

TABLE 45-2

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

(Number and SE)

Occupation	All employed		Research and development										Computer applications		Management, sales, or administration <sup>a</sup>		Professional services		Teaching		Other <sup>b</sup>	
			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
All occupations	857,200	1,975	351,000	1,975	168,650	1,775	92,700	1,700	24,050	975	65,600	1,400	44,450	950	165,400	2,025	97,050	1,625	161,000	1,700	38,300	975
Science occupations	492,750	2,500	224,950	1,825	112,050	1,450	76,700	1,475	7,850	525	28,350	900	33,450	825	54,250	1,100	51,400	1,075	111,400	1,550	17,300	725
Biological, agricultural, and other life scientist	156,650	1,525	98,200	1,300	46,800	1,025	38,300	950	1,150	200	11,950	600	1,400	175	21,850	650	4,450	375	24,200	700	6,550	400
Agricultural, food scientist	11,600	450	7,900	375	5,200	275	950	150	150	50	1,600	200	50	50	1,800	200	500	150	450	100	850	150
Biochemists, biophysicist	16,350	675	13,600	650	5,000	400	5,800	400	300	125	2,500	275	150	75	1,950	250	100	50	S	S	450	125
Biological scientist	26,750	675	19,000	550	8,250	375	9,400	450	150	75	1,200	200	350	100	4,100	325	500	100	1,600	200	1,250	200
Forestry, conservation scientist	2,250	175	1,150	125	950	125	100	50	S	S	50	25	100	75	650	100	100	50	100	50	150	50
Medical scientist	42,350	1,025	31,250	975	17,800	750	9,250	550	300	125	3,900	325	250	75	6,200	425	2,050	250	850	150	1,800	225
Postsecondary teachers, agricultural, other natural sciences	5,550	350	2,250	225	1,550	200	650	125	D	D	50	50	D	D	650	100	50	25	2,500	250	100	50
Postsecondary teachers, biological sciences	32,400	775	10,200	475	1,600	225	8,550	450	D	D	D	D	D	D	2,850	275	300	100	18,500	600	500	125
Other biological, agricultural, life scientist	19,350	700	12,800	625	6,450	450	3,650	250	200	75	2,550	300	450	100	3,700	325	850	200	100	50	1,400	200
Computer and information scientist	63,000	1,100	21,450	725	10,400	500	3,100	275	2,800	325	5,150	400	25,650	750	7,150	400	600	125	6,550	425	1,600	225
Computer and information scientist	53,450	1,075	18,900	700	9,250	475	1,750	200	2,800	325	5,150	400	25,400	750	6,550	375	550	100	650	125	1,450	225
Postsecondary teachers, computer science	9,550	525	2,550	250	1,150	175	1,350	200	D	D	D	D	250	100	650	150	D	D	5,900	400	150	75
Mathematical scientist	41,400	750	19,500	600	10,350	475	5,450	375	2,000	250	1,750	225	4,300	325	2,850	250	400	100	13,400	500	950	150
Mathematical scientist	21,800	650	13,850	525	8,950	475	1,200	175	2,000	250	1,750	225	4,250	325	2,200	225	400	100	500	100	650	125
Postsecondary teachers, mathematics, statistics	19,600	575	5,650	350	1,400	175	4,250	325	D	D	D	D	D	D	650	100	D	D	12,900	500	300	125
Physical scientist	84,550	1,275	44,550	950	19,850	550	15,550	650	1,350	200	7,800	400	1,500	200	9,500	450	1,350	200	24,200	725	3,450	300
Chemists, except biochemist	21,850	725	15,800	600	8,450	400	2,100	275	350	100	4,850	350	350	150	3,350	300	500	125	450	125	1,450	200
Earth, atmospheric, ocean scientist	11,750	400	7,900	350	4,500	275	2,550	200	200	75	650	100	600	125	1,450	125	350	75	750	125	750	125
Physicists, astronomers	12,450	625	9,700	525	3,950	325	3,550	325	600	150	1,600	225	500	125	1,300	200	250	75	200	75	500	125
Postsecondary teachers, chemistry	16,900	625	3,150	275	350	100	2,750	250	D	D	D	D	D	D	1,150	200	D	D	12,300	525	200	75
Postsecondary teachers, physics	10,650	575	3,350	350	400	125	2,900	325	D	D	D	D	D	D	850	175	100	75	6,100	450	S	S
Postsecondary teachers, other physical science	7,300	300	2,200	200	800	150	1,350	150	D	D	D	D	D	D	800	150	D	D	4,250	225	100	25
Other physical scientist	3,650	250	2,500	225	1,400	175	400	100	150	75	550	100	*	*	600	125	100	50	200	50	200	75
Psychologist	77,600	950	13,300	500	7,750	400	4,500	350	200	75	850	175	100	50	6,100	400	42,850	900	13,300	525	2,000	275
Psychologist	57,500	1,000	7,550	400	5,300	375	1,250	175	200	75	800	175	100	50	4,750	350	42,050	850	1,400	200	1,700	275
Postsecondary teachers, psychology	20,100	625	5,750	400	2,400	275	3,250	300	D	D	D	D	D	D	1,350	200	800	200	11,900	500	300	100
Social scientist	69,500	1,025	27,950	725	16,950	675	9,800	550	300	125	850	125	500	150	6,800	400	1,750	225	29,700	750	2,800	300
Economist	9,600	500	5,750	375	4,700	325	600	150	200	100	250	100	300	150	1,700	225	1,000	175	200	75	700	150
Political scientist	1,850	275	1,200	175	850	150	350	125	D	D	D	D	D	D	250	100	S	S	S	S	150	75
Postsecondary teachers, economics	10,900	500	4,400	300	2,200	250	2,150	225	D	D	D	D	D	D	500	150	D	D	5,850	375	100	75

