



Federally Funded R&D Centers Employed Over 3,000 Postdoctoral Researchers in 2010

by Daniel Foley ¹

Federally funded research and development centers (FFRDCs) play an integral role in advancing the U.S. science and engineering (S&E) enterprise. The 39 centers on the National Science Foundation (NSF) FFRDC master list received approximately \$16.8 billion dollars in federal expenditures in fiscal year 2010, including over \$1 billion in funds from the American Recovery and Reinvestment Act of 2009.² In addition to assisting government agencies with scientific research and analysis, many FFRDCs

also provide training opportunities for the country's aspiring researchers and scientists through postdoctoral appointments. According to the NSF 2010 Survey of Postdocs at FFRDCs, 22 of the 39 centers collectively reported employing a total of 3,011 postdocs. This InfoBrief provides a first look at characteristics of these postdocs with respect to their demographics, source of financial support (either federal or nonfederal), and field of research, as reported by an administrative staff member at each FFRDC.

Demographic Characteristics and Source of Support

About three out of every four postdocs employed in FFRDCs in 2010 were men. Foreign nationals on temporary visas make up 60% of all postdocs employed in FFRDCs (table 1). Men constituted a higher percentage of foreign nationals than of U.S. citizens and permanent residents (78% versus 72%). Among U.S. citizens and permanent residents, a large majority were reported to be white (75%) or

TABLE 1. Postdocs in federally funded research and development centers, by citizenship, ethnicity, race, and sex: 2010

Citizenship, ethnicity, and race of postdocs	Total ^a	Men	Women
Total postdocs	2,725	2,052	673
Foreign nationals holding temporary visas regardless of ethnicity or race	1,629	1,265	364
U.S. citizens and permanent residents	1,096	787	309
Hispanic or Latino (one or more races)	48	36	12
Not Hispanic or Latino (one or more races)	1,005	721	284
American Indian or Alaska Native	4	4	-
Asian	151	99	52
Black or African American	16	7	9
Native Hawaiian or Other Pacific Islander	3	3	-
White	822	602	220
More than one race (not Hispanic or Latino)	9	6	3
Ethnicity or race unknown or not stated	43	30	13

^a Excludes 286 postdoctorates from one center that did not provide a full report.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, Survey of Postdocs at Federally Funded Research and Development Centers, 2010.

Asian (14%), and the remainder were Hispanic (4%), were black or African American (1%), or were other races or of unknown race or ethnicity (5%).³ Asians constituted a higher percentage of female than of male U.S. citizens and permanent residents (17% versus 13%).

Over 90% of the postdoctoral appointees were supported by federal sources. Nonfederal sources of support were more common among temporary visa holders than among U.S. citizens and

permanent residents (7.4% versus 5.8%) (figure 1).

Field of Research

Overall, 75% of all postdocs employed in FFRDCs were working in a science field, and another 23% were working in an engineering field (table 2). The most frequently reported science fields were physics and astronomy (31%), followed by chemistry (18%), biological sciences (8%), and earth, atmospheric, and ocean sciences (8%). The most

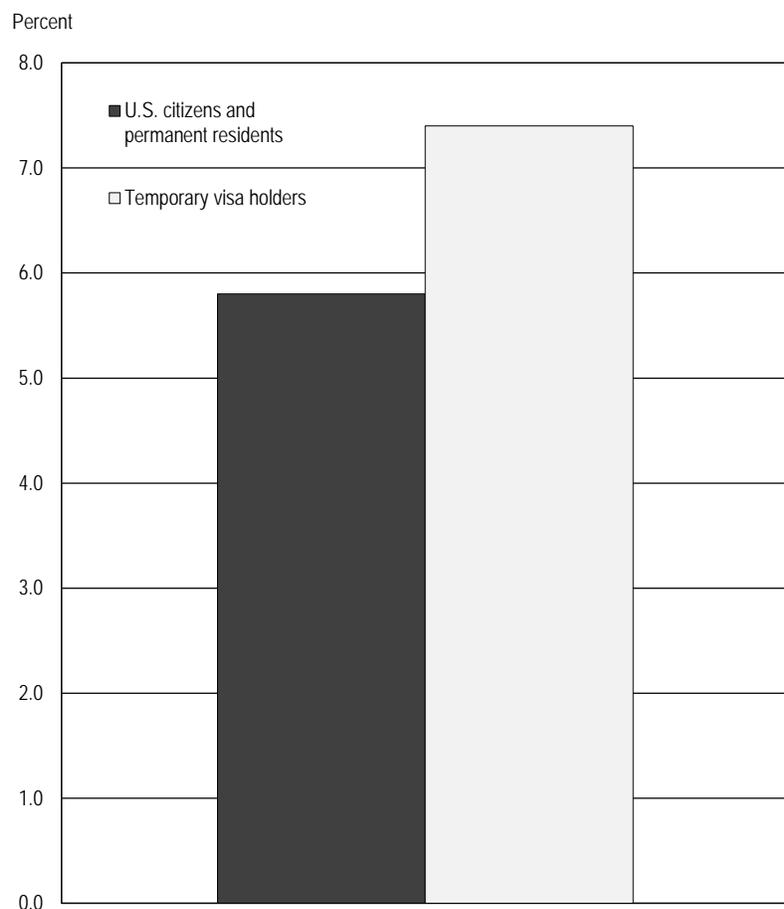
frequently reported engineering fields were in materials and metallurgical engineering (8%), followed by mechanical engineering (4%) and chemical engineering (4%). Only 2% of the postdocs were working in the field of nuclear engineering, and another 2% were working in the field of electrical engineering.

