

TABLE 45-1

U.S. residing employed doctoral scientists and engineers, by occupation and primary or secondary work activity: 2019

(Number and SE)

Occupation	Research and development																					
	All employed		Any R&D		Applied research		Basic research		Design		Development		Computer applications		Management, sales, or administration ^a		Professional services		Teaching		Other ^b	
	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE
All occupations	857,200	1,975	540,350	2,375	300,950	2,225	180,500	2,150	64,450	1,275	133,400	1,625	86,100	1,425	351,450	2,375	121,550	1,600	245,900	2,050	81,800	1,475
Science occupations	492,750	2,500	337,450	2,100	191,300	1,800	145,500	1,850	26,750	850	62,500	1,375	60,850	1,125	160,350	1,900	62,250	1,125	164,500	1,800	41,900	1,050
Biological, agricultural, and other life scientist	156,650	1,525	125,800	1,425	75,200	1,225	63,400	1,100	6,100	425	24,200	800	6,450	325	61,150	1,100	7,450	500	37,050	900	14,550	650
Agricultural, food scientist	11,600	450	9,800	400	7,800	350	2,400	225	550	125	3,400	275	300	75	4,500	275	700	150	900	125	1,400	200
Biochemists, biophysicist	16,350	675	15,100	675	8,650	550	7,800	450	1,250	200	4,800	400	900	175	5,700	400	250	75	300	100	1,150	175
Biological scientist	26,750	675	22,450	575	13,350	450	13,650	525	1,050	150	2,700	275	1,450	150	11,500	525	900	150	2,600	225	2,600	275
Forestry, conservation scientist	2,250	175	1,750	150	1,550	150	250	50	200	100	200	75	250	75	1,150	125	150	50	250	75	300	75
Medical scientist	42,350	1,025	37,300	1,025	26,400	875	15,650	625	1,850	250	7,900	450	1,700	200	17,500	700	3,400	325	2,300	275	3,500	325
Postsecondary teachers, agricultural, other natural sciences	5,550	350	3,700	275	2,700	250	1,250	175	D	D	150	50	S	S	1,850	200	150	50	4,150	325	400	100
Postsecondary teachers, biological sciences	32,400	775	19,850	700	4,000	325	16,500	625	200	75	300	75	150	50	10,350	475	650	150	26,250	675	3,000	250
Other biological, agricultural, life scientist	19,350	700	15,800	675	10,850	575	5,900	350	950	175	4,650	450	1,650	200	8,650	500	1,200	200	300	75	2,250	250
Computer and information scientist	63,000	1,100	41,350	850	21,450	700	6,400	400	8,800	500	13,150	625	35,750	850	17,400	725	1,100	150	9,800	500	3,600	325
Computer and information scientist	53,450	1,075	35,550	825	18,150	650	3,650	325	8,700	500	12,850	625	34,700	850	15,450	675	1,050	150	1,450	200	2,900	300
Postsecondary teachers, computer science	9,550	525	5,800	375	3,250	275	2,700	250	S	S	300	75	1,100	175	1,950	250	S	S	8,350	475	700	150
Mathematical scientist	41,400	750	30,900	725	16,700	575	11,900	525	4,100	300	3,800	350	10,550	450	8,250	375	1,100	150	18,600	550	2,850	250
Mathematical scientist	21,800	650	18,550	625	13,000	500	2,850	250	4,000	300	3,600	350	9,950	450	5,300	325	900	150	850	150	1,100	175
Postsecondary teachers, mathematics, statistics	19,600	575	12,350	500	3,650	300	9,050	475	100	50	200	75	650	150	2,900	225	150	75	17,750	525	1,750	200
Physical scientist	84,550	1,275	63,400	1,100	34,100	825	29,650	875	5,550	400	14,650	525	5,700	375	26,400	825	2,100	250	32,950	750	7,750	425
Chemists, except biochemist	21,850	725	19,000	675	13,550	550	4,250	350	1,950	250	8,600	475	750	175	8,500	450	750	150	600	125	2,800	275
Earth, atmospheric, ocean scientist	11,750	400	9,950	350	6,600	300	4,450	275	750	125	1,400	150	2,100	200	4,050	225	500	100	1,250	150	1,050	150
Physicists, astronomers	12,450	625	11,150	575	6,350	425	5,150	350	1,850	225	3,100	300	2,250	275	3,300	300	300	75	500	125	850	175
Postsecondary teachers, chemistry	16,900	625	8,700	450	2,050	225	6,700	400	150	75	300	100	D	D	4,950	375	150	75	15,150	600	1,450	200
Postsecondary teachers, physics	10,650	575	6,650	475	1,350	200	5,500	450	250	100	100	50	200	100	2,550	275	200	100	8,850	500	750	175
Postsecondary teachers, other physical science	7,300	300	4,900	275	2,050	200	2,900	200	D	D	150	50	100	50	1,800	200	S	S	6,350	300	400	75
Other physical scientist	3,650	250	3,050	250	2,100	200	750	150	550	125	1,050	150	250	75	1,250	150	150	50	300	75	450	100
Psychologist	77,600	950	26,550	750	16,050	625	9,200	475	1,100	150	3,700	350	500	125	28,400	775	47,350	900	23,500	650	5,700	425
Psychologist	57,500	1,000	14,750	650	10,200	550	3,050	325	1,050	150	3,350	350	500	125	23,700	750	45,750	850	6,000	425	3,750	400
Postsecondary teachers, psychology	20,100	625	11,850	475	5,850	350	6,150	375	D	D	300	75	S	S	4,700	350	1,600	250	17,500	600	1,950	200
Social scientist	69,500	1,025	49,450	850	27,800	750	25,000	700	1,100	175	3,000	300	1,800	250	18,700	650	3,150	300	42,550	875	7,450	425
Economist	9,600	500	7,850	450	6,950	425	1,950	250	500	150	700	150	1,000	200	4,300	325	1,400	225	350	100	900	175

