



NCSES

# Postdocs at Federally Funded R&D Centers: Fall 2017

Detailed Statistical Tables | NSF 19-310 | February 13, 2019

General Notes	2
Data Tables	3
Technical Notes	11
Suggested Citation and Acknowledgments	14
Contact	15

## General Notes

---

These data were compiled from the Survey of Postdocs at Federally Funded Research and Development Centers (FFRDCs): Fall 2017. The survey is intended to identify all FFRDCs that employed postdoctoral researchers (postdocs) as of October 1 of the survey year and to collect aggregate information on the demographic characteristics and fields of research of the postdocs employed at each FFRDC. The FFRDC Postdoc Survey began in 2005 and is administered in odd-numbered years as part of the Survey of Graduate Students and Postdoctorates in Science and Engineering, which is sponsored by the National Center for Science and Engineering Statistics within the National Science Foundation and by the National Institutes of Health.

The most recent Master Government List of FFRDCs can be found at <https://www.nsf.gov/statistics/ffrdclist/>. For data on R&D expenditures at FFRDCs, see the R&D Expenditures at FFRDCs report series at <https://www.nsf.gov/statistics/ffrdc/>. For data on federal R&D obligations and funding to FFRDCs, see the Federal Funds for R&D report series at <https://www.nsf.gov/statistics/fedfunds/>.

## Data Tables

---

Table Title

---

1	Postdocs at federally funded research and development centers: 2015 and 2017
2	Citizenship, ethnicity, and race of postdocs at federally funded research and development centers, by sex: 2017
3	Sex, citizenship, ethnicity, and race of postdocs at federally funded research and development centers, by FFRDC type: 2017
4	Source of support and citizenship of postdocs at federally funded research and development centers, by FFRDC type: 2017
5	Field of research of postdocs at federally funded research and development centers, by FFRDC type: 2017
6	Field of research of postdocs at federally funded research and development centers, by citizenship: 2017
7	Sex, citizenship, ethnicity, race, and source of support of postdocs at federally funded research and development centers: 2005–17

---

TABLE 1

**Postdocs at federally funded research and development centers: 2015 and 2017**

(Number)

FFRDCs	2015	2017
All postdocs	2,696	2,975
University-administered FFRDCs	1,227	1,296
Ames Laboratory	44	44
Argonne National Laboratory	304	297
Fermi National Accelerator Laboratory	79	97
Jet Propulsion Laboratory	165	188
Lawrence Berkeley National Laboratory	449	438
Lincoln Laboratory	3	4
National Center for Atmospheric Research	33	60
National Optical Astronomy Observatory	4	1
National Radio Astronomy Observatory	12	13
National Solar Observatory	1	2
Princeton Plasma Physics Laboratory	17	22
SLAC National Accelerator Laboratory	41	46
Thomas Jefferson National Accelerator Facility	75	84
Nonprofit-administered FFRDCs	698	788
Brookhaven National Laboratory	133	116
National Renewable Energy Laboratory	92	102
Oak Ridge National Laboratory	230	291
Pacific Northwest National Laboratory	242	279
Project Air Force	1	0
Industry-administered FFRDCs	771	891
Frederick National Laboratory for Cancer Research	14	22
Idaho National Laboratory	32	34
Lawrence Livermore National Laboratory	182	228
Los Alamos National Laboratory	343	379
Sandia National Laboratories	189	221
Savannah River National Laboratory	11	7

FFRDC = federally funded research and development center.

**Source(s)**

National Science Foundation, National Center for Science and Engineering Statistics, Survey of Postdocs at Federally Funded Research and Development Centers.

TABLE 2

**Citizenship, ethnicity, and race of postdocs at federally funded research and development centers, by sex: 2017**

(Number)

Citizenship, ethnicity, and race	Total	Male	Female
All postdocs	2,975	2,259	716
U.S. citizens and permanent residents <sup>a</sup>	1,341	988	353
Hispanic or Latino	67	51	16
Not Hispanic or Latino	1,217	896	321
American Indian or Alaska Native	4	4	0
Asian	170	124	46
Black or African American	27	16	11
Native Hawaiian or Other Pacific Islander	0	0	0
White	991	736	255
More than one race	25	16	9
Unknown ethnicity or race	57	41	16
Temporary visa holders	1,634	1,271	363

<sup>a</sup> Race and ethnicity data are available only for U.S. citizens and permanent residents.

