

TABLE 15-2

U.S. residing employed doctoral scientists and engineers, by fine field of doctorate and primary work activity: 2023

(Number and SE)

Field of study	All employed		Research and development								Computer applications		Design		Management, sales, or administration ^a		Professional services		Teaching		Other ^b	
			Any R&D		Basic research		Applied research		Experimental development													
	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE
All fields	908,700	2,300	355,450	2,700	91,150	1,400	187,350	2,350	76,950	1,400	53,200	1,225	28,350	1,000	185,550	1,975	90,900	1,650	153,800	1,875	41,400	1,025
Science	667,950	2,050	251,550	2,250	78,950	1,250	132,100	1,800	40,500	1,075	33,750	1,000	11,650	575	134,250	1,800	79,050	1,475	126,400	1,675	31,250	900
Biological, agricultural, and environmental life sciences	235,050	1,175	106,750	1,400	36,200	800	54,750	1,125	15,800	675	5,600	375	2,550	275	53,350	1,250	22,450	900	32,200	775	12,150	525
Agricultural and food sciences	17,050	400	7,950	375	1,000	125	5,400	350	1,550	175	350	75	150	50	4,400	275	650	100	2,700	250	900	100
Agricultural sciences	900	75	400	50	50	25	250	50	100	25	50	25	D	D	250	50	50	25	150	25	50	25
Animal sciences	4,650	200	1,950	175	250	75	1,200	125	500	125	50	50	D	D	1,050	125	350	75	950	150	200	50
Food sciences and technology	3,600	200	1,800	200	300	100	1,100	175	450	75	D	D	100	50	1,050	125	100	50	350	125	150	50
Plant sciences	5,850	250	2,900	275	250	75	2,200	250	400	75	100	25	50	25	1,550	175	100	50	850	175	300	100
Soil sciences	2,050	100	900	75	150	50	600	75	100	50	100	50	*	*	500	100	50	25	300	75	200	50
Biochemistry and biophysics	29,700	475	13,900	525	5,700	375	5,500	350	2,750	350	950	175	350	100	7,000	450	2,450	325	3,650	350	1,450	225
Biochemistry	24,150	475	10,850	525	4,450	350	4,150	325	2,200	325	700	175	200	100	6,100	450	2,000	300	3,150	325	1,150	200
Biophysics	5,600	175	3,050	250	1,250	150	1,300	200	550	125	250	75	100	50	900	150	450	100	500	125	300	75
Cell, cellular biology, and molecular biology	32,400	525	13,800	625	6,250	475	5,200	425	2,400	300	600	150	300	125	7,600	500	4,400	375	4,150	350	1,550	250
Microbiological sciences and immunology	25,400	425	12,200	475	4,150	375	6,050	375	1,950	275	150	75	150	50	6,000	375	2,800	300	2,900	250	1,200	175
Immunology	9,800	225	5,150	275	1,600	200	2,900	250	650	150	D	D	D	D	2,100	250	1,400	175	650	125	450	100