TABLE 45-1

U.S. residing employed doctoral scientists and engineers, by occupation and primary or secondary work activity: 2019

(Number and SE)

Occupation	All employed		Research and development										Computer applications		Management, sales, or administration ^a		Professional services		Teaching		Other ^b	
			Any R&D		Applied research		Basic research		Design		Development											
	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE
Political scientist	1,850	275	1,500	225	1,300	200	750	175	D	D	50	25	D	D	650	150	100	50	250	125	200	75
Postsecondary teachers, economics	10,900	500	8,100	450	4,400	325	4,150	350	D	D	S	S	D	D	1,550	200	150	75	9,600	500	600	125
Postsecondary teachers, political science	11,450	450	7,300	400	1,650	200	5,800	400	D	D	150	75	D	D	1,500	200	D	D	10,650	450	1,500	225
Postsecondary teachers, sociology	7,500	350	4,500	300	1,200	175	3,400	275	D	D	100	50	D	D	1,650	200	50	50	6,750	325	800	125
Postsecondary teachers, other social sciences	16,550	575	10,650	475	4,150	325	6,700	350	D	D	400	100	D	D	3,450	275	350	100	14,500	500	1,600	200
Sociologist, anthropologist	3,500	275	2,800	250	2,250	225	1,100	150	150	50	400	150	100	50	1,500	175	300	100	250	75	500	150
Other social scientist	8,250	475	6,750	425	5,900	375	1,250	175	350	75	1,050	150	550	100	4,150	350	750	125	200	75	1,300	175
Engineering occupations	120,650	1,375	100,850	1,275	53,500	1,075	15,000	625	27,000	875	44,900	1,050	14,450	650	37,250	900	4,100	350	23,500	725	11,000	575
Aerospace, aeronautical, astronautical engineer	7,150	425	6,400	425	3,350	325	700	175	2,100	250	3,000	300	1,500	200	2,150	250	S	S	200	75	500	100
Chemical engineer	9,250	525	7,950	475	4,250	375	1,100	200	2,000	250	4,400	400	550	175	3,450	350	200	100	300	100	1,400	200
Civil, architectural, sanitary engineer	6,900	425	5,350	425	2,450	300	750	200	2,600	275	1,150	225	600	150	3,150	325	1,000	175	650	175	550	125
Electrical engineer	27,500	750	24,700	725	11,550	525	1,750	250	7,450	450	16,000	700	5,600	425	6,650	400	550	175	750	150	2,600	300
Industrial engineers	1,950	250	1,450	225	750	175	100	50	400	150	750	175	200	75	800	150	D	D	250	75	400	150
Mechanical engineer	13,450	550	11,850	550	6,000	400	1,350	200	4,300	350	5,800	400	2,100	300	4,550	375	250	100	750	125	700	175
Postsecondary teacher, engineering	23,950	750	17,600	675	11,600	550	6,350	400	650	200	750	175	400	150	5,100	375	300	125	19,850	725	1,100	250
Other engineer	30,500	675	25,500	675	13,500	600	2,850	350	7,450	425	13,100	575	3,450	300	11,350	525	1,600	200	750	125	3,750	300
S&E-related occupations	92,350	1,475	46,150	950	28,300	725	8,950	475	4,100	325	9,150	550	5,350	400	47,050	1,100	27,200	925	30,250	825	6,650	425
Health occupations, except postsecondary teachers and managers	30,800	825	11,050	500	8,300	425	2,150	250	550	100	1,750	225	550	125	11,900	550	21,750	800	5,600	375	2,250	275