**Source(s)**

National Science Foundation, National Center for Science and Engineering Statistics, Survey of Postdocs at Federally Funded Research and Development Centers, 2017.

TABLE 3

**Sex, citizenship, ethnicity, and race of postdocs at federally funded research and development centers, by FFRDC type: 2017**

(Number)

Sex, citizenship, ethnicity, and race	Total	University administered	Nonprofit administered	Industry administered
All postdocs	2,975	1,296	788	891
Male	2,259	985	607	667
Female	716	311	181	224
U.S. citizens and permanent residents <sup>a</sup>	1,341	458	322	561
Hispanic or Latino	67	21	11	35
Not Hispanic or Latino	1,217	399	306	512
American Indian or Alaska Native	4	1	3	0
Asian	170	61	48	61
Black or African American	27	9	8	10
Native Hawaiian or Other Pacific Islander	0	0	0	0
White	991	314	244	433
More than one race	25	14	3	8
Unknown ethnicity or race	57	38	5	14
Temporary visa holders	1,634	838	466	330

FFRDC = federally funded research and development center.

<sup>a</sup> Race and ethnicity data are available only for U.S. citizens and permanent residents.**Source(s)**

National Science Foundation, National Center for Science and Engineering Statistics, Survey of Postdocs at Federally Funded Research and Development Centers, 2017.

TABLE 4

**Source of support and citizenship of postdocs at federally funded research and development centers, by FFRDC type: 2017**

(Number)

Source of support and citizenship	Total	University administered	Nonprofit administered	Industry administered
All postdocs	2,975	1,296	788	891
Federal support	2,544	1,135	779	630
U.S. citizens and permanent residents	1,089	392	319	378
Temporary visa holders	1,455	743	460	252
Nonfederal support	116	101	9	6
U.S. citizens and permanent residents	41	34	3	4
Temporary visa holders	75	67	6	2
Unknown support	315	60	0	255
U.S. citizens and permanent residents	211	32	0	179
Temporary visa holders	104	28	0	76

FFRDC = federally funded research and development center.

**Source(s)**

National Science Foundation, National Center for Science and Engineering Statistics, Survey of Postdocs at Federally Funded Research and Development Centers, 2017.

TABLE 5

**Field of research of postdocs at federally funded research and development centers, by FFRDC type: 2017**

(Number)

Field of research	Total	University administered	Nonprofit administered	Industry administered
All postdocs	2,975	1,296	788	891
Science and engineering	2,359	688	780	891
Science	1,697	587	501	609
Agricultural sciences	0	0	0	0
Biological and biomedical sciences	144	6	63	75
Chemistry	338	57	150	131
Computer and information sciences	128	14	58	56
Geosciences, atmospheric sciences, and ocean sciences	239	122	52	65
Mathematics and statistics	55	3	21	31
Natural resources and conservation	2	0	0	2
Physics and astronomy	718	366	122	230
Psychology	1	0	0	1
Social sciences	5	0	0	5
Other sciences	67	19	35	13
Engineering	662	101	279	282
Aerospace, aeronautical and astronautical engineering	22	4	4	14
Agricultural engineering	2	1	1	0
Bioengineering and biomedical engineering	23	1	3	19
Chemical engineering	80	11	39	30
Civil engineering	18	4	3	11
Electrical, electronics and communications engineering	52	6	15	31
Engineering mechanics, physics and science	44	15	0	29
Industrial and manufacturing engineering	0	0	0	0
Mechanical engineering	100	28	21	51
Metallurgical and materials engineering	244	16	162	66
Nuclear engineering	58	3	27	28
Petroleum engineering	2	1	0	1
Other engineering fields	17	11	4	2
Health	0	0	0	0
Multidisciplinary	47	39	8	0
Non-science or engineering	39	39	0	0
Field of research not known	530	530	0	0

FFRDC = federally funded research and development center.

**Source(s)**

National Science Foundation, National Center for Science and Engineering Statistics, Survey of Postdocs at Federally Funded Research and Development Centers, 2017.