Microbiological sciences	15,600	350	7,050	375	2,600	300	3,150	275	1,300	225	150	75	100	50	3,900	275	1,450	225	2,200	250	750	125
Natural resources and conservation	9,150	275	3,400	175	400	75	2,650	175	350	75	350	75	200	75	2,400	175	400	100	1,800	175	600	100
Fish, fisheries, wildlife, and wildlands science and management	1,950	100	950	75	50	25	850	75	50	25	D	D	D	D	600	75	50	25	250	50	100	50
Forestry	2,600	150	1,000	100	150	50	700	100	150	50	150	50	50	25	550	75	200	75	500	100	200	75
Natural resource conservation, research, management, and policy	4,600	200	1,450	150	200	75	1,100	150	150	50	200	75	150	50	1,250	150	200	50	1,050	125	300	75
Zoology	6,400	225	2,650	175	650	125	1,700	175	300	75	150	50	150	75	1,150	125	250	75	1,650	175	400	100
Other biological sciences	114,900	750	52,900	950	18,050	625	28,300	775	6,550	375	3,100	275	1,300	175	24,750	825	11,400	600	15,400	600	6,050	400
Biomathematics, bioinformatics, and computational biology	7,150	150	4,450	200	600	75	3,150	200	700	125	800	100	200	75	1,000	125	250	75	350	75	100	50
Botany and plant biology	6,300	225	2,650	225	850	150	1,450	150	300	75	100	50	D	D	1,550	175	350	100	1,250	150	400	100
Epidemiology, ecology, and population biology	18,600	325	8,800	400	1,850	175	6,500	400	450	100	550	100	250	100	3,800	350	600	125	3,900	325	700	150
Genetics	9,550	225	4,500	250	2,100	200	2,000	200	400	75	400	100	50	50	2,400	225	800	150	1,000	150	400	100
Neurobiology and neuroscience	20,300	350	9,650	475	4,800	350	4,150	325	750	150	550	150	250	75	4,100	325	2,800	250	1,900	225	950	175
Nutrition sciences	4,200	150	1,800	125	350	75	1,100	125	300	75	D	D	D	D	1,050	125	450	100	700	100	200	50
Pharmacology and toxicology	13,350	250	6,300	350	1,600	250	3,450	275	1,250	200	100	50	S	S	2,900	275	2,000	275	1,200	175	850	150
Physiology, pathology, and related sciences	15,600	325	6,400	375	2,300	275	3,000	275	1,100	225	250	125	150	75	3,250	250	2,350	250	2,100	200	1,150	225
Biological and biomedical sciences, general	14,950	325	6,300	400	2,750	250	2,550	250	1,000	175	250	75	200	75	3,500	325	1,450	200	2,250	275	1,050	200
Biological and biomedical sciences, other	4,900	200	2,050	200	800	125	950	150	300	75	100	50	100	50	1,150	150	450	125	800	125	300	75
Computer and information sciences	36,350	550	12,700	625	2,600	250	7,300	500	2,800	350	9,250	550	1,100	200	6,100	450	250	100	5,950	450	950	175
Computer science	31,050	525	10,850	625	2,250	250	6,100	500	2,500	325	8,550	550	900	200	5,150	450	S	S	4,700	425	750	175