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			Any R&D		Applied research		Basic research		Design		Development											
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Postsecondary teachers, political science	11,450	450	3,150	300	600	125	2,500	325	D	D	D	D	D	D	550	125	D	D	7,450	425	300	100
Postsecondary teachers, sociology	7,500	350	1,650	200	350	75	1,350	175	D	D	D	D	D	D	650	150	D	D	5,050	275	150	50
Postsecondary teachers, other social sciences	16,550	575	4,150	350	1,950	225	2,150	250	D	D	S	S	D	D	1,200	175	50	25	10,750	450	300	100
Sociologist, anthropologist	3,500	275	2,300	250	1,700	225	400	100	D	D	150	75	D	D	500	100	150	75	200	75	350	125
Other social scientist	8,250	475	5,350	375	4,650	350	300	100	100	50	350	100	150	75	1,450	200	450	100	100	50	750	150
Engineering occupations	120,650	1,375	75,550	1,125	29,800	850	6,600	450	12,900	675	26,200	825	5,300	450	17,500	625	2,850	300	14,150	600	5,300	375
Aerospace, aeronautical, astronautical engineer	7,150	425	5,000	400	2,050	275	300	125	1,050	200	1,550	225	600	150	1,000	175	S	S	100	50	250	75
Chemical engineer	9,250	525	6,550	450	2,350	275	550	175	800	200	2,850	325	S	S	1,450	250	200	100	150	75	800	150
Civil, architectural, sanitary engineer	6,900	425	3,850	325	1,500	225	150	75	1,850	250	400	100	150	75	1,250	250	800	150	450	150	350	125
Electrical engineer	27,500	750	19,900	650	6,000	425	550	175	3,100	350	10,250	550	2,300	275	3,100	275	350	150	450	125	1,400	250
Industrial engineers	1,950	250	1,050	225	350	100	50	25	S	S	500	150	D	D	400	100	D	D	200	75	200	75
Mechanical engineer	13,450	550	9,450	525	3,300	350	700	175	2,150	300	3,300	325	500	100	2,500	275	150	75	500	100	350	150
Postsecondary teacher, engineering	23,950	750	9,750	500	6,100	425	3,450	325	D	D	200	100	S	S	1,850	175	D	D	12,050	600	150	75
Other engineer	30,500	675	19,950	625	8,100	475	900	175	3,750	350	7,200	400	1,450	225	5,850	350	1,200	175	200	75	1,750	200
S&E-related occupations	92,350	1,475	23,800	675	13,950	575	4,700	350	1,350	225	3,750	350	3,400	275	22,900	825	22,050	875	17,650	650	2,550	275
Health occupations, except postsecondary teachers and managers	30,800	825	5,850	400	4,150	350	900	150	200	75	650	125	250	75	3,500	325	18,800	750	1,100	150	1,300	200
Postsecondary teacher, health and related science	23,600	675	7,400	400	5,050	350	2,250	250	D	D	D	D	D	D	2,650	250	2,000	225	11,350	475	200	75
S&E managers, including health	24,650	850	7,050	425	3,500	250	1,250	225	550	150	1,800	250	550	125	15,500	700	950	175	S	S	550	125
S&E precollege teachers	5,200	400	50	25	D	D	D	D	D	D	D	D	D	D	150	75	D	D	4,950	400	D	D
S&E technicians/ technologists	7,200	475	3,150	325	1,200	175	300	100	400	150	1,200	225	2,500	250	900	150	100	75	150	75	400	100
Other S&E-related occupation	900	150	300	100	D	D	D	D	200	75	D	D	100	50	250	100	200	75	D	D	D	D
Non-S&E occupations	151,500	1,650	26,700	800	12,850	450	4,650	425	1,950	225	7,300	475	2,300	275	70,750	1,350	20,750	725	17,850	575	13,150	550
Arts, humanities-related occupation	8,900	425	2,200	225	850	150	350	100	S	S	900	150	S	S	1,700	175	2,750	225	300	100	1,850	225
Management-related occupation	33,050	1,175	5,850	450	2,600	275	400	150	700	150	2,100	275	650	150	17,650	750	4,300	350	650	150	4,000	325
Non-S&E managers	55,650	1,175	11,100	525	5,850	375	1,100	200	850	150	3,300	300	1,250	200	36,900	1,025	3,150	325	400	75	2,850	275
Non-S&E postsecondary teachers	19,700	650	4,800	375	2,350	225	2,300	300	D	D	100	50	D	D	2,100	275	600	150	11,650	475	550	100
Non-S&E precollege/ other teachers	4,750	375	350	100	D	D	S	S	D	D	150	75	D	D	350	100	100	50	3,800	325	150	50
Sales, marketing occupation	9,400	450	950	150	350	75	S	S	150	75	350	100	150	75	7,200	400	500	150	100	50	500	125
Social service-related occupation	6,300	400	350	125	150	75	D	D	D	D	S	S	D	D	1,600	250	3,150	250	700	150	550	125
Other non-S&E occupation	13,750	650	1,200	150	600	100	250	75	100	50	250	75	S	S	3,200	300	6,200	475	300	75	2,750	275

\* = suppressed when population estimate &lt; 25. 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.

<sup>a</sup> Administration includes accounting, finance, contracts, and human resources.

<sup>b</sup> 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.