TABLE 6

**Field of research of postdocs at federally funded research and development centers, by citizenship: 2017**

(Number)

Field of research	Total	U.S. citizens and permanent residents	Temporary visa holders
All postdocs	2,975	1,341	1,634
Science and engineering	2,359	1,124	1,235
Science	1,697	791	906
Agricultural sciences	0	0	0
Biological and biomedical sciences	144	77	67
Chemistry	338	185	153
Computer and information sciences	128	56	72
Geosciences, atmospheric sciences, and ocean sciences	239	122	117
Mathematics and statistics	55	30	25
Natural resources and conservation	2	0	2
Physics and astronomy	718	296	422
Psychology	1	1	0
Social sciences	5	3	2
Other sciences	67	21	46
Engineering	662	333	329
Aerospace, aeronautical and astronautical engineering	22	14	8
Agricultural engineering	2	1	1
Bioengineering and biomedical engineering	23	15	8
Chemical engineering	80	46	34
Civil engineering	18	8	10
Electrical, electronics and communications engineering	52	31	21
Engineering mechanics, physics and science	44	22	22
Industrial and manufacturing engineering	0	0	0
Mechanical engineering	100	51	49
Metallurgical and materials engineering	244	95	149
Nuclear engineering	58	45	13
Petroleum engineering	2	1	1
Other engineering fields	17	4	13
Health	0	0	0
Multidisciplinary	47	18	29
Non-science or engineering	39	15	24
Field of research not known	530	184	346

**Source(s)**

National Science Foundation, National Center for Science and Engineering Statistics, Survey of Postdocs at Federally Funded Research and Development Centers, 2017.

TABLE 7

**Sex, citizenship, ethnicity, race, and source of support of postdocs at federally funded research and development centers: 2005–17**

(Number)

Characteristic	2005	2006	2007	2009	2010	2012	2013	2015	2017
FFRDCs with postdocs	22	22	22	23	22	21	21	24	23
All postdocs	1,820	2,147	2,235	2,449	3,011	2,793	2,613	2,696	2,975
Male	1,430	1,373	1,461	1,679	2,052	2,115	2,020	2,048	2,259
Female	390	455	450	513	673	678	593	648	716
Unknown sex	0	319	324	257	286	0	0	0	0
U.S. citizens and permanent residents <sup>a</sup>	654	774	899	899	1,191	1,156	1,150	1,246	1,341
Hispanic or Latino	NA	NA	NA	39	48	54	52	55	67
Not Hispanic or Latino	NA	NA	NA	833	1,005	1,045	1,065	1,140	1,217
American Indian or Alaska Native	NA	NA	NA	2	4	4	3	5	4
Asian	NA	NA	NA	115	151	137	171	181	170
Black or African American	NA	NA	NA	18	16	14	14	19	27
Native Hawaiian or Other Pacific Islander	NA	NA	NA	2	3	3	2	0	0
White	NA	NA	NA	691	822	853	861	908	991
More than one race	NA	NA	NA	5	9	34	14	27	25
Unknown ethnicity or race	NA	NA	NA	27	138	57	33	51	57
Temporary visa holders	1,120	1,373	1,336	1,293	1,820	1,637	1,463	1,450	1,634
Unknown citizenship	46	0	0	257	0	0	0	0	0
Source of support									
Federal support	NA	1,641	2,030	2,258	2,541	2,707	2,531	2,543	2,544
Nonfederal support	NA	506	205	181	184	86	82	150	116
Unknown support source	NA	0	0	10	286	0	0	3	315

NA = not available; data were not collected.

FFRDC = federally funded research and development center.

<sup>a</sup> Race and ethnicity data are available only for U.S. citizens and permanent residents.**Note(s)**

The survey was not conducted in 2008, 2011, 2014, or 2016. Exercise caution in using trend data because the changes in how FFRDCs define their postdocs, maintain their administrative data, and report unknown responses affect data comparability trends. See <https://www.nsf.gov/statistics/srvyffrdcpd/> for more details.

**Source(s)**

National Science Foundation, National Center for Science and Engineering Statistics, Survey of Postdocs at Federally Funded Research and Development Centers.

## Technical Notes

---

### Survey Overview

*Purpose.* The Survey of Postdocs at Federally Funded Research and Development Centers (FFRDC Postdoc Survey) is a census of all FFRDCs in the United States that employed postdoctoral researchers (postdocs) as of the survey reference date.

*Data collection authority.* The information collected in the FFRDC Postdoc Survey is solicited under the authority of the National Science Foundation Act of 1950, as amended, and the America COMPETES Reauthorization Act of 2010. The Office of Management and Budget control number is 3145-0062 and expires on 31 October 2020.