Data Sources and Limitations

The 2010 Survey of Postdocs at FFRDCs collected via a Web instrument the total number of postdocs employed by the 22 centers—categorized by source of financial support, citizenship, sex, race and ethnicity, and field of research—as of 1 October 2010. The FFRDC postdoc survey is conducted as part of the Survey on Graduate Students and Postdoctorates in Science and Engineering (GSS), which is sponsored by NSF and the National Institutes of Health. A postdoc is defined by the GSS as an appointee who holds a PhD or equivalent doctorate; whose doctorate was awarded recently, generally within the past 5 years; whose appointment is for a limited term, generally no more than 5 to 7 years; who works under the supervision of a senior researcher; and whose appointment is primarily for the purpose of training in research or through scholarship.

The universe for the 2010 FFRDC postdoc survey was the master government list of FFRDCs (<http://www.nsf.gov/statistics/ffrdclist/>). The 2010 survey universe consisted of 39 FFRDCs, any of which was eligible to participate in the survey if they had a postdoc program. The data were collected between February 2011 and

FIGURE 1. Percentage of postdocs receiving nonfederal support in Federally Funded Research and Development Centers, by citizenship: 2010



SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, Survey of Postdocs at Federally Funded Research and Development Centers, 2010.

TABLE 2. Postdocs in federally funded research and development centers, by field of research: 2010

Field of research	Total ^a	% of total
All fields	2,725	100.0
Science	2,053	75.3
Physics and astronomy	847	31.1
Chemistry	492	18.1
Biological sciences	223	8.2
Earth, atmospheric, and ocean sciences	209	7.7
Computer sciences	122	4.5
Mathematical sciences	44	1.6
Health fields	17	0.6
Social sciences	13	0.5
Agricultural sciences	1	0.0
Psychology	1	0.0
Other sciences	84	3.1
Engineering	633	23.2
Materials and metallurgical engineering	224	8.2
Mechanical engineering	102	3.7
Chemical engineering	100	3.7
Electrical engineering	58	2.1
Nuclear engineering	54	2.0
Civil engineering	21	0.8
Engineering science and physics	18	0.7
Biomedical engineering	17	0.6
Aerospace engineering	10	0.4
Industrial and manufacturing engineering	4	0.1
Agricultural engineering	0	0.0
Mining engineering	0	0.0
Petroleum engineering	0	0.0
Other engineering	25	0.9
Multidisciplinary fields	8	0.3
Other non-science or non-engineering fields	4	0.1
Field of research not known	27	1.0

^a Excludes 286 postdoctorates from one center that did not report field of research data.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, Survey of Postdocs at Federally Funded Research and Development Centers, 2010.

April 2011. Seventeen centers indicated that they did not have a postdoc program as of October 2010, which is the same reference period for the GSS. These FFRDCs without postdoc programs were funded primarily by agencies within the Department of Defense and within the Department of Homeland Security. Of the 22 remaining FFRDCs, 21 provided complete data, and one provided only the postdocs' citizenship data.

Notes

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2. Britt R. 2012. *ARRA Funding Raises R&D Expenditures within Federally Funded R&D Centers 11% to \$16.8 Billion in FY 2010*. InfoBrief NSF 12-315. Arlington, VA: National Science Foundation (<http://www.nsf.gov/statistics/infbrief/nsf12315/>).

3. Percentages for race and ethnicity categories do not add to 100% because of rounding.

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