, Aeronautical, and Astronautical Engineering	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0"/>
2. Bioengineering and Biomedical Engineering	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0"/>
3. Chemical Engineering	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0"/>
4. Civil Engineering	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0"/>
5. Electrical, Electronic, and Communications Engineering	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0"/>
6. Industrial and Manufacturing Engineering	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0"/>
7. Mechanical Engineering	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0"/>
8. Metallurgical and Materials Engineering	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0"/>
9. Other Engineering	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0"/>
10. Total <sup>1</sup>	\$ <input type="text" value="0"/>	\$ <input type="text" value="0"/>	\$ <input type="text" value="0"/>
<b>C. Geosciences, Atmospheric Sciences, and Ocean Sciences</b>			
1. Atmospheric Science and Meteorology	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0"/>
2. Geological and Earth Sciences	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0"/>
3. Ocean Sciences and Marine Sciences	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0"/>
4. Other Geosciences, Atmospheric Sciences, and Ocean Sciences	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0"/>
5. Total <sup>1</sup>	\$ <input type="text" value="0"/>	\$ <input type="text" value="0"/>	\$ <input type="text" value="0"/>

<sup>1</sup> Row and column totals are automatically generated on the Web survey.

Comments: (500 characters maximum)