*Survey contractor.* RTI International.

*Survey sponsors.* The FFRDC Postdoc Survey is conducted as part of the Survey of Graduate Students and Postdoctorates in Science and Engineering, which is sponsored by the National Center for Science and Engineering Statistics (NCSES) within the National Science Foundation and by the National Institutes of Health. The Department of Energy provided funding until 2010.

### Key Survey Information

*Frequency.* Periodic.

*Initial survey year.* 2005.

*Reference period.* 1 October 2017.

*Response unit.* Establishment.

*Sample or census.* Census.

*Population size.* 42 FFRDCs.

*Sample size.* Not applicable.

### Survey Design

*Target population.* The survey target population includes all FFRDCs that employed postdocs as of 1 October 2017.

*Sample frame.* The survey is a census of all FFRDCs in the Master Government List of FFRDCs in the United States as of March 2017. The list is maintained by NCSES (<https://www.nsf.gov/statistics/ffrdclist/>). NCSES maintains the master list by querying all federal agencies annually to determine changes, additions, or deletions to the list. FFRDCs are engaged in basic research, applied research, development, or management of R&D activities, on direct request of the government or under a broad charter from the government—in both cases, under the monitorship of the government. FFRDCs are operated, managed, and administered as separate organizational units in a parent organization or as separately incorporated organizations. They receive the majority of their financial support (70% or more) from the federal government, usually from one agency, and are expected to have a long-term relationship with their sponsoring agency.

*Sample design.* Not applicable.

### Data Collection and Processing Methods

*Data collection.* On 2 February 2018, before starting data collection, prior survey coordinators were contacted via e-mail to confirm whether they were still the most appropriate contact. Additional follow-up contacts through e-mails and telephone calls were made to staff at those FFRDCs that did not immediately confirm the contact person. These efforts resulted in identifying a contact person for all returning FFRDCs. On 6 February 2018, FFRDC directors were sent a letter inviting their

FFRDC to participate in the 2017 survey. The director of the newly added FFRDC received a similar letter but was asked to nominate a coordinator. On 15 February 2018, the FFRDC coordinators received a survey launch e-mail that provided them with their Web access information and indicated the due date of 29 March 2018. A series of survey reminders was sent to coordinators, and all but four FFRDCs had replied by the requested due date. The survey was closed out on 31 May 2018, after determining that one FFRDC was not going to respond.

*Mode.* Self-administered online questionnaire (Web).

*Response rates.* All but one of the 42 FFRDCs responded to the survey, including 22 of 23 FFRDCs that employed postdocs. Thus, the overall FFRDC response rate was 98%, and the response rate for FFRDCs that employed postdocs was 96%. The response rate calculations adhere to American Association for Public Opinion Research standards for computing response rates.<sup>[1]</sup>

*Data editing.* All the data submitted by the FFRDCs were reviewed to ensure that all data fields were completed and that data were internally consistent. Any FFRDC with cell counts that were more than 20% above or 20% below its corresponding prior-year data was flagged for edit verification. In cases where survey staff determined that confirmation was needed, FFRDC respondents were contacted by telephone or e-mail and asked to correct and resubmit the survey data.

*Imputation.* Carry-forward imputation and nearest-neighbor imputation were used in cases where an FFRDC did not respond or only provided an overall total for the survey.

*Weighting.* Not applicable.

*Variance estimation.* Not applicable.

## Survey Quality Measures

*Sampling error.* Not applicable.

*Coverage error.* There is no coverage error for this survey other than that, if any, from the Master Government List of FFRDCs maintained by NCSES.

*Nonresponse error.* The nonresponse error is minimal; all but one FFRDC responded to the survey. The item nonresponse rate ranged from 4% to 9%.

*Measurement error.* The most likely source of measurement error is from respondents' misreporting of information. To minimize reporting errors, substantial changes in counts and inconsistent data in the survey responses are subject to follow-up contacts to verify changes and correct anomalies in the data. The survey Web instrument was also designed to allow respondents to indicate that they have postdocs but do not have the information about them for a particular grid, which allows missing information to be distinguished from the reporting of zero counts.