Postsecondary teacher, health and related science	23,600	675	13,950	475	10,150	450	4,100	350	S	S	500	125	50	50	6,500	375	3,300	275	19,200	600	1,450	175
S&E managers, including health	24,650	850	14,200	600	6,750	425	1,750	250	1,550	200	4,100	350	1,100	175	24,600	850	1,800	275	150	50	1,850	250
S&E precollege teachers	5,200	400	900	175	250	100	300	100	150	75	200	75	S	S	1,700	200	D	D	5,050	400	450	125
S&E technicians/ technologists	7,200	475	5,500	425	2,650	300	550	125	1,400	225	2,400	275	3,200	275	1,900	225	150	75	300	100	600	125
Other S&E-related occupation	900	150	550	125	150	75	D	D	300	100	150	75	300	75	450	125	200	75	D	D	D	D
Non-S&E occupations	151,500	1,650	55,900	950	27,900	725	11,050	550	6,650	425	16,800	700	5,450	425	106,800	1,425	27,950	850	27,600	725	22,250	775
Arts, humanities-related occupation	8,900	425	3,400	275	1,800	225	800	125	250	100	1,400	175	200	75	4,050	275	3,500	275	600	125	2,250	275
Management-related occupation	33,050	1,175	11,850	625	5,700	425	900	200	2,400	250	4,500	375	1,700	250	26,350	1,000	6,350	450	1,600	200	5,800	350
Non-S&E managers	55,650	1,175	23,000	725	11,700	525	2,850	275	3,150	325	7,900	475	2,550	275	49,700	1,075	5,250	375	1,400	200	6,300	475
Non-S&E postsecondary teachers	19,700	650	10,600	525	5,350	350	5,000	350	150	50	750	150	150	75	5,150	350	950	175	17,300	575	1,950	225
Non-S&E precollege/ other teachers	4,750	375	1,050	175	250	75	300	100	150	75	400	100	100	50	1,650	275	250	100	4,200	325	450	100
Sales, marketing occupation	9,400	450	2,100	225	950	150	200	75	250	100	900	150	400	100	8,600	425	950	175	250	75	1,000	150
Social service-related occupation	6,300	400	950	175	450	100	200	75	S	S	350	125	D	D	3,450	325	3,750	275	1,650	250	1,000	150

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U.S. residing employed doctoral scientists and engineers, by occupation and primary or secondary work activity: 2019

(Number and SE)

Occupation	All employed		Research and development										Computer applications		Management, sales, or administration ^a		Professional services		Teaching		Other ^b	
			Any R&D		Applied research		Basic research		Design		Development											
	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE
Other non-S&E occupation	13,750	650	2,900	250	1,700	200	750	150	200	75	600	125	250	125	7,900	450	6,900	500	550	100	3,550	300

D = suppressed to avoid disclosure of confidential information. S = suppressed for reliability; coefficient of variation exceeds publication standards.

S&E = science and engineering; SE = standard error.

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

^b Includes 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 exceed total due to multiple responses. Primary and secondary work activities were self-defined by the 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 2019.

Source(s):

National Center for Science and Engineering Statistics, Survey of Doctorate Recipients: 2019.