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U.S. residing employed doctoral scientists and engineers, by fine field of doctorate and primary work activity: 2023

(Number and SE)

Field of study	All employed		Research and development								Computer applications		Design		Management, sales, or administration ^a		Professional services		Teaching		Other ^b	
			Any R&D		Basic research		Applied research		Experimental development													
	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE
Information science, studies	2,750	125	850	125	200	50	500	100	150	75	200	50	150	75	600	75	50	25	800	100	100	50
Computer and information sciences, other	2,550	75	1,000	75	150	50	700	75	150	50	550	75	50	25	400	50	*	*	450	75	100	25
Mathematics and statistics	38,500	600	13,000	550	5,050	350	6,300	425	1,600	250	5,100	375	1,200	175	5,000	300	450	100	12,600	525	1,150	150
Applied mathematics	9,150	225	3,250	275	1,250	200	1,600	200	400	100	1,550	200	250	100	900	125	100	50	2,800	225	300	100
Mathematics	17,100	450	4,550	350	2,700	275	1,400	200	450	150	2,250	250	400	100	2,000	225	200	100	7,100	375	600	125
Statistics	8,100	275	3,900	300	600	125	2,600	300	650	200	850	200	350	125	1,500	200	D	D	1,300	175	150	75
Mathematics and statistics, other	4,150	150	1,300	125	500	100	700	100	100	50	450	100	200	50	650	100	50	50	1,450	125	100	50
Physical sciences, geosciences, atmospheric sciences, and ocean sciences	141,800	1,125	60,700	1,125	18,050	675	27,150	775	15,450	625	10,750	575	4,800	400	30,100	800	5,200	375	22,750	800	7,500	475
Astronomy and astrophysics	6,450	175	2,400	175	1,450	125	700	100	250	100	1,100	150	200	75	1,400	150	100	50	1,000	125	250	50
Chemistry, except biochemistry	69,150	850	28,900	850	6,300	400	13,050	600	9,500	575	2,900	325	1,500	250	16,500	575	3,300	325	11,800	550	4,250	400
Inorganic chemistry	8,800	250	3,500	275	650	125	1,500	175	1,350	175	150	75	100	50	2,250	200	400	100	1,850	175	550	125
Organic chemistry	17,950	425	8,200	425	1,500	225	4,200	325	2,500	300	450	175	350	150	3,800	325	800	150	3,350	300	1,050	175
Chemistry, other, except biochemistry	42,350	625	17,200	625	4,200	325	7,350	525	5,700	425	2,300	300	1,000	200	10,450	475	2,150	275	6,600	425	2,650	300
Geosciences, atmospheric sciences, and ocean sciences	23,150	350	10,350	325	4,100	225	5,350	250	900	125	1,300	150	650	100	4,650	250	650	100	4,250	250	1,300	125
Atmospheric sciences and meteorology	4,450	100	2,300	125	1,000	100	1,100	100	200	50	450	75	150	75	800	75	100	25	450	50	200	50
Geological and earth sciences, geosciences	13,900	300	5,950	275	2,250	200	3,150	225	600	125	650	125	400	75	2,700	200	450	100	3,000	225	750	100
Ocean sciences and marine sciences	2,550	75	1,000	75	300	50	650	75	50	25	100	25	50	25	600	75	50	25	550	75	250	50
Oceanography, chemical and physical	2,250	100	1,100	100	600	100	500	75	50	25	150	50	*	*	600	75	50	25	250	50	150	50
Physics	43,050	775	19,050	700	6,200	450	8,100	525	4,800	350	5,400	475	2,450	300	7,550	525	1,150	175	5,750	500	1,700	250
Psychology	112,100	900	23,200	700	4,850	375	15,850	600	2,450	300	1,000	175	850	150	19,000	650	45,250	1,025	18,600	675	4,250	350
Clinical psychology	40,450	575	5,650	425	850	225	4,200	350	600	175	D	D	200	100	5,150	375	25,050	675	3,450	325	900	200
Counseling and applied psychology	14,500	300	900	150	200	75	550	125	150	75	D	D	S	S	2,050	250	8,750	400	2,200	250	550	125
Educational and school psychology	12,400	325	2,650	275	250	100	1,900	225	450	100	D	D	D	D	2,550	250	3,600	250	2,750	300	800	150
Industrial and organizational psychology	5,150	150	1,300	175	200	75	850	150	250	75	D	D	100	50	2,000	175	700	100	750	100	250	75
Research and experimental psychology	27,200	425	9,500	400	2,700	225	6,000	350	800	150	750	150	350	100	4,900	325	3,000	250	7,400	375	1,300	175
Psychology, general	7,750	300	1,950	225	500	125	1,400	200	100	50	100	75	D	D	1,400	225	2,900	300	1,150	225	200	75
Psychology, other	4,600	175	1,250	150	150	50	950	150	150	75	D	D	D	D	950	125	1,300	175	900	125	200	75
Social sciences	104,100	875	35,200	900	12,150	600	20,650	700	2,400	250	2,050	225	1,100	150	20,650	675	5,450	325	34,300	825	5,250	375
Economics	27,950	550	12,450	500	3,600	350	8,150	425	700	200	900	125	400	125	5,350	350	1,850	250	6,200	375	750	150
Political science and government	21,700	500	7,000	450	2,900	300	3,850	325	300	100	300	100	250	75	5,000	350	1,000	175	7,100	425	1,050	175
Political science and government	17,100	500	5,500	425	2,750	300	2,550	300	200	100	250	100	150	75	3,550	325	600	150	6,350	425	700	150
Public policy analysis	4,650	150	1,550	125	150	50	1,300	125	50	50	50	25	100	50	1,450	150	400	75	750	100	300	75
Sociology, demography, and population studies	15,950	375	5,200	350	2,100	275	2,800	250	300	100	200	75	100	50	2,750	275	500	125	6,000	325	1,200	225
Other social sciences	38,500	525	10,500	425	3,550	275	5,850	300	1,100	150	650	125	350	100	7,600	350	2,150	200	15,050	475	2,250	200

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Anthropology	11,100	325	3,250	275	1,450	225	1,500	200	300	100	S	S	D	D	1,950	200	500	125	4,650	300	600	125
Area, ethnic, cultural, gender, and group studies	4,450	150	700	125	300	75	250	75	150	50	D	D	50	25	850	100	250	75	2,200	175	400	100
Geography and cartography	4,850	200	1,700	175	400	100	1,050	150	200	75	200	50	50	25	900	125	200	75	1,600	175	250	75
International relations and national security studies	2,350	150	450	75	150	50	250	50	50	25	D	D	50	25	550	100	150	50	950	100	200	50
Linguistics	5,100	225	1,150	125	400	75	550	100	150	50	250	75	D	D	800	125	200	50	2,450	225	200	75
Urban studies, affairs	1,350	100	500	75	50	25	400	75	50	25	D	D	D	D	400	75	100	25	250	50	100	50
Social sciences, other	9,350	250	2,750	225	800	100	1,800	175	200	50	100	50	50	50	2,150	200	800	125	2,950	200	550	100
Engineering	196,750	1,300	87,550	1,350	10,300	600	43,650	1,225	33,650	1,000	19,000	700	16,200	750	42,150	925	6,750	525	17,400	700	7,700	550
Aerospace, aeronautical, and astronautical engineering	8,150	200	3,750	200	550	125	1,900	175	1,300	150	700	125	650	125	2,050	200	100	50	700	175	200	75
Chemical engineering	23,700	500	10,650	550	1,050	250	4,750	375	4,850	425	1,250	200	1,800	275	7,000	450	650	125	1,350	200	1,050	200
Civil engineering	21,500	475	6,900	400	850	150	4,950	375	1,150	225	1,800	275	2,650	275	4,700	350	1,650	300	2,850	300	900	200
Electrical and computer engineering	54,000	675	25,250	775	2,550	325	10,700	600	12,000	650	8,400	475	4,700	425	8,950	450	1,100	225	4,300	400	1,350	250
Computer engineering	8,150	200	3,250	250	600	125	1,350	175	1,300	175	2,400	225	400	75	1,150	150	100	50	700	125	100	50
Electrical, electronics, and communications engineering	45,850	650	22,000	725	1,950	300	9,350	550	10,700	600	6,000	450	4,300	425	7,800	425	1,000	225	3,550	350	1,250	250
Mechanical engineering	28,800	625	13,700	650	1,850	275	6,800	575	5,050	450	2,400	325	2,750	325	5,100	400	650	150	3,200	325	1,050	250
Metallurgical and materials engineering	18,300	450	8,950	475	1,250	225	3,600	325	4,100	375	900	200	1,000	225	4,700	400	600	150	850	175	1,350	225
Other engineering	42,300	550	18,400	625	2,200	250	10,900	550	5,300	350	3,550	275	2,700	250	9,650	425	2,050	200	4,150	275	1,800	225
Agricultural engineering	1,650	100	650	75	50	25	450	75	150	50	150	50	100	50	400	75	50	25	150	50	100	50
Bioengineering and biomedical engineering	16,350	325	7,950	375	1,000	175	4,450	375	2,500	250	800	150	700	175	4,200	275	1,150	175	900	150	700	200
Engineering mechanics, physics, and science	4,300	200	1,850	175	250	75	900	125	650	150	300	75	300	100	1,050	125	200	50	450	100	100	50
Industrial and manufacturing engineering	9,150	300	3,350	300	450	125	2,100	250	850	175	1,200	150	600	125	1,900	225	300	75	1,450	175	300	75
Nuclear engineering	3,400	150	1,400	125	100	50	1,000	100	300	75	300	75	400	75	750	100	100	50	200	50	150	50
Engineering, other	7,500	225	3,150	225	350	100	2,050	225	800	125	800	150	550	100	1,300	150	250	75	1,000	175	400	125
Health	44,000	600	16,300	550	1,900	250	11,650	475	2,750	300	450	125	500	100	9,150	450	5,100	325	10,000	450	2,450	325
Communication disorders sciences and services	2,950	150	850	100	150	50	600	100	100	50	S	S	D	D	550	75	550	100	800	100	150	75
Hospital and medical administration services	1,300	75	500	75	*	*	450	75	50	25	D	D	D	D	350	75	100	25	250	50	50	25
Pharmacy, pharmaceutical sciences, and administration	8,550	250	4,350	300	500	150	2,450	250	1,400	200	S	S	150	75	2,000	225	650	125	650	125	600	150
Public health	10,400	250	4,650	250	350	75	3,850	250	450	100	200	50	100	50	2,250	200	1,100	150	1,600	200	500	125
Registered nursing, nursing administration, nursing research	9,100	325	2,250	250	150	75	1,800	225	300	125	D	D	100	50	1,800	200	1,200	175	3,100	250	700	200
Health sciences, other	11,650	325	3,700	250	700	175	2,550	200	450	125	100	50	150	50	2,200	225	1,550	200	3,600	250	400	100

* = suppressed when population estimate < 25. D = suppressed to avoid disclosure of confidential information. S = suppressed for reliability; coefficient of variation exceeds publication standards.

SE = standard error.

^a Administration includes accounting, finance, contracts, and human resources.

^b Other work activities include production, operations, maintenance, and other activities not broken out separately.

Note(s):

Numbers are rounded to the nearest 50. Standard errors are rounded up to the nearest 25. Detail may not add to total because of rounding. Primary and secondary work activities were self-defined by respondent in response to the question: "On which two activities...did you work the most hours during a typical week on this job?" Residence location is based on reported living location on 1 February 2023.

Source(s):

National Center for Science and Engineering Statistics, Survey of Doctorate Recipients, 2023.