## Data Comparability (Changes)

*Changes in survey coverage and population.* In addition to the 41 FFRDCs included in the 2015 and 2017 FFRDC Postdoc Surveys, 1 FFRDC was added in the 2017 round, and 1 FFRDC included in the 2015 round no longer exists. The Homeland Security Studies and Analysis Institute was phased out in 2016 and thus not included in the 2017 survey. The Homeland Security Operational Analysis Center was created in 2016 and added to the FFRDC Postdoc Survey for 2017.

In 2012, the Frederick National Laboratory for Cancer Research (FNLCR) was reorganized and renamed from the National Cancer Institute at Frederick, and it revised its postdoc reporting to include only FFRDC contract employees. Consequently, the total number of postdocs reported by the FNLCR dropped from 286 in 2010 to 25 in 2012. All comparisons of FFRDC postdoc data spanning this period need to account for these differences.

*Changes in questionnaire.* None.

*Changes in reporting procedures or classification.* Not applicable.

## Definitions

*Ethnicity.* The Office of Management and Budget provides guidance to collect Hispanic ethnicity separately from race. In this survey, Hispanic ethnicity refers to whether an individual is of Hispanic or Latino descent.

*Federal financial support.* Postdoctoral support provided by a federal agency such as the Department of Defense, Department of Energy, National Institutes of Health, or National Science Foundation.

*Field of research.* The area in which a postdoc's research was focused. It may or may not be the field in which a postdoc received his or her degree.

*Hispanic or Latino ethnicity.* Individuals of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race.

*Largest source of support.* The source of funds that provides the largest amount (highest percentage) of financial support for postdocs.

*Nonfederal financial support.* Support from state and local government; support from institutions, such as stipends; support from foreign sources, such as foreign governments, foreign firms, and agencies of the United Nations; and support from other U.S. sources, such as support from nonprofit institutions, private industry, and all other nonfederal U.S. sources.

*Postdoctoral researchers (postdocs).* The definition of a postdoc varies by institution. Respondents were instructed to use their institution's definition of a postdoc. NCSES defines a postdoc as meeting both of the following qualifications:

- Holds a recent doctoral degree, generally awarded in the last 5 years, such as a PhD or equivalent (e.g., ScD, DEng); a first professional degree in a medical or related field (e.g., MD, DDS, DO, DVM); or a foreign degree equivalent to a U.S. doctoral degree.
- Has a limited-term appointment, generally no more than 5–7 years, primarily for training in research or scholarship and working under the supervision of a senior scholar in a unit affiliated with the institution.

*Temporary visa holders.* Individuals in the United States on temporary U.S. resident visas.

*U.S. citizens and permanent residents.* U.S. citizens, including those from Puerto Rico and the U.S. territories, and permanent residents holding permanent U.S. resident visas (Green Cards).

*U.S. territories.* American Samoa, Guam, the Federated States of Micronesia, the Northern Mariana Islands, and the U.S. Virgin Islands.

[1] See response rate 1 calculation in *American Association for Political Opinion Research (AAPOR)*. 2016. Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys, 9th ed, p. 61. Deerfield, IL: AAPOR.

## Suggested Citation and Acknowledgments

---

National Science Foundation, National Center for Science and Engineering Statistics. 2019. *Postdocs at Federally Funded Research and Development Centers: Fall 2017*. Detailed Statistical Tables NSF 19-310. Alexandria, VA. Available at <https://nces.nsf.gov/pubs/nsf19310/>.

The 2017 Survey of Postdocs at Federally Funded Research and Development Centers was conducted as part of the Survey of Graduate Students and Postdoctorates in Science and Engineering with funds from the National Science Foundation (NSF) and the National Institutes of Health. RTI International conducted the survey, under contract number NCE-1445223.

RTI prepared the tables. RTI staff members who made significant contributions include Caren Arbeit and Patricia Green. Under NSF contract number NSFDACS17T1045, Roxanne Snaauw reviewed the table composition and Margaret Johnson performed editorial quality control.

This report was developed and coordinated by Michael Yamaner of the Human Resources Statistics Program, National Center for Science and Engineering Statistics (NCSES), NSF, under the direction of John Finamore. Emilda Rivers, division director, and Samson Adeshian, chief statistician, reviewed and provided overall guidance.

## Contact

---

**Michael Yamaner**

Project Officer

Human Resources Statistics Program

(703) 292-7815

[myamaner@nsf.gov](mailto:myamaner@nsf